



GEMS POLYTECHNIC COLLEGE

(Approved by AICTE, Govt. of India, F. No Northern/2015/1-2474317051)
Affiliated to SBTE, Bihar.

NH-2, Jogiya more, Ratanpura, Bharthouli (P.O) Aurangabad, Bihar– 824121

DEPARTMENT OF CIVIL ENGINEERING



SELF ASSESSMENT REPORT (SAR)

2023 - 2024

Diploma Engineering Program

First Time Accreditation

Submitted to



NATIONAL BOARD OF ACCREDITATION

New Delhi

Self Assessment Report Contents

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Part A

Institutional Information

Institutional Information

1.	Name and Address of the Institution:	GEMS Polytechnic College, NH-2 Jogia more, Ratnapura, Aurangabad,Bihar-824121
2.	Name and Address of the Directorate of Technical Education:	State Board of Technical Education, 4th Floor, Technology Bhawan, Vishweshariya Bhawan Campus, Bailey Road, Patna - 800 015. Bihar.
3.	Year of Establishment:	2015
4.	Type of the Institution:	<input type="checkbox"/> University <input type="checkbox"/> Deemed University <input checked="" type="checkbox"/> Affiliated <input type="checkbox"/> Autonomous <input type="checkbox"/> Any Other(Please Specify)
5.	Ownership Status:	<input type="checkbox"/> Central Government <input type="checkbox"/> State Government <input type="checkbox"/> Government Aided <input type="checkbox"/> Self-financing <input type="checkbox"/> Trust <input checked="" type="checkbox"/> Society <input type="checkbox"/> Section 25 Company <input type="checkbox"/> Any Other(Please Specify)

6. Other Academic Institutions of the Trust/Society/Company etc., if any:

Name of Institutions	Year of Establishment	Programs of Study	Location
GEMS Industrial Training Institute	2001	Electrician, Fitter & Welder	Karwandiya, Rohtas, Bihar
GEMS Industrial Training Institute	2015	Electrician, Fitter & Welder	Bhagatganj, Bihar
GEMS Industrial Training Institute	2015	Electrician, Fitter & Welder	Madhubhani, Bihar
GEMS Girls Industrial Training Institute	2014	Draughtsman (Civil), Sewing	Sikaria, Bihar

7. Details of all the programs being offered by the institution under consideration:

Name of Program	Program Applied level	Start of year	Year of AICTE approval	Initial Intake	Intake Increase	Current Intake	Accreditation status	From	To	Program for consideration	Program for Duration
DIPLOMA IN MECHANICAL ENGINEERING	Diploma	2015	2015	60	Yes	60	Applying first time	-	-	Yes	3

Sanctioned Intake for the Last Five Years for the DIPLOMA IN MECHANICAL ENGINEERING

Academic Year	Sanctioned Intake
2023 - 2024	60
2022 - 2023	48
2021 - 2022	48
2020 - 2021	48
2019 - 2020	48
2018 - 2019	60
2017 - 2018	60

Name of Program	Program Applied level	Start of year	Year of AICTE approval	Initial Intake	Intake Increase	Current Intake	Accreditation status	From	To	Program for consideration	Program for Duration
DIPLOMA IN CIVIL ENGINEERING	Diploma	2015	2015	60	Yes	60	Applying first time	-	-	Yes	3

Sanctioned Intake for the Last Five Years for the DIPLOMA IN CIVIL ENGINEERING

Academic Year	Sanctioned Intake
2023 - 2024	60
2022 - 2023	48
2021 - 2022	48
2020 - 2021	48
2019 - 2020	48
2018 - 2019	60
2017 - 2018	60

Name of Program	Program Applied level	Start of year	Year of AICTE approval	Initial Intake	Intake Increase	Current Intake	Accreditation status	From	To	Program for consideration	Program for Duration
DIPLOMA IN ELECTRICAL ENGINEERING	Diploma	2015	2015	60	Yes	60	Applying first time	-	-	Yes	3

Sanctioned Intake for the Last Five Years for the DIPLOMA IN ELECTRICAL ENGINEERING

Academic Year	Sanctioned Intake
2023 - 2024	60
2022 - 2023	48
2021 - 2022	48
2020 - 2021	48
2019 - 2020	48
2018 - 2019	60
2017 - 2018	60

Name of Program	Program Applied level	Start of year	Year of AICTE approval	Initial Intake	Intake Increase	Current Intake	Accreditation status	From	To	Program for consideration	Program for Duration
DIPLOMA IN ELECTRICAL & ELECTRONICS ENGINEERING	Diploma	2015	2015	60	Yes	60	Applying first time	-	-	Yes	3

Sanctioned Intake for the Last Five Years for the DIPLOMA IN ELECTRICAL & ELECTRONICS ENGINEERING

Academic Year	Sanctioned Intake
2023 - 2024	60
2022 - 2023	48
2021 - 2022	48
2020 - 2021	48
2019 - 2020	48
2018 - 2019	60
2017 - 2018	60

Name of Program	Program Applied level	Start of year	Year of AICTE approval	Initial Intake	Intake Increase	Current Intake	Accreditation status	From	To	Program for consideration	Program for Duration
DIPLOMA IN COMPUTER SCIENCE & ENGINEERING	Diploma	2017	2017	60	Yes	60	Applying first time	-	-	Yes	3

Sanctioned Intake for the Last Five Years for the DIPLOMA IN COMPUTER SCIENCE & ENGINEERING

Academic Year	Sanctioned Intake
2023 - 2024	60
2022 - 2023	48
2021 - 2022	48
2020 - 2021	48
2019 - 2020	48
2018 - 2019	60
2017 - 2018	60

7a. Accreditation History:

Sr.No	Name of the Department	Name of the Program	Year of 1st Accreditation (if Applicable)	Year of 2nd Accreditation (if Applicable)	Year of 3rd Accreditation (if Applicable)
-	-	-	-	-	-

7b. Programs to be considered for Accreditation vide this application:

Sr.No	Level	Discipline	Program
1.	Diploma	Engineering & Technology	Civil Engg.
2.	Diploma	Engineering & Technology	Electrical Engg.
3.	Diploma	Engineering & Technology	Mechanical Engg.
4.	Diploma	Engineering & Technology	Computer Science & Engg.
5.	Diploma	Engineering & Technology	Electrical and Electronics Engineering

8. Total number of Employees:**A. Regular* Employees (Faculty and Staff):**

Engineering and Technology- Diploma	<input checked="" type="checkbox"/> Shift 1	<input type="checkbox"/> Shift 2
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Engineering and Technology- Diploma Shift-1:

Engineering and Technology- Diploma Shift-1	2023-24		2022-23		2021-22		2020-21	
	Min	Max	Min	Max	Min	Max	Min	Max
Faculty in Engineering & Technology (Male)	27	27	31	31	28	28	26	26
Faculty in Engineering & Technology (Female)	11	11	7	7	8	8	4	4
Faculty in Science & Humanities (Male)	4	4	2	2	4	4	2	2
Faculty in Science & Humanities (Female)	-	-	2	2	2	2	2	2
Non-teaching staff (Male)	18	18	16	16	14	14	11	11
Non-teaching staff (Female)	3	3	7	7	3	3	2	2

B. Contractual Staff (Not Covered in 9. A):

Engineering and Technology- Diploma	<input type="checkbox"/> Shift 1	<input type="checkbox"/> Shift 2
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9. Total number of Students:

Engineering and Technology- Diploma	<input checked="" type="checkbox"/> Shift 1	<input type="checkbox"/> Shift 2
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Engineering and Technology- Diploma Shift-1:

Total number of Students:	2023-24	2022-23	2021-22	2020-21
Total no. of Boys	433	379	397	349
Total no. of Girls	105	110	110	89
Total no. of Students	538	489	507	438

10. Contact Information of the Head of the Institution and NBA Coordinator:

Head of the Institution	
Name:	Challa Rama Gopal
Designation:	Principal
Mobile No.:	8294268027
Email ID:	principal@gemspolytechnic.edu.in

<input checked="" type="checkbox"/> NBA Coordinator, If Designated	
Name:	Titus R
Designation:	NBA Coordinator
Mobile No.:	9304706901
Email ID:	nba@gemspolytechnic.edu.in

Part B

Program Level Criteria

Criterion 1

Vision, Mission, Program Educational Objectives

1 VISION, MISSION AND PROGRAM EDUCATIONAL OBJECTIVES (50)

1.1 State the Vision and Mission of the Department and Institution (5)

Vision of the institute	Empowering the young minds with holistic education and futuristic skills to be a valuable resource for the State and Nation
Mission of the institute	To provide professional education thereby producing technically competent engineers with moral and ethical values. To train students and provide them with leading resources to address problems faced by industry and
Vision of the Department	Empowering the students in technical education and Excel those in the field of Civil Engineering with concern of socio-economic development of region, State and Nation.
Mission of the Department	<p>Mission No. Mission Statements</p> <p>M1 - To provide a platform for students to develop skills, knowledge and wisdom in various aspects of Civil Engineering.</p> <p>M2- To inculcate ethical and moral values among the students.</p> <p>M3 - To encourage students to pursue higher education and take competitive exams.</p>

1.2 State the Program Educational Objectives (PEOs) (5)

Program Educational Objectives Statements	
PEO1	To produce diploma graduates with a strong foundation in subjects to pursue a thriving professional to take part in providing a feasible solution for communal problems related to Civil Engineering aspects.
PEO2	To improve the capability of graduates to execute emerging techniques for planning, analysis, design and execution of Civil Engineering projects through lifelong learning.
PEO3	To imbibe professional ethics to the graduates with a commitment to the society and environment.

1.3 Indicate where and how the Vision, Mission and PEOs are published and disseminated among stakeholders (10)

"The Vision, Mission, and PEOs have been effectively communicated through various channels, as outlined below:

Publication Channels:

1. Official College Website: <https://gemspolytechnic.edu.in>
2. Dedicated Department Webpage on the College Website: <https://gemspolytechnic.edu.in/civil-engineering/>
3. Department Brochure
4. Department Newsletter
5. Laboratory Manuals
6. Student Orientation Programs
7. Department Association Activities
8. Course Files
9. Lab Record Copy

Dissemination Points:

1. Faculty and Staff Rooms
2. Department Corridors
3. Classroom Environments
4. Laboratories
5. Departmental Notice Board"

1.4 State the process for defining the Vision and Mission of the Department, and PEOs of the program (15)

The process for defining the Vision and Mission of the Department and PEOs of the program:

Initial Input Gathering:

The starting point is to consider the Vision and Mission statements of the institute as the primary input.

Stakeholder Involvement:

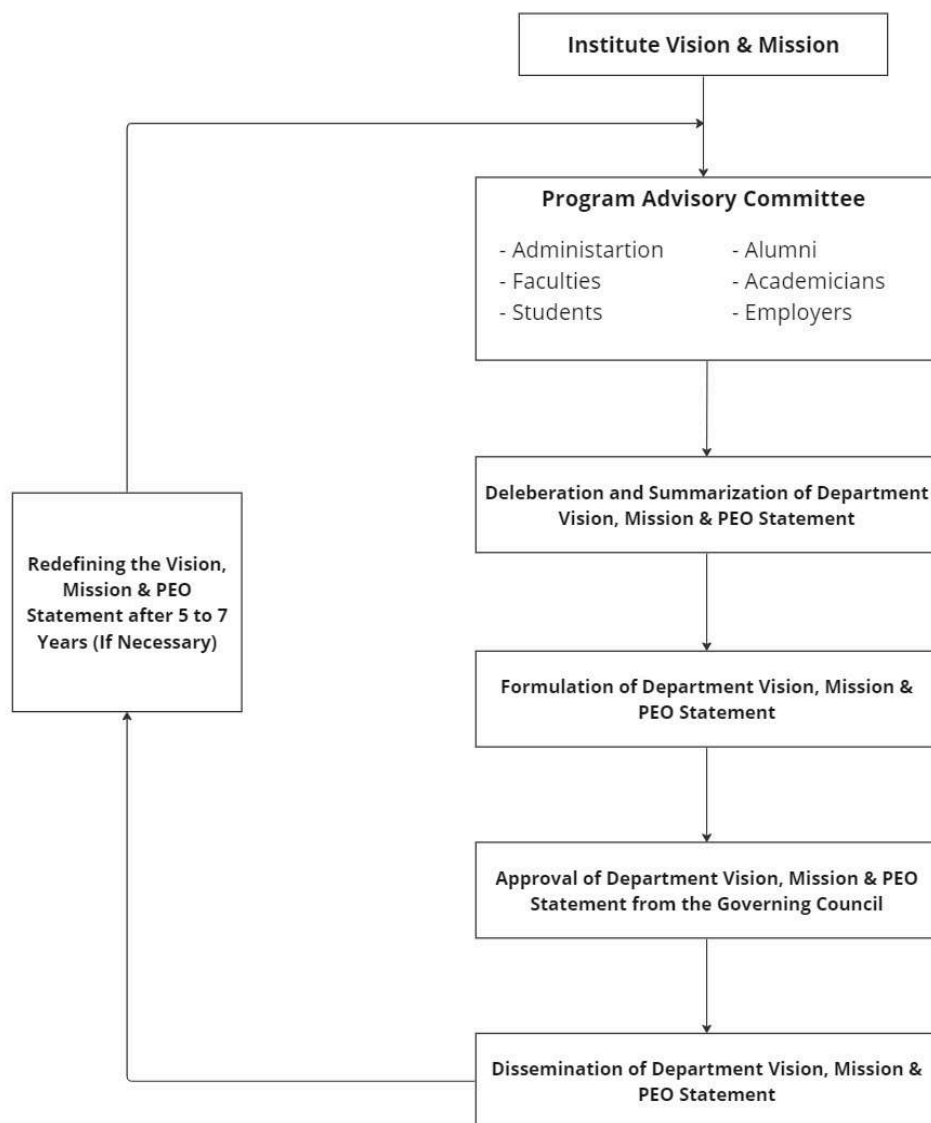
Inputs are gathered from a range of stakeholders, both internal and external. This includes input from internal stakeholders such as management, faculty, and students, as well as external stakeholders like alumni, academicians, and employers.

Deliberation and Summarization:

The next step involves careful deliberation and summarisation of the department's vision, mission and the Program Educational Objectives (PEOs). This is based on the valuable input received from stakeholders, and this process takes place during Program Advisory Committee (PAC) meetings.

Finalization Approval and Dissemination

Once the department's vision, mission and PEOs have been refined based on stakeholder input, they are finalized. The Final Statements are then presented for approval from the Governing Council. After approval, the department's vision and mission and PEOs are disseminated to all relevant states.



1.5 Establish Consistency of PEOs with the Mission of the Department (15)

PEO	M 1	M 2	M 3
<p>PEO1: To produce diploma graduates with a strong foundation in subjects to pursue a thriving professional to take part in providing a feasible solution for communal problems related to Civil Engineering aspects.</p>	<p>M1: 3 - Substantial (High) Justification: The desired outcome of the program is to train technically Successful engineers, and the aim of providing fundamental and skill-based education directly contributes to their technical expertise.</p>	<p>M2: 2- Moderate (Medium) The desired outcome of the program is to promote students with Conscientious and social values and the aim of providing fundamental and skill-based education directly contributes is moderate</p>	<p>M3: 2 - Moderate (Medium) The desired outcome of the program is to promote students with enhancing careers and the aim of providing fundamental and skill-based education directly contributes to their moderate</p>
<p>PEO2: To improve the capability of graduates to execute emerging techniques for planning, analysis, design and execution of Civil Engineering projects through lifelong learning.</p>	<p>M1: 3 (Substantial) - High The desired outcome of the program is to train technically successful engineers and the aim of providing emerging techniques of all Civil engineering attributes to their technical expertise.</p>	<p>M2: 2 (Moderate) - Medium The desired outcome of the program is to promote students with Conscientious and social values and the aim of providing emerging techniques of all Civil engineering attributes is moderate</p>	<p>M3: 1 - (Slight) Low The desired outcome of the program is to promote students with enhancing careers and the aim of providing emerging techniques of all Civil engineering attributes is Low</p>
<p>PEO3: To imbibe professional ethics to the graduates with a commitment to the society and environment.</p>	<p>M1: 3 (Substantial) - high The desired outcome of the program is to train technically successful engineers and the aim is to provide workspace ethics to the graduates with a commitment to the society and environment to their technical expertise.</p>	<p>M2: 2 (Moderate) - Medium The desired outcome of the program is to promote students with Conscientious and social values and the aim is to provide workspace ethics to the graduates with a commitment to the society and the environment are moderate</p>	<p>M3: 1 (Slight) - low The desired outcome of the program is to promote students with enhancing careers and the aim is to provide workplace ethics to the graduates with a commitment to the society and the environment are Low</p>

PEO Statements	M1	M2	M3
To produce diploma graduates with a strong foundation in subjects to pursue a thriving professional to take part in providing a feasible solution for communal problems related to Civil Engineering aspects.	3	2	2
To improve the capability of graduates to execute emerging techniques for planning, analysis, design and execution of Civil Engineering projects through lifelong learning.	3	2	1
To imbibe professional ethics to the graduates with a commitment to the society and environment.	3	2	1

Criterion 2

Program Curriculum and Teaching-learning processes

2 PROGRAM CURRICULUM AND TEACHING-LEARNING PROCESSES (200)

2.1 Program Curriculum (40)

All POs and PSOs are being demonstrably met through Curriculum? : No

2.1.1 State the process used to identify the extent of compliance with the Board curriculum for attaining the Program Outcomes (POs) and Program Specific Outcomes (PSOs) as mentioned in Annexure I. Also mention the identified curricular gaps, if any (25

A. Process used to identify the extent of compliance of curriculum for attaining POs & PSOs (15)

In order to ensure that our educational programs align with the Program Outcomes (POs) and Program Specific Outcomes (PSOs) as stipulated by the State Board of Technical Education (SBTE), Bihar, GEMS Polytechnic College employs a rigorous process for assessing and enhancing curriculum compliance. This process involves a systematic approach to mapping curriculum elements, analyzing feedback from various stakeholders, and identifying curricular gaps.

Program Specific Outcome (PSOs):

The Program Specific Outcomes (PSOs) serve as a critical component of our curriculum development, shaped by the department's Vision and Mission, Program Outcomes, Program Educational Outcomes (PEOs), and insights from the Industry Representatives and Alumni. Additionally, the PSOs are benchmarked against the outcomes and objectives of technical societies and other esteemed institutions.

A. Process Used to Identify Extent of Compliance of SBTE Curriculum for Attaining POs & PSOs:

Curriculum Structure:

GEMS Polytechnic College adheres to the curriculum and syllabi prescribed by the State Board of Technical Education, Bihar (SBTE). The SBTE curriculum is organized into eight different domains, encompassing a wide range of subjects and courses:

- ❖ Basic Sciences
- ❖ Engineering Sciences
- ❖ Humanities & Social Sciences
- ❖ Program Core
- ❖ Program Elective
- ❖ Open Elective
- ❖ Project, Seminar, Internship
- ❖ Audit Courses & MOOCs

Moreover, the course objectives and outcomes are meticulously framed at the commencement of each new curriculum regulation.

Curriculum with CO-PO/PSO Mapping:

To assess the extent of compliance of the SBTE curriculum in achieving the Program Outcomes (POs) and Program Specific Outcomes (PSOs), we employ the following process:

Categorization:

The entire curriculum is categorized into the relevant domains, including Basic Sciences, Engineering Sciences, Humanities and Social Sciences, Program Core, Program Elective, Open Elective, Project, Seminar, Internship, Audit Courses, and MOOCs.

Mapping Matrix:

A correlation matrix is developed, establishing links between individual courses and the corresponding POs and PSOs. This mapping matrix provides a clear overview of the alignment between course content and desired outcomes.

Cumulative Evaluation:

We calculate the cumulative value for every PO and PSO by assessing the percentage of courses that successfully align with each outcome.

Gap Identification:

Curricular gaps are identified by analyzing courses where the percentage of alignment with POs or PSOs falls below the average percentage of alignment across all courses.

Table 2.1-Distribution of Curriculum towards the attainment of POs and PSOs													
S.No	Course Component	Courses	Curriculum Content	Relevance to PO and PSOs (Y / N)									
				PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
1	Basic Sciences	Mathematics-1	15.17%	Y	Y	N	N	N	N	N	Y	N	N
2		Applied Physics-I		Y	Y	N	Y	N	N	Y	Y	N	N
3		Applied Chemistry		Y	Y	N	Y	Y	N	Y	N	N	N
4		Applied Physics Lab-I		Y	N	N	Y	N	N	Y	Y	N	N
5		Applied Chemistry Lab		Y	Y	Y	Y	Y	Y	Y	N	N	N
6		Mathematics-2		Y	Y	N	N	N	N	N	Y	N	N
7		Applied Physics-2		Y	Y	N	N	N	N	Y	Y	N	N
8		Applied Physics Lab-2		Y	Y	N	N	N	N	N	N	N	N
9	Engineering sciences	Engineering Graphics	11.72%	Y	Y	Y	N	N	N	Y	Y	N	N
10		Engg. Workshop		Y	N	N	Y	Y	N	Y	N	N	N

		Practice											
11		Engineering Mechanics		Y	Y	N	Y	Y	N	N	Y	N	Y
12		Engineering Mechanics Lab		Y	Y	Y	N	Y	N	Y	Y	Y	N
13		Introduction to IT Systems		Y	Y	N	N	Y	N	N	N	N	N
14		Introduction to IT Systems Lab		Y	N	N	Y	N	N	N	N	N	N
15		Fundamental of Electrical & Electronics Engineering		Y	Y	Y	N	N	N	Y	Y	N	N
16		Fundamental of Electrical & Electronics Engg. Lab		Y	Y	Y	Y	Y	Y	Y	N	N	N
17	Humanities	Communication Skills in English	6.21%	Y	N	N	N	N	Y	Y	N	N	N
18		Communication Skills in English Lab		N	N	N	N	N	Y	Y	N	N	N
19		Sports and Yoga		N	N	N	N	N	N	Y	N	N	N
20		Entrepreneurship and Start-ups 2000601		Y	N	N	N	N	Y	Y	Y	N	Y
21	Program Core	Building Construction and Construction Materials	44.14%	Y	N	N	N	Y	N	N	Y	N	Y
22		Basic Surveying		Y	Y	N	N	N	N	Y	Y	Y	Y
23		Mechanics of Materials		Y	Y	Y	Y	N	N	Y	Y	N	N
24		Concrete Technology		Y	Y	N	Y	Y	N	Y	Y	Y	Y
25		Geo Technical Engineering		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
26		Basic Surveying Lab		Y	N	N	Y	Y	N	Y	Y	N	N
27		Building Construction and Construction materials Lab		Y	N	N	N	Y	N	N	Y	Y	Y
28		Mechanics of Materials Lab (TW)		Y	Y	Y	Y	N	N	N	Y	Y	N
29		Concrete Technology Lab (TW)		Y	N	N	Y	Y	N	N	Y	Y	Y

30		GeoTechnical Eng. Lab (TW)		Y	Y	Y	Y	N	N	Y	N	Y	Y	
31		Hydraulics		Y	Y	N	N	N	N	Y	Y	Y	Y	
32		Advance Surveying		Y	Y	N	Y	N	N	Y	Y	Y	Y	
33		Theory of Structure		Y	Y	Y	N	N	N	Y	Y	N	N	
34		Building Planning and Drawing		Y	Y	Y	Y	Y	N	N	Y	Y	Y	
35		Transportation Engineering		Y	Y	Y	Y	Y	N	Y	Y	Y	Y	
36		Hydraulics lab		Y	Y	N	Y	Y	N	Y	Y	N	Y	
37		Advance Surveying lab		Y	Y	N	Y	N	N	Y	Y	Y	Y	
38		Theory of Structure Lab(Tw)		Y	Y	Y	N	Y	N	Y	Y	N	N	
39		Building Planning and Drawing Lab(TW)		Y	Y	N	Y	Y	Y	Y	Y	Y	Y	
40		Transportation Engineering Lab(TW)		Y	N	N	Y	N	N	N	Y	Y	N	
41		Course AutoCAD/STAAD.Pro/Others (TW)		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
42		Design of steel and R.C.C Structure		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
43		Estimating and Costing		Y	Y	N	N	Y	N	N	Y	Y	Y	
44		Water Resources Engineering.		Y	Y	Y	N	Y	N	Y	Y	Y	N	
45		Estimating & Costing Lab		Y	Y	N	N	Y	N	N	Y	Y	Y	
46		Public Health Engineering		Y	Y	Y	Y	N	N	N	Y	Y	Y	
47		Advance Design of Structures		Y	Y	Y	N	Y	N	N	Y	Y	N	
48		Course Primavera/3D Max / Others		Y	Y	Y	N	N	N	Y	Y	Y	Y	
49	Project, Seminar, Internship	In- Plant training	6.21%	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
50		Minor Project		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
51		Seminar		Y	Y	Y	N	N	N	Y	Y	Y	Y	Y
52		Major Project		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
53	Program Elective	Precast and Prestressed Concrete/ 2015504 A	11.03%	Y	Y	Y	N	N	N	N	Y	Y	N	
54		Advanced Construction		Y	N	N	Y	N	N	N	Y	Y	Y	Y

		Technology /2015505C													
55		Design of steel and RCC structure Lab /2015508 A		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
56		Tendring and Accounts/ 2015604A		Y	N	N	N	Y	Y	N	Y	Y	Y		
57		Project Management/ 2015605B		Y	Y	Y	N	N	Y	Y	N	N	Y		
58		Public Health Engineering Lab/ 2015608A		Y	N	N	Y	N	N	N	Y	Y	N		
59		Tendring and Accounts(TW)/20 15612 A		Y	N	N	N	Y	Y	N	Y	Y	Y		
60	Inter disciplinary courses	Web Technology Lab 2018308	1.38%	Y	Y	Y	Y	Y	Y	Y	N	N	N		
61		Python 2018311		Y	Y	N	N	N	N	N	N	N	N	Y	
62	Audit Courses & Moocs	Environmental Science/ 2002212	4.14%	Y	Y	Y	Y	Y	Y	Y	N	N	N		
63		Course under MOOCS /SWAYAM/ETC/20 02211		N	N	N	N	N	N	Y	N	N	N	N	
64		KYP/IT Essential/ Python / Others/ 2002211		N	N	N	N	N	N	Y	N	N	N	N	
65		C/KYP/IT Essential / Python / Others/ 2001111		Y	N	N	Y	N	Y	Y	Y	Y	N	N	N
66		Course Under COE / Moocs / NPTEL / Others /2015511		Y	Y	Y	N	Y	N	Y	Y	Y	Y	Y	Y
67		Course Under Moocs/NPTEL/Ot hers (TW)/ 2015611		Y	Y	Y	N	Y	N	Y	Y	Y	Y		
TOTAL			100.00%	63	48	30	34	34	19	45	50	35	34		

Table: Compliance of SBTE curriculum with POs

Total No. of Courses: 67			
S.NO	Program Outcomes	Number of courses Mapped with POs	Percentage
PO 1	Basic and Discipline specific Knowledge	63	94.03%

PO 2	Problem Analysis	48	71.64%
PO 3	Design / Development of solutions	30	44.78%
PO 4	Engineering Tools, Experimentation and Testing	34	50.75%
PO 5	Engineering Practices for society, Sustainability and Environment	34	50.75%
PO 6	Project Management	19	28.36%
PO 7	Life-Long Learning	45	67.16%
Average Percentage (%)			58.21%
Percentage of courses mapping with PO = No.of courses mapped with PO / Total number of courses in curriculum			

The Following PO's are identified as curricular gaps are obtained from the above mentioned table: PO 3, PO 4, PO 5 and PO 6

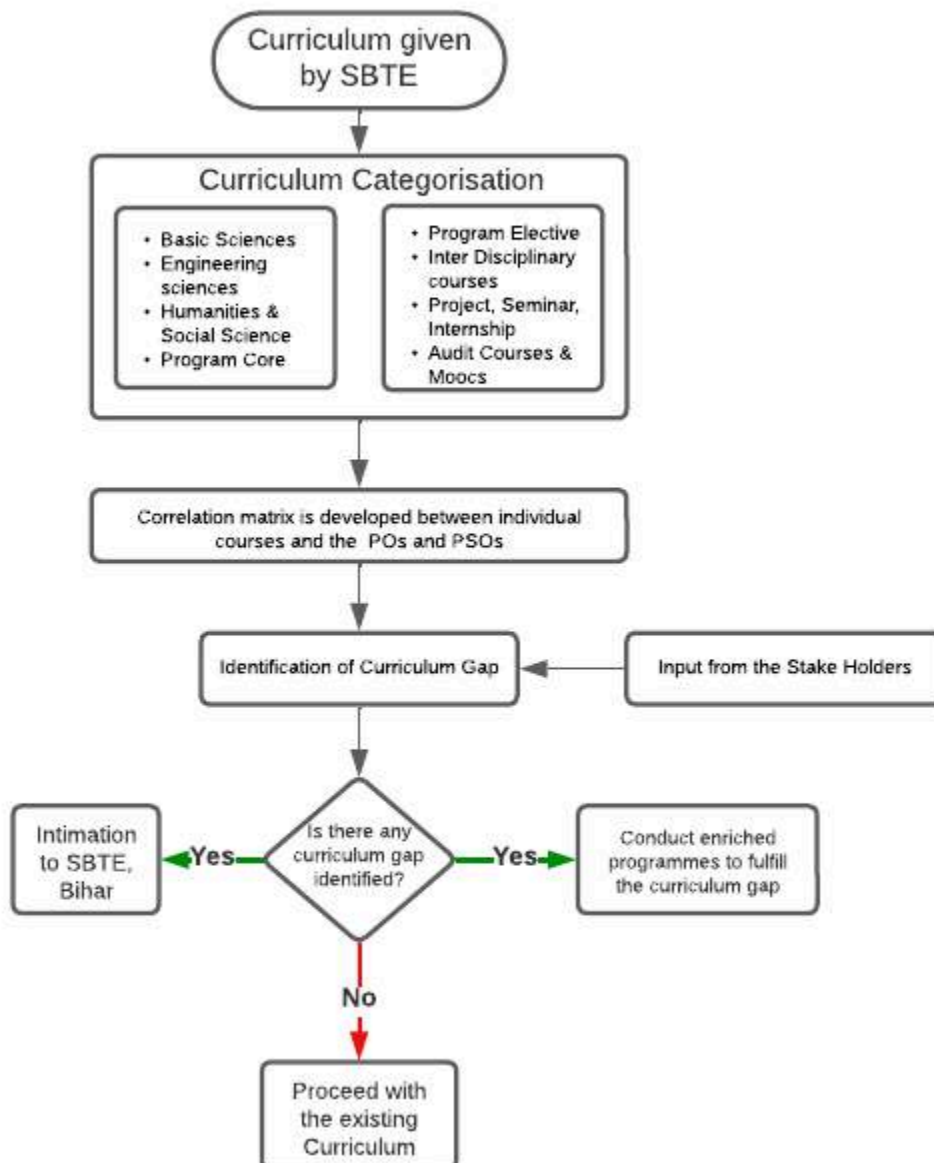
Table 2.2 Compliance of SBTE curriculum with PSOs			
Total No. of Courses: 67			
S.NO	Program Outcomes	Number of courses Mapped with PSOs	Percentage
PSO 1	The graduates will have proficiency in mathematics, basic science and engineering fundamentals to excel in core areas of civil engineering	50	74.63%
PSO 2	The graduates will plan, analyze, design, write specifications and prepare cost estimates for Civil Engineering structures.	35	52.24%
PSO 3	The graduates will be able to apply technical and management skills for the execution of work.	34	50.75%
Average Percentage (%)			59.20%
Percentage of courses mapping with PSO = No.of courses mapped with PSO / Total number of courses in curriculum			

The Following PSO's are identified as curricular gaps are obtained from the above mentioned table: PSO 2 and PSO 3

Feedback from Stakeholders:

The Program Advisory Committee (PAC) Meeting plays a pivotal role in the curriculum assessment process. It serves as a platform for deliberating and incorporating feedback received from various stakeholders, including industry representatives, alumni, faculty, and students. This feedback loop ensures that the curriculum remains responsive to the evolving needs and expectations of the industry and community.

In conclusion, GEMS Polytechnic College places a strong emphasis on maintaining a curriculum that aligns with the Program Outcomes (POs) and Program Specific Outcomes (PSOs) outlined by SBTE. Through systematic mapping, assessment, and stakeholder engagement, we continually strive to bridge any curricular gaps and provide students with a well-rounded education that prepares them for success in their chosen fields.



B.List the curricular gaps for the attainment of POs & PSOs (10):

In the pursuit of educational excellence, it is imperative to critically examine and identify areas within the curriculum of the Diploma in Mechanical Engineering program where improvements are needed to align more effectively with the Program Outcomes (POs) and Program Specific Outcomes (PSOs).

The identification of curricular gaps in the Diploma in Mechanical Engineering program was a comprehensive process that incorporated two primary sources of assessment:

- ❖ The compliance with the State Board of Technical Education (SBTE) curriculum and
- ❖ The valuable feedback from various stakeholders.

The following is a comprehensive list of curricular gaps identified within the program:

Sr. No	Gaps Identified	Explanation	Relevance to PO's/PSO's
1.	Industry Readiness	The curriculum lacks exposure to real-world industry practices and expectations, leaving graduates less prepared for the demands of civil engineering careers. There is a gap in our program where students are not adequately equipped with the practical skills and knowledge required to seamlessly transition into the workforce.	PO 3, PO 4, PO 5, PO 6, PSO 2 and PSO 3
2.	Emerging Technologies	The curriculum does not sufficiently cover emerging technologies in civil engineering, resulting in graduates who may not be up to date with the latest advancements in the field. An identified curricular gap is the omission of instruction on cutting-edge technologies, hindering our students' ability to stay competitive in the fast-evolving world of civil engineering.	PO 3, PO 4, PO 5, PO 6, PSO 2 and PSO 3
3.	Career Guidance	There is a gap in providing students with effective career guidance, as the curriculum does not include guidance on career options, job market trends, or strategies for job searching. Students lack adequate support and information for making informed career choices within the field of civil engineering, which hinders their long-term success in the profession.	PO 3, PO 4, PO 5, PO 6, PSO 2 and PSO 3

2.1.2. Contents beyond the Syllabus (15)

At GEMS Polytechnic College, we understand the significance of providing education that goes beyond the confines of the syllabus. We believe in offering students a comprehensive learning experience that not only covers the prescribed curriculum but also equips them with additional knowledge and skills to excel in their chosen fields. This commitment is evident through our proactive approach in addressing identified gaps and our diverse range of initiatives aimed at delivering content beyond the syllabus.

A. Steps Taken to Get Identified Gaps Included in the Curriculum

Engagement with SBTE, Bihar: (2)

- ❖ Recognizing the importance of a curriculum that aligns with the evolving needs of industry and society, we have taken proactive steps to address identified gaps.
- ❖ One crucial avenue for this is our engagement with the State Board of Technical Education (SBTE), Bihar.
- ❖ We have initiated a formal communication process by sending letters to SBTE, Bihar, requesting a review of the curriculum gaps we have identified.
- ❖ Our aim is to advocate for the inclusion of these gaps in the upcoming new regulation of the syllabus.
- ❖ This collaborative approach ensures that our curriculum remains dynamic and responsive to the changing educational landscape and industry requirements.

Sl. No.	Course Name	Input to the SBTE Board (suggestion)	Reason
1	Public Health Engineering	Solar Technology in wastewater treatment	Understand the significance of solar-driven water treatment technologies as sustainable solutions to global water challenges and alternatives to fossil fuel-intensive methods, considering the site-specific nature of their selection
	Water Resource Engineering		
2	Building Construction and Construction Materials	Sustainable Materials and Practices	Embrace sustainability in civil engineering by incorporating eco-friendly materials like recycled concrete, sustainable steel, and innovative composites, recognizing the growing trend in the industry towards environmentally conscious practices
	Concrete Technology		
3	Building Construction and construction materials	Deep Foundation	Master deep foundation techniques in civil engineering to address the crucial challenge of constructing stable structures in soils and bedrock layers deep below the ground surface. Recognize that traditional shallow foundations may not be effective in these situations, highlighting the need for expertise in deep foundation methods.
	Geotechnical engineering		

B. Delivery details of content beyond syllabus (10)

To ensure that our students receive content that extends beyond the syllabus, we have implemented a series of special initiatives designed to bridge curricular and

attainment gaps. These initiatives are tailored to provide students with practical knowledge, valuable insights, and essential skills that enhance their overall learning experience. Some of these initiatives include:

Sl.No	Delivery Process	Delivery Details of Content Beyond Syllabus
1.	Lecture on Content Beyond the Syllabus	Respective course-handling faculties will identify the topic for industry readiness and emerging technology in their course as content beyond the syllabus, which will be delivered during the regular course duration itself.
2.	Lab Experiments on Content Beyond the Syllabus	Respective lab course-handling faculties will identify experiments related to industry readiness and emerging technology in their lab courses as content beyond the syllabus. These experiments will be incorporated into the regular lab course duration.
3.	Value-Added Courses	We offer value-added courses that complement the core curriculum. These courses cover emerging topics, advanced technologies, and specialized skills, giving students a competitive edge in their respective fields.
4.	Guest Lectures	Distinguished experts from academia and industry are invited to conduct guest lectures. These sessions provide students with exposure to real-world insights, industry trends, and the opportunity to interact with industry leaders.
5.	Industrial Visits	Students are encouraged to participate in industrial visits, where they can observe industrial processes and gain practical knowledge. These visits help them connect theoretical concepts to real-world applications.
6.	In-Plant Training	In-plant training programs enable students to work within an industrial setting. This hands-on experience allows them to apply classroom knowledge, develop technical skills, and understand industry practices.
7.	Mini Projects	Students engage in mini projects that encourage innovation, problem-solving, and teamwork. These projects foster creativity and practical application of their learning.
8.	Soft Skills Training	We provide soft skills training to enhance students' communication, teamwork, and interpersonal skills. These skills are crucial for personal and professional development.
9.	Mock Interviews	To prepare students for the job market, we conduct mock interviews facilitated by both internal academic experts and external industrial experts. These sessions offer constructive feedback and help students build confidence for actual job interviews.

At GEMS Polytechnic College, our commitment to delivering content beyond the syllabus is rooted in our dedication to nurturing well-rounded, employable graduates. By

actively addressing identified gaps and offering these diverse initiatives, we empower our students with the knowledge, skills, and confidence to excel in their academic and professional journeys.

C. Mapping of content beyond syllabus with the POs & PSOs (3)

2023 - 2024

S.No	Course Name	Gap	Action Taken	Date-Mont h-Year	Resource Person	Mode	No. of students present	Relevance to POs, PSOs
1	Fundamentals of Electrical and Electronics Engineering	Industry readiness	Lecture on Digital number systems, AC current and voltage generation	12.01.2024	Ms Catharine	Offline	52	PO1, PO2, PS01
2	Mathematics - 2	Industry readiness	Lecture on Differential equations	07.01.2024	Mr. Shiv Sankar	Offline	52	PO1, PS01
3	Engineering Mechanics	Industry readiness	Lecture on the Moment concept in detail	18.01.2024	Mr. Sujin	Offline	52	PO1, PS01
4	Applied Physics - 2	Emerging technology	Lecture on Motor construction and working	20.01.2024	Mr. K. V. Babu	Offline	52	PO1, PS01
5	Introduction to IT system	Emerging technology	Lecture on Antivirus and Firewall in detail	27.01.2024	Mr. Kumar	Offline	52	PO1, PS01
6	Communication in English	Emerging technology	Lecture on Conversation skills: what they are and why they are important.	20.03.2024	Mr. Sunny	Offline	52	PO1, PS01

7	Mechanics of materials	Industry readiness	Lecture on Shaft and its behavior with basic parameters in detail, Combined bending and torsion	14.12.2023	Ms Jensika Rani	Offline	48	PO2, PS02
8	Geotechnical engineering	Industry readiness	Lecture on Geosynthetics	08.10.2023	Mr. Victor Emmanuel	Offline	48	PO5, PS02
9	Basic Surveying	Industry readiness	Lecture on Total station, Theodolite	13.11.2023	Mr. Samuel Prakash Swami	Offline	48	PO1, PO2, PS02
10	Concrete Technology	Industry readiness	Lecture on Different types of bitumen useful in concrete technology	22.11.2023	Mrs. Chinthiya	Offline	48	PO4, PO5, PS02
11	Advance Surveying	Industry readiness	Lecture on How to use the advanced survey equipments	07.03.2024	Mrs. Chinthiya	Offline	48	PO6, PS03
12	Design of steel and RCC structures	Industry readiness	Lecture on Structural details - cover detailing, RCC structure to ensure that the design is efficiently communicated to contractor and for fabrication	07.01.2022	Mr Sujin	Offline	31	PO2, PO3, PS02
13	Advanced construction technology	Industry readiness	Lecture on Concrete containing recycled plastic as partial replacement for sand	10.12.2023	Mr. Daniel Swami	Offline	31	PO4, PO5, PS02
14	Precast and Prestressed concrete	Emerging technology	Lecture on Life Cycle assessment, carbon footprint & green building certification of precast and	10.01.2024	Ms Jensika Rani	Offline	31	PO3, PO5, PS02

			prestressed structures					
15	Public Health Engineering Engineering	Industry readiness	Lecture on Ultra violet radiation of water treatment composting and landfilling	23.03.2024	Mr Daniel Swami	Offline	31	PO5, PS02
16	Tender and Accounts	Industry readiness	Lecture on Agreement of contract between owner and builders for construction of building	25.03.2024	Ms Jenisha	Offline	31	PO6, PS03
17	Water Resources Engineering	Industry readiness	Lecture on Hydrograph, Water harvesting through check dams	13.12.2023	Ms Jenisha	Offline	31	PO5, PS02

2022- 2023

S.No	Course Name	Gap	Action Taken	Date-Month-Year	Resource Person	Mode	No. of students present	Relevance to POs, PSOs
1	Fundamentals of Electrical and Electronics Engineering	Industry readiness	Lecture on Digital number systems, AC current and voltage generation	12.01.2023	Mr. Ketu Kumar Sahitya	Offline	48	PO1, PO2, PS01
2	Mathematics - 2	Industry readiness	Lecture on Differential equations	07.02.2023	Mr. Sanjeeva Kumar Daddanala	Offline	48	PO1, PS01
3	Engineering Mechanics	Industry readiness	Lecture on the Moment concept in detail	18.03.2023	Mr. Ravi Kumar Saksena	Offline	48	PO1, PS01
4	Applied Physics - 2	Emerging technology	Lecture on Motor construction and working	20.01.2023	Mr. K. V. Babu	Offline	48	PO1, PS01

5	Introduction to IT system	Emerging technology	Lecture on Antivirus and Firewall in detail	27.02.2023	Mr. Anugrah Ashish	Offline	48	PO1, PSO1
6	Communication in English	Emerging technology	Lecture on Conversation skills: what they are and why they are important.	20.07.2023	Mrs. Jaslin Christy	Offline	47	PO1, PSO1
7	Mechanics of materials	Industry readiness	Lecture on Shaft and its behavior with basic parameters in detail, Combined bending and torsion	14.02.2023	Mr. Sujin P	Offline		PO2, PSO2
8	Geotechnical engineering	Industry readiness	Lecture on Geosynthetics	03.03.2023	Mr. Victor Emmanuel	Offline	35	PO5, PSO2
9	Basic Surveying	Industry readiness	Lecture on Total station, Theodolite	13.03.2023	Mr. Samuel Prakash Swami	Offline	35	PO1, PO2, PSO2
10	Concrete Technology	Industry readiness	Lecture on Different types of bitumen useful in concrete technology	28.02.2023	Mr. Daniel Swami	Offline	35	PO4, PO5, PSO2
11	Advance Surveying	Industry readiness	Lecture on How to use the advanced survey equipments	02.10.2023	Mrs. Chinthiya	Offline	44	PO6, PSO3
12	Design of steel and RCC structures	Industry readiness	Lecture on Structural details - cover detailing, RCC structure to ensure that the design is efficiently communicated to contractor and for fabrication	07.01.2022	Mr. Rajat Kumar	Offline	42	PO2, PO3, PSO2
13	Design of steel structures	Industry readiness	Lecture on Load combinations on roof structures	18.05.2022	Mr. Rajat Kumar	Offline	42	PO2, PO3, PSO2

14	Advanced construction technology	Industry readiness	Lecture on Concrete containing recycled plastic as partial replacement for sand	10.03.2023	Mr. Daniel Swami	Offline	42	PO4, PO5, PSO2
15	Precast and Prestressed concrete	Emerging technology	Lecture on Life Cycle assessment, carbon footprint & green building certification of precast and prestressed structures	10.02.2023	Mr. Sujin P	Offline	42	PO3, PO5, PSO2
16	Environmental Engineering	Industry readiness	Lecture on Ultra violet radiation of water treatment composting and landfilling	23.05.2022	Mr. Victor Emmanuel	Offline	42	PO5, PSO2
17	Contracts and Accounts	Industry readiness	Lecture on Agreement of contract between owner and builders for construction of building	24.05.2022	Mrs. Chinthiya	Offline	41	PO6, PSO3
18	Water Resources Engineering	Industry readiness	Lecture on Hydrograph, Water harvesting through check dams	13.03.2023	Mr. Victor Emmanuel	Offline	42	PO5, PSO2
19	Civil Engineering	Emerging technology	Technical symposium	03/09/2022	Mr. Samuel Prakash Swami	Offline	120	PO2, PO3, PO4
20	Civil Engineering	Emerging technology	Workshop	05/12/2022	Er. Samson Suresh-Industry	Offline	115	PO3, PO5, PSO
21	Civil Engineering	Emerging technology	Workshop	10/08/2022	Mr. Abner Gulman-Industry	Offline	76	PO3, PO5, PO

2021-2022

S.No	Course Name	Gap	Action Taken	Date-Month-Year	Resource Person	Mode	No. of students present	Relevance to POs, PSOs
1	Mechanics of materials	Industry readiness	Lecture on Shaft and its behavior with basic parameters in detail, Combined bending and torsion	25.05.2022	Mr. Sujin P	Offline	53	PO2, PSO2
2	Geotechnical engineering	Industry readiness	Lecture on Risk analysis of bearing capacity of shallow and deep foundations, Recent technology used in soil stabilization, reinforced earth and geosynthetics	21.04.2022	Ms. Merlin Freeda	Offline	53	PO2, PO5, PSO
3	Basic Surveying	Industry readiness	Lecture on Total Station, Theodolite	12.05.2022	Mr. Samuel Prakash Swami	Offline	53	PO1, PO2, PSO
4	Hydraulics	Industry readiness	Lecture on Seepage in canals and field open channels	17.10.2022	Mr. Samuel Prakash Swami	Offline	44	PO3, PO4, PSO
5	Advance Surveying	Industry readiness	Lecture on How to use the advanced survey equipment	02.10.2022	Mrs.chinthiya	Offline	44	PO3, PO4, PSO
6	Theory of structure	Industry readiness	Lecture on Equilibrium, Compactibility, Determinate structure, Indeterminate structure, Primary structure, Analyse procedure of continuous beam by flexibility method, Numerical	08.10.2022	Mr. Sujin P	Offline	44	PO2, PO3, PSO
7	Environmental Engineering	Industry readiness	Lecture on Ultraviolet radiation of water treatment composting and landfilling	20.05.2022	Mr.Victor Emmanuel	Offline	42	PO4, PO5, PSO
8	Contracts and Accounts	Industry readiness	Lecture on Agreement of contract between owner and builders for construction of the building	21.05.2022	Mrs. Chinthiya S	Offline	41	PO6, PSO3

9	Design of structures	Industry readiness	Lecture on Design and detailing of retaining walls, Flat Slabbing technology	18.05.2022	Mr. Rajat Kumar	Offline	42	PO2, PO3, PSO
10	Management	Career Guidance	Lecture on Personal development Enterprise learning	20.05.2022	Ms. Merlin Freeda	Offline	41	PO6, PSO3
11	Highway engineering	Industry readiness	Lecture on Rubberized asphalt concrete	31.01.2022	Mr. Daniel swami	Offline	42	PO4, PO5, PSO
12	Civil Engineering	Career Guidance	Webinar on Engineering Career	05/05/2022	Dr. Ashok Kumaravel	Offline	50	PSO 3, PO5, PSO3
13	Civil Engineering	Industry readiness	Industrial visit	16/12/2021	Er. Hira Lal	Offline	90	PO5, PO7, PSO2
14	Civil Engineering	Career Guidance	Lecture on Communication Skills	02/04/2022	Mr. Samuel Prakash Swami	Offline	105	PO6, PO7, PSO1
15	Civil Engineering	Industry readiness	Field Visit	27/04/2022	Mr. Daniel swami-Lecturer	Offline	40	PO 6, PO7, PSO2

2020-2021

S.No	Course Name	Gap	Action Taken	Date-Month-Year	Resource Person	Mode	No. of students present	Relevance to POs, PSOs
1	Advanced construction technology	Industry readiness	Field Visit to Company	15/03/2020	Mr. Daniel swami	PO 6, PO7, PSO3	30	PO 6, PO7, PSO2

2.2 Teaching - Learning Process (160)

2.2.1 Describe Processes followed to ensure/improve quality of Teaching & Learning based on following points (25)

A. Adherence to Academic Calendar (3)

Adherence to the academic calendar is critical to maintaining a structured and efficient educational environment within our department. Our departments academic calendar is meticulously prepared ahead of each semester, considering the institutions calendar and the SBTE (State Board of Technical Education) Calendar. This careful planning ensures that the departments activities are well-coordinated and aligned with the broader educational framework.

Here are the key components of our department's academic calendar:**Semester Structure:**

The academic calendar outlines the working days of the semester, providing a clear overview of the duration of the academic term. This serves as a foundational framework for all academic and non-academic activities within the department.

Internal Test Schedule:

To gauge students' progress and ensure timely assessments, the calendar includes the schedule for internal tests. This allows students and faculty members to adequately prepare and allocate their time for exam preparation and review.

Project Reviews:

For courses involving project work, the calendar specifies dates for project reviews. This ensures students receive timely feedback on their projects and can make necessary improvements.

Industrial Visits:

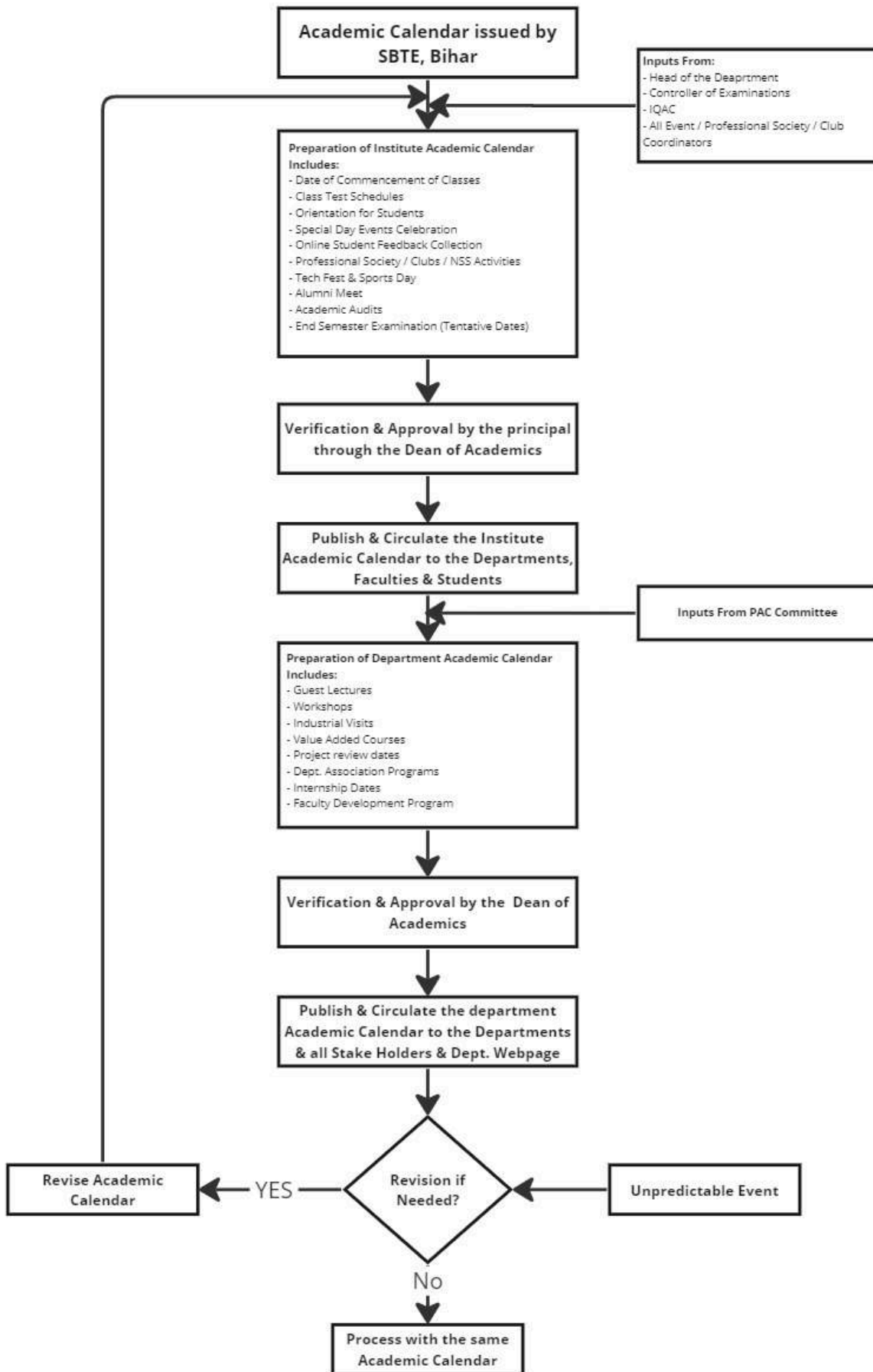
Many of our programs emphasize practical learning and industry exposure. The academic calendar incorporates planned industrial visits, providing students with opportunities to gain real-world insights into their fields of study.

Additional Activities:

Beyond regular classes and assessments, the academic calendar accommodates various other activities designed to enrich the learning experience. These include guest lectures by industry experts, seminars on emerging topics, workshops to enhance practical skills, and participation in professional society activities.

Communication:

The academic calendar is not a static document but a living guide that evolves as necessary. It is disseminated among faculty members and students to ensure everyone is aware of the schedule and can plan their commitments accordingly. Any updates or changes are communicated promptly to maintain transparency and adherence to the plan.



Adhering to the department's academic calendar is vital for creating a conducive learning environment where both faculty and students can maximize their potential. It fosters discipline, and time management, and ensures that all educational objectives are met systematically and organized. By following the calendar diligently, we aim to provide our students with a holistic and enriching educational experience while staying aligned with the institutions and SBTEs guidelines.

B. Use of various instructional planning and delivery methods (3)

At our institution, the faculty is dedicated to fostering a dynamic and enriching learning environment for our students. To achieve this goal, we employ a diverse array of innovative teaching and learning methodologies that cater to different learning styles and enhance the overall educational experience. Below, we outline our key instructional methods:

Lecture Methods:

Curriculum Alignment:

We meticulously adhere to the curriculum and syllabus outlined by the SBTE, which serves as the foundation for preparing our academic calendar and teaching plans. This alignment ensures that our students receive an education that is not only comprehensive but also industry-relevant.

Tutorial Hours:

For courses demanding a deeper analytical perspective, we conduct tutorial hours. These sessions provide students with the opportunity for in-depth discussions and a thorough understanding of course material.

Interactive Teaching:

While we embrace traditional lecture methods, we encourage active participation from students during lectures. This engagement allows students to seek clarifications and engage in real-time discussions, fostering a deeper understanding of the subject matter.

ICT Based Learning:

Enhanced Information Delivery:

ICT-based learning plays a pivotal role in enriching the quality of education and teaching. To this end, we leverage various ICT tools and platforms to enhance information delivery.

Tools and Platforms:

Our program incorporates a variety of ICT-based learning tools, including multimedia projectors, Smart Boards, PowerPoint presentations, Google Classroom, MOODLE (Learning Management System), and Campus Management System(CMS).

Seminars:

We allocate dedicated seminar hours in our timetable to facilitate enhanced learning and to keep students updated with rapidly evolving technology.

Collaborative Learning:**Interactive Learning:**

Collaborative learning is a cornerstone of our approach, wherein groups of students collaborate to analyze and apply concepts interactively. This fosters a deeper understanding and knowledge retention.

Involvement of Student Groups:

We actively involve student groups in collaborative learning exercises, technical quizzes, and project work to encourage teamwork and critical thinking.

Value-Added Courses:

To further promote learning and skill development, we conduct value-added courses. These courses provide students with opportunities for specialized training, often guided by industry experts.

Beginners/Freshers Connect Program:**Bridge Courses:**

At the commencement of each academic year, we offer bridge courses for fundamental science subjects like mathematics, physics, chemistry, and engineering graphics. These courses help incoming students recall and comprehend core theories, ensuring a strong foundation.

Faculty Orientation:

At the beginning of every semester, newly appointed faculty members undergo orientation to familiarize themselves with teaching methods and pedagogical strategies.

Bloom's Taxonomy:

Faculty members are also introduced to Bloom's taxonomy objectives to enhance their educational activities and facilitate more effective teaching.

Flipped Classrooms:

Fostering active learning, our educators utilize the flipped classroom model to engage students through pre-recorded lectures, enabling valuable in-class discussions and collaborative problem-solving.

Swayam NPTEL Lectures:

Leveraging online platforms like Swayam and NPTEL, our instructional approach integrates high-quality, accessible lectures to broaden students' knowledge base and enhance the overall learning experience.

3D Printed Models:

Enhancing tactile learning, the incorporation of 3D printed models in our teaching methodology provides students with hands-on experiences, fostering a deeper understanding of complex concepts.

Through the adoption of these diverse instructional planning and delivery methods, we aim to create an engaging, interactive, and effective learning environment that prepares our students for success in their academic pursuits and future careers.

C. Methodologies to support weak students and encourage bright students (4)

Every student possesses unique learning attitudes and habits. It is crucial to adapt teaching methods and strategies to cater to the diverse needs of students, ensuring that neither slow learners are left behind nor advanced learners are held back. This process manual serves as a comprehensive guide to facilitate the development of effective strategies for both slow and advanced learners, while also addressing the needs of average learners.

Process to Identify Slow and Advanced Learners:**Slow Learners:**

Students who score below 40% in-class tests and face challenges in assignments, class participation, responsiveness, general awareness, and attentiveness will be classified as slow learners.

Advanced Learners:

Students who consistently score above 60% in-class tests and excel in assignments, class participation, responsiveness, general awareness, and attentiveness will be categorized as advanced learners.

SLOW LEARNERS

To identify slow learners:

- ❖ Review class test results below 40%.
- ❖ Track absenteeism.
- ❖ Observe classroom participation.
- ❖ Collaborate with teachers.
- ❖ Maintain a list of challenges.

Activities for Slow Learners:**Remedial Classes:**

- ❖ Conduct focused sessions.
- ❖ Explain, give examples, and practice.

Retesting:

- ❖ Offer retests in areas of struggle.
- ❖ Ensure comfortable conditions.

Assignments:

- ❖ Customize tasks for learning needs.
- ❖ Encourage critical thinking.

Peer Group Support:

- ❖ Pair with classmates excelling in subjects.
- ❖ Peer mentors provide extra help.

Monitoring of Slow Learners:**Involve subject teachers:**

- ❖ Update them on progress.
- ❖ Use a monitoring format:
- ❖ Track attendance, participation, and improvement.
- ❖ Implement a mentorship program.
- ❖ Assign mentors for guidance:
- ❖ Conduct progress meetings.

Involve parents:

- ❖ Regularly update them.
- ❖ Seek their input.
- ❖ Encourage continuous feedback:
- ❖ Modify strategies as needed.

ADVANCED LEARNERS:**Identification of Advanced Learners:**

- ❖ Identify based on academic performance (above 60%) and attendance.
- ❖ Collaborate with subject teachers.
- ❖ Maintain a database of achievements and interests.
- ❖ Regularly communicate to understand aspirations.
- ❖ Motivating Participation in Technical Events:
- ❖ Keep them informed about upcoming events.
- ❖ Provide event selection guidance.
- ❖ Encourage group participation.
- ❖ Acknowledge achievements through awards.

Encouraging Online Certification Programs:

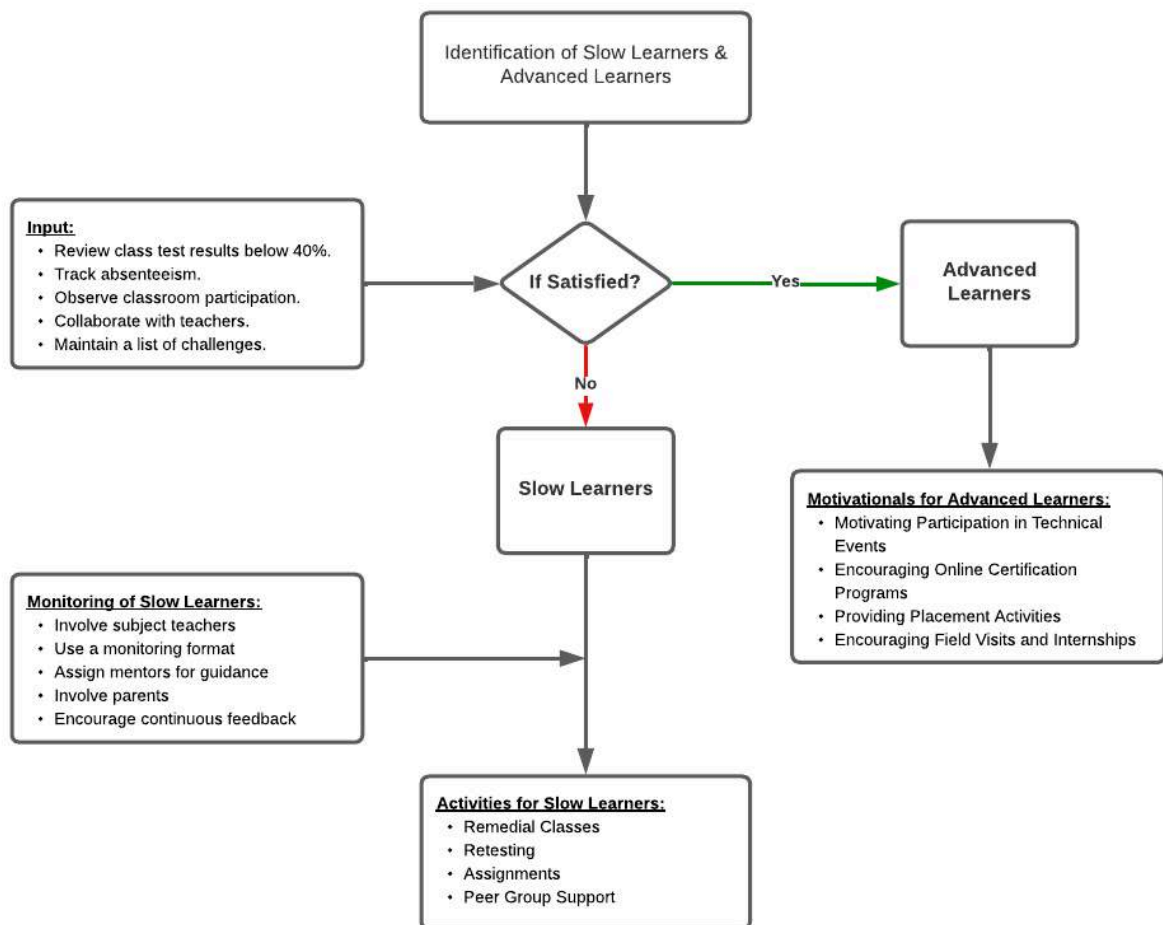
- ❖ Explore MOOC courses on platforms like NPTEL, SPOKEN TUTORIAL, CISCO, etc.
- ❖ Select courses aligning with your academic interests and career goals.
- ❖ Manage your time effectively to balance coursework and certification requirements.

Providing Placement Activities:

- ❖ Offer career guidance.
- ❖ Enhance interview skills.
- ❖ Facilitate networking events.
- ❖ Collaborate with industries for placements.

Encouraging Field Visits and Internships:

- ❖ Organize industry visits.
- ❖ Facilitate internships.
- ❖ Connect with mentors.
- ❖ Promote learning reflection and sharing.

**D. Quality of classroom teaching (3)**

Quality teaching is essential for effective learning. To ensure high-quality classroom teaching, the following aspects are prioritized:

Interactive Classroom Ambience:

- ❖ Classrooms are designed to foster interaction among students.
- ❖ Visual aids, group activities, and discussions create an engaging learning environment.

Smart Board Integration:

- ❖ Smart boards are installed institution-wide to enhance teaching.
- ❖ Faculty members use this technology to make lessons engaging and interactive, capturing students' attention.

Real-world Learning with Smart Boards:

- ❖ Smart boards enable faculty to create dynamic, real-world learning experiences.
- ❖ These boards facilitate real-time assessment and practical learning.

Collaborative Problem Solving:

- ❖ Complex tutorial problems are tackled collaboratively in classrooms.
- ❖ Faculty and students work together, promoting teamwork and critical thinking.

Administrative Observations:

- ❖ Regular visits by the Principal, Dean of Academics, and Head of Department.
- ❖ Observations help improve teaching quality, and valuable feedback is conveyed to faculty members.

Student Engagement:

- ❖ Students are encouraged to present short "Snap Talks" during class hours, enhancing their communication skills and confidence.

Hands-on Learning:

- ❖ Faculty bring real components and models to classrooms for clear concept demonstrations.
- ❖ This hands-on approach aids students' comprehension.

Quality of classroom

- ❖ Class committee meeting and feedback collection action taken report is needed
- ❖ Regular meetings are conducted to monitor and evaluate classroom teaching quality.
- ❖ Collaborative efforts with faculty and student representatives to identify areas for improvement.

Feedback Collection:

- ❖ Feedback from students is collected mid-semester and at the end of each semester for all courses.
- ❖ This feedback helps evaluate the teaching and learning process and informs improvements.

Prioritizing these aspects ensures that classroom teaching is dynamic, engaging, and continuously improved to benefit both faculty and students.

E. Conduct of experiments (3)

To facilitate effective experimentation, the following procedures are meticulously followed:

Group Division and Lab Allocation:

- ❖ The class is divided into two groups: Group A and Group B.
- ❖ Alternate use of laboratory facilities is scheduled to ensure efficient utilization; for instance, when Group A utilizes Lab 1, Group B uses Lab 2, and vice versa.
- ❖ Lab sessions are meticulously scheduled, and students are informed of their allocated lab sessions in advance.

Batch Formation:

- ❖ Each group is further divided into batches consisting of 3 to 4 students.
- ❖ This allows for efficient management and supervision during practical sessions.

Preparation and Instruction:

- ❖ Comprehensive laboratory manuals and course plans are developed before each semester.
- ❖ Students receive detailed instructions on experimental procedures and safety protocols before commencing practical sessions.

Data Recording and Accuracy:

- ❖ Students are provided with lab observation notebooks to record readings and calculations during experiments.
- ❖ The significance of accurate data collection is emphasized, and students are well-versed in the format and guidelines for recording observations.

Transcription and Verification:

- ❖ Following experiments, students transcribe their observations and results into their lab record notebooks.
- ❖ In subsequent classes, thorough verification and authentication of entries are conducted to ensure data accuracy.

Additional Experiments:

- ❖ Beyond the curriculum, students are encouraged to conduct additional experiments to enhance their practical knowledge and design capabilities.

Faculty and Lab Personnel Duties:

Faculty members in charge and lab assistants play pivotal roles by:

- ❖ Regularly inspecting and maintaining laboratory equipment for functionality and safety.
- ❖ Reporting any faulty equipment for prompt repair or replacement.
- ❖ Maintaining an up-to-date inventory of all lab equipment and materials.

- ❖ Keeping records of batch assignments, lab schedules, and student attendance.
- ❖ Continuously updating and improving laboratory manuals and course plans based on student feedback and evolving educational requirements.

By adhering to these systematic procedures, the institution ensures the smooth and efficient conduct of experiments, fostering a conducive environment for hands-on learning and practical skill development

F. Continuous Assessment in the laboratory (3)

In accordance with SBTE guidelines, practical courses undergo continuous assessment, combining both Internal and External marks, as outlined in the SBTE Syllabus.

Continuous Assessment Components:

Completion of the Experiment:

- ❖ Regular progress in conducting experiments.

Periodic Submission of Observation and Record:

- ❖ Timely submission of comprehensive observations and records.

Individual Experiment Evaluation:

- ❖ In-depth assessment involving parameters such as Theoretical Concept, Experimental Execution, Viva-Voce, and Record Note.

Internal Assessment (A):

Individual Experiment Evaluation (out of 50 marks):

- ❖ Detailed Parameters for Evaluation.
- ❖ Evaluation criteria encompass Theoretical Concept, Experimental Execution, viva voce, and Record Note.

Model Examination:

- ❖ A model exam was conducted, accounting for 50 marks.

Calculation of Internal Marks:

- ❖ Final internal marks were derived from consolidating experiment marks and model exam results, with a total of 100 marks.
- ❖ The total of 100 marks will be converted to the value of the internal marks specified in the SBTE-prescribed syllabus.

External Assessment (B):

- ❖ External marks assigned during end-semester practical examinations.
- ❖ Evaluation by an external examiner designated by SBTE, Bihar, following predefined criteria.

Overall Laboratory Assessment:

- ❖ Total marks for a student in a laboratory course are determined by adding an Internal Mark (A) and an External Mark (B).

The pass marks for laboratory exams are subject-specific and are outlined in the SBTE syllabus.

G. Student feedback of teaching-learning process and action taken (6)

"Student Feedback of Teaching-Learning Process and Action Taken" is a vital mechanism in our educational institution, enabling continuous improvement and accountability. Through structured feedback collection and a proactive approach, we aim to enhance the teaching and learning experience. This process empowers both students and faculty to collaboratively work towards achieving excellence in education.

1. Purpose of Student Feedback:

Student feedback serves several critical purposes:

- ❖ To assess the effectiveness of the teaching-learning process.
- ❖ To identify areas for improvement in course delivery.
- ❖ To address classroom-related issues and grievances.
- ❖ To foster continuous enhancement in teaching methods.

2. Feedback Collection Process:

a. Mid-Semester Feedback:

- ❖ Collected to proactively identify and address concerns early in the semester.
- ❖ Allows for prompt adjustments to enhance the teaching-learning experience.
- ❖ Provides insight into initial student experiences and perceptions.

b. End-of-Semester Feedback:

- ❖ Offers a comprehensive assessment of the entire semester, aiding in the evaluation of the overall teaching and learning journey.

c. Student Feedback Questions:

- ❖ Students are asked to provide feedback on various aspects using a 4-point scale:
- ❖ Punctuality of the teacher.
- ❖ Coverage of relevant topics beyond the syllabus.
- ❖ Effectiveness in delivering technical/content.
- ❖ Communication skills.
- ❖ Use of teaching aids.
- ❖ Motivation to learn.
- ❖ Support for practical demonstration skills.
- ❖ Support for hands-on training.
- ❖ Commitment to self-improvement based on feedback.
- ❖ Willingness to offer help and advice to students.
- ❖ Consistency in evaluating and returning assignments and test papers.
- ❖ Syllabus coverage as per SBTE guidelines.
- ❖ Classroom discipline and control.
- ❖ Syllabus completion as per SBTE syllabus.
- ❖ Any additional feedback or grievances

Participation Rate: Measures the percentage of students participating in the feedback process.

Formula: Participation Rate (%) = (Number of Students Participating / Total Number of Students more than 60%) x 100.

Students have criteria of 60% of attendance required to participate in the Feedback.

3. Action Taken on Feedback:

a. Target Performance:

- ❖ Faculty members are expected to meet or exceed a target performance level of 75% or above based on student feedback scores.

b. Counselling to the Faculty:

- ❖ Faculty members who fall below 75% of performance will be given counselling by the Dean of Academics and the Principal in the presence of the Head of the Department (HOD).

c. Caution Letter:

- ❖ If performance remains unsatisfactory despite initial feedback Caution letter is issued to the faculty member by the Principal through the Dean of Academics.

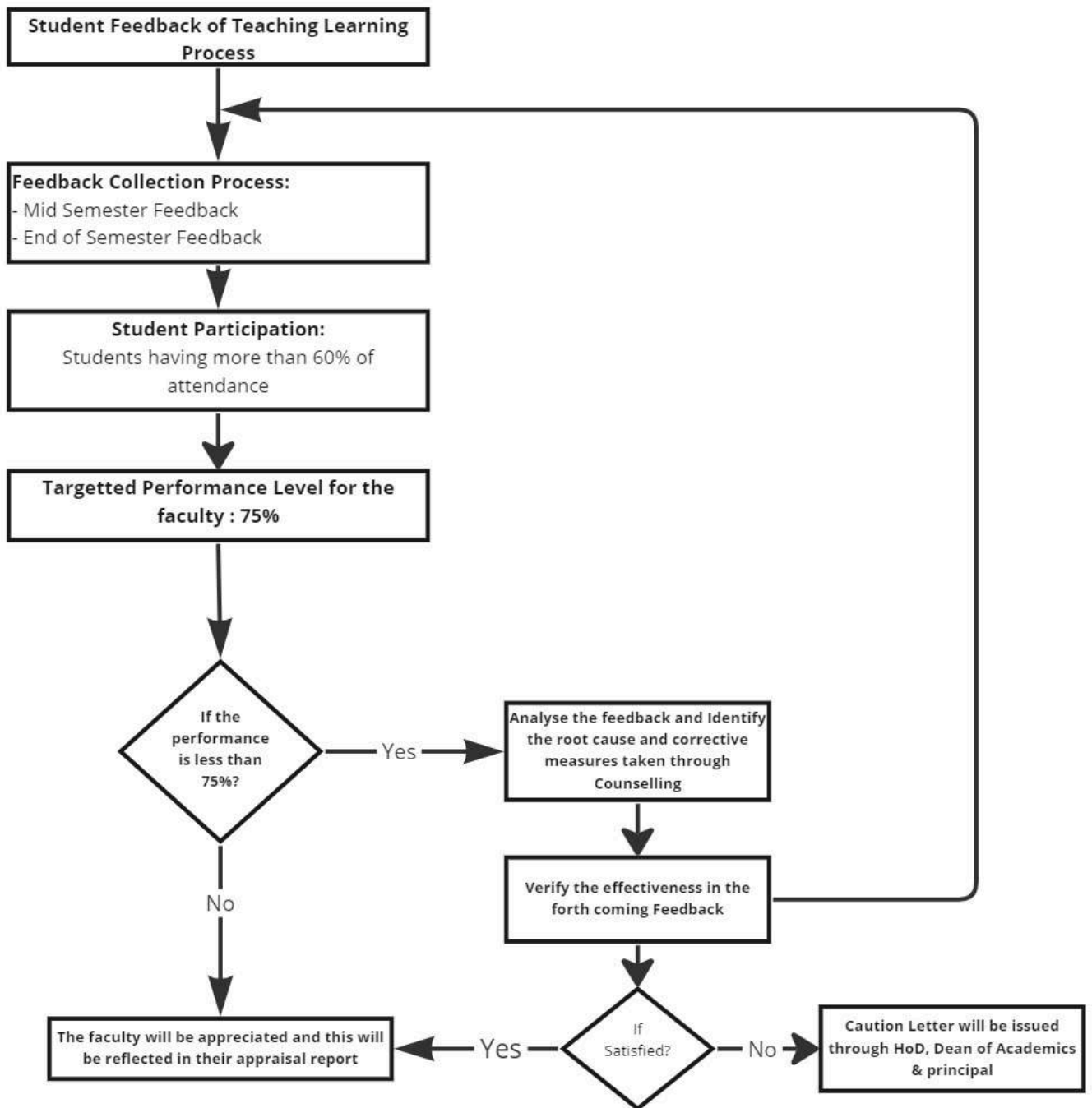
d. Monitoring and Evaluation:

- ❖ Continuous monitoring and evaluation of faculty members progress throughout the semester.

A second feedback round is conducted at the semesters end to assess improvements.

4. Reporting and Communication:

- ❖ Feedback scores and any letters of explanation or warning are communicated to faculty members through official channels.
- ❖ The involvement of the Principal, Dean of Academics, and HOD in the communication process ensures transparency and accountability



2.2.2 Initiatives to improve the quality of semester tests and assignments (15)

A. Process for Internal semester question paper setting and evaluation and effective process implementation (5)

Establishing a seamless and meticulous process for internal semester question paper setting and evaluation is paramount to ensuring the quality and fairness of assessments. In this endeavour, effective process implementation plays a crucial role in upholding academic standards and promoting student success.

Exam Schedule Preparation:

The Exam cell meticulously plans the test date schedule, aligning it with the academic calendar, and includes three Class tests and one optional Model Exam. Consideration is given to SBTE Bihar Exam schedules to avoid conflicts.

Syllabus-Based Question Paper Formation:

Question papers are meticulously designed to align with the syllabus coverage for each test:

Class Test 1: Encompasses the initial 30% of the entire syllabus.

Class Test 2: Covers the subsequent 35% of the entire syllabus.

Class Test 3: Targets the remaining 35% of the entire syllabus.

Model Exam: Encompasses 100% of the entire syllabus.

Question Paper Preparation:

Respective subject-handling faculties collaborate to create question papers, ensuring comprehensive coverage of topics.

The question papers undergo thorough verification and approval by the Head of the Department (HOD) to maintain quality and consistency.

Approved question papers are promptly submitted to the Exam Cell.

Question Paper Format:

Internal question papers adhere to the standards set by SBTE for end-semester question papers.

Format for Class Test 1, 2 & 3:

Part-A: 11 Questions x 1 Mark = 11 Marks

Part-B: 3 Questions x 4 Marks = 12 Marks (Either/or Options)

Part-C: 2 Questions x 6 Marks = 12 Marks (Either/or Options)

Total: 35 Marks

Format for Model Exam:

Part-A: 20 Questions x 1 Mark = 20 Marks

Part-B: 5 Questions x 4 Marks = 20 Marks (Either/or Options)

Part-C: 5 Questions x 6 Marks = 30 Marks (Either/or Options)

Total: 70 Marks

Answer Key Preparation:

Faculty members take responsibility for preparing the answer keys for internal tests, ensuring accuracy and consistency.

Evaluation and Result Analysis:

Faculty members commit to evaluating answer scripts within a 3-day window from the test date, maintaining efficiency and timeliness.

Result analysis is meticulously conducted and submitted to the HOD for review and action.

Evaluated answer scripts are promptly distributed to students, fostering transparency and understanding.

Classroom discussions led by faculty members enable students to comprehend their performance and the correct answers effectively.

Addressing Student Grievances in Answer Sheet Evaluation:

Following the evaluation process by faculty, students have the opportunity to raise concerns about total mark calculation errors and mark evaluation discrepancies. This ensures transparency and fairness in the assessment system, fostering an environment where students can seek resolution for any perceived mistakes in their evaluated answer sheets.

This comprehensive process ensures the effective implementation of the internal semester question paper setting and evaluation, promoting fairness, quality, and academic excellence.

B. Question paper setting taking into account outcomes/learning levels (5)

The process of setting question papers is a vital aspect of assessing students' subject knowledge, analytical skills, design aptitude, and ability to justify their responses. It is essential to align these assessments with the intended learning outcomes.

To achieve this, questions are crafted following Bloom's Taxonomy, ensuring a holistic evaluation of students cognitive abilities.

Question Paper Setting:

Three Class Tests for Theory Courses:

- ❖ In each semester, three Class Tests are conducted for theory courses, providing multiple opportunities for students to demonstrate their understanding and skills.

Alignment with Course Outcomes (COs):

- ❖ Question papers are meticulously designed to encompass all Course Outcomes (COs) for theory courses over the course of the three Class Tests.
- ❖ Faculties are instructed to create questions based on the COs distributed unit-wise.

Inclusion of COs and Bloom Level:

- ❖ To enhance clarity and transparency, question papers include references to the corresponding Course Outcomes (COs) and specify the Bloom level associated with each question, aligning the assessment with learning objectives.

Structured Evaluation:

- ❖ During the evaluation process, marks allocated for each question are entered question-wise on the answer sheets' front page.

- ❖ Additionally, the corresponding questions CO number is mentioned, facilitating a comprehensive assessment of students attainment of learning outcomes.
- ❖ This approach ensures that the question paper-setting process is tightly aligned with the intended learning outcomes, enabling a thorough evaluation of students cognitive skills and subject knowledge

GEMS POLYTECHNIC COLLEGE
Civil Engineering [2023-24]
CLASS TEST 01

Subject : [2000601] Entrepreneurship and Start ups /2000601 - Theory Faculty : Chintiya S
Year : Third Year - SIXTH SEMESTER Marks : 35 Date : 15 March, 2024 Duration : 120 Minutes
Figures to the right indicate full marks.
Cross read diagram whenever necessary.
Assume suitable data if necessary, stating it clearly.

Question	Marks	Course Outcome	Skills Level
SECTION A CHOOSE THE BEST ANSWER (11 X 5=55) 1. Which of the following are the qualities of successful Entrepreneur? a. They are confident b. They take responsibility for their action c. They work hard d. All of the above	1.00	CO1	Remember
2. A self-employed person who is always trying to make his/her business better by taking risk and trying new ideas is called _____ a. Solvent man b. Business man c. Entrepreneur d. None	1.00	CO1	Remember
3. A business where an individual is both the owner and conductor of the business affairs is called _____ a. partnership b. copartnership c. sole proprietorship d. None of the above	1.00	CO1	Remember
4. The process of creating something new is called _____ a. creative feasibility b. Management c. Business d. Innovation	1.00	CO1	Understand
5. The minimum financial interest that a woman has to have in women entrepreneurship is? a. 51% b. 50% c. 50% d. 60%	1.00	CO2	Understand
6. Which of the following is not an example of self-employment? a. Doctor working at a city hospital b. The doctor doing private practice c. Shop owner d. Call center	1.00	CO2	Remember
7. _____ is the response of a person or an organization to solve an identified problem or to meet perceived needs? a. Business plan b. Business idea c. Feasibility study d. None of these	1.00	CO2	Understand
8. _____ are often considered the foundation of a start-up venture. a. Capital b. Premises c. Ideas d. Buildings	1.00	CO2	Understand
9. Which of the following is not an source of business idea? a. Internet b. Focus group c. Library d. Hobbies	1.00	CO2	Remember
10. SBA stands for? a. Small business administration b. Small business administration c. Small business enterprise d. Small business advisors	1.00	CO2	Understand
11. Innovation can best be defined as? a. The generation of new ideas b. The avoidance of new ideas c. The opposite of creativity d. The successful exploitation of new ideas	1.00	CO1	Remember
SECTION B ANSWER THE FOLLOWING (3 X 4 =12) 12(a) What is patent? Write down its advantages and disadvantages? (4) 12(b) Write down the similarity between Entrepreneur and manager? 13(a) Write any four characteristics of Entrepreneurship? (4) 13(b) Define business plan. Write down its elements? (4) 14(a) Explain SWOT map? (4) 14(b) How to visualize your business idea? (4)	4.00	CO1	Remember
SECTION C ANSWER THE FOLLOWING (2 X 6 =12) 15(a) What is business structure? Explain types of business structures? (6) 15(b) What is business plan? why do business fail? Explain the types of business plan in detail? (6) 16(a) Traits of an entrepreneur? Explain in detail? (6) 16(b) What is start-up and Entrepreneur? Types of Entrepreneur? Roles of Entrepreneur? (6)	6.00	CO2	Understand

FACULTY IN CHARGE
Mrs. Chintiya S
HOD/CIVIL
Mr. Sanjay Prakash Swain

GEMS POLYTECHNIC COLLEGE
GPEC/QAC/AUDIT/01

Name of the Department: Department of Civil Engineering
Academic Year: 2023-24 (Even)
Semester/Year: 3rd / III
Class Test: 1
Date of Report: 11/03/24

S/O	Parameters	Mathematics I (2023-24)	Applied Physics I (2023-24)	Applied Chemistry (2023-24)	Construction I (2023-24)	Engineering Computer Graphics
		Mr. Manoj Kumar	Mr. Anil Kumar	Mr. Sandeep K Singh	Mr. Sanjay K Singh	Mr. Anurag Prasad
Monitor: Yes/No. If the answer involves the formulae / tables to be done if any						
1	In the course work, your team members in group activities, projects and assignments were in full compliance?	Yes	Yes	Yes	Yes	Yes
2	Adapt Course Plan	40%	30%	20%	30%	30%
3	Adapt Coverage	40%	30%	20%	30%	30%
4	Are the specific products aligned with the syllabus prescribed by the course?	Yes	Yes	Yes	Yes	Yes
5	Are there any technological updates in the existing products within the semester period?	No	No	No	No	No
6	Are any government or non-governmental organizations providing or sponsoring support for the existing or proposed products in the semester period?	No	No	No	No	No
7	Are the units used in the products, appropriate according to the course's learning objectives?	Yes	Yes	Yes	Yes	Yes
8	Are the products aligned with the Course Objectives of the course in terms of content and outcomes?	Yes	Yes	Yes	Yes	Yes
9	Do students obtain the practical application of their knowledge in real?	Yes	Yes	Yes	Yes	Yes
10	Has an effective level of production been achieved to make them fit to be used for commercial purposes in more than 20% cases?	Yes	Yes	Yes	Yes	Yes
11	Total number of Course Outcomes of this Semester	5	6	5	5	5
12	Number of Course Outcomes (COs) Covered for this test	3	2	1	2	2
13	Are there questions from previous books of Bachelors Technology, and are they covered? (Approved by QAC and Board's members)	Yes	Yes	Yes	Yes	Yes
14	Overall remarks by the faculty members	Good	Good	Good	Good	Good
I hereby confirm that I have reviewed the materials and responses provided by the strategy committee regarding the question paper and have made the necessary corrections as indicated above.						
Faculty Signatures with date:		11/03/24	11/03/24	11/03/24	11/03/24	11/03/24

Name and Signature of the Strategy Committee with Date:
Dr. J. JENUSIA RANI

Date of Signature: 12/03/24
Dean of Academic
GEMS Polytechnic Coll
Ratanpura, Aurangabad
Bihar - 824121

C. COs coverage in class tests / mid-term tests and assignments (5)

A crucial aspect of effective pedagogy is ensuring that the learning objectives are met through various assessments. In our educational institution, the mapping of Class Tests, Mid-Term Tests, and Assignments with Course Outcomes (COs) is meticulously executed to gauge students' progress and attainment of desired learning outcomes.

Mapping of Class Tests with Course Outcomes (COs):

To comprehensively assess student performance and align with the syllabus coverage, questions in Class Tests are thoughtfully linked with specific Course Outcomes (COs) as follows:

Class Test 1: Encompasses the initial 30% of the syllabus.

Class Test 2: Covers the subsequent 35% of the syllabus.

Class Test 3: Addresses the remaining 35% of the syllabus.

This structured approach ensures that students are evaluated on the entirety of the curriculum, with their performance reflecting the achievement of COs throughout the semester.

Mapping of Assignments with Course Outcomes (COs):

- ❖ Assignments play a pivotal role in reinforcing learning and enhancing students skills. The alignment of assignments with Course Outcomes (COs) is a deliberate process to promote holistic development. Here is how it is implemented:

Two Assignments with Clear Timelines:

- ❖ Students are given two assignments, each carrying 25 marks, which are scheduled before Class Test 2 (covering 50% of the syllabus) and before Class Test 3 (completing 100% of the syllabus). These assignments are to be submitted within a week, encouraging timely completion.

CO-Based Mapping:

- ❖ Assignments are carefully mapped with specific COs based on the nature of the questions. This alignment ensures that assignments address the intended learning outcomes effectively.

Emphasis on Skill Enhancement:

- ❖ Faculty members emphasize the significance of assignments in enhancing students technical competence, vocabulary, presentation skills, and writing proficiency. Assignments encompass various formats, including Class Mini Project Models, Posters, Subjective/Descriptive Questions and Answers, Multiple Choice Test Questions, Seminars/Presentations, and Reports on Industry Visits.
- ❖ This approach not only facilitates comprehensive evaluation but also aids in reinforcing learning objectives and fostering skill development among our students.

2.2.3 Quality of Experiments (15)

A. Experimental methodologies (5)

Quality is a paramount aspect of any educational institution's laboratory experiments. The effectiveness of these experiments is essential in shaping the practical skills and knowledge of students. In this regard, our institution places significant emphasis on ensuring the quality of experiments through various measures and strategies.

A. Experimental Methodologies

Expert Involvement:

- ❖ Our experiments are conducted under the guidance of experienced subject lecturers, ensuring that students receive the best practical knowledge from experts in the field.

Equipment Maintenance:

- ❖ To maintain the quality of experiments, laboratory assistants regularly inspect and maintain the laboratory equipment. This proactive approach ensures that students work with reliable instruments, enhancing the learning experience.

Logbook Maintenance:

- ❖ Throughout the year, detailed logbooks are maintained in the laboratories. These records not only track the progress of experiments but also serve as valuable resources for students to refer to in the future.

Consumables Planning:

- ❖ Before each semester, the laboratory anticipates the consumables required for experiments. This foresight helps in conducting practical sessions smoothly, without interruptions.

Maintenance Communication:

- ❖ Any repair or maintenance needs related to the laboratory are promptly communicated to the Principal, ensuring a safe and conducive learning environment for students.

B. Innovative experiments including industry attached practices, virtual labs (5)

Beyond Syllabus Experiments: In a bid to enhance students' practical skills and knowledge, experiments that go beyond the syllabus are regularly conducted. This approach fosters a spirit of exploration and curiosity among students.

State-of-the-Art Laboratories: Well-equipped laboratories are provided to students, enabling them to acquaint themselves with the latest technology and tools used in their respective fields.

Industry Practices: Real-time industry procedures are adopted wherever feasible in the laboratory. This bridges the gap between academic learning and industry demands, preparing students for the workforce effectively.

Virtual Labs Integration: To facilitate better understanding and remote learning, our institution leverages virtual labs, including resources from IITs. These virtual labs include video lectures and animated demonstrations, enriching student's knowledge beyond the physical laboratory.

Accessible Resources: A curated list of experiments under virtual labs, along with their web links, is readily available to students. This valuable resource is shared with students and is accessible on the department's official website, enhancing accessibility and convenience.

Innovative Experiments: Demo Models, 3D printing

C. Relevance to outcomes (5)

Quality of Experiments: Industry Readiness Outcomes

Ensuring the industry readiness of students is imperative, and the quality of experiments plays a pivotal role in this preparation. Here are five simple yet crucial outcomes that contribute to fostering industry-ready professionals:

Sl. No	Outcomes
1	Practical Proficiency: The quality of experiments equips students with hands-on practical proficiency, enabling them to seamlessly apply theoretical knowledge to real-world scenarios.
2	Problem-Solving Skills: Engaging in high-quality experiments nurtures students problem-solving skills, as they learn to analyze, adapt, and innovate in response to challenges encountered during experiments.
3	Effective Communication: Quality experiments encourage students to articulate their methodologies, findings, and insights effectively. This fosters the development of clear and concise communication skills, a key asset in the professional world.
4	Critical Thinking Abilities: Students engaged in well-designed experiments are more likely to develop critical thinking abilities. They learn to question, evaluate, and draw meaningful conclusions, enhancing their analytical prowess.
5	Adaptability to Technology: With a focus on the quality of experiments, students become adept at utilizing advanced technologies and tools relevant to their field. This adaptability to technological advancements enhances their industry readiness in a rapidly evolving professional landscape.

Quality of Experiments: Course Outcomes (COs) and Program Outcomes (POs)/Program Specific Outcomes (PSOs)

- ❖ Every experiment conducted in our laboratories is meticulously mapped to the corresponding Course Outcomes (COs) and Program Outcomes (POs)/Program Specific Outcomes (PSOs).
- ❖ This mapping ensures that the experiments directly contribute to achieving the educational objectives set by the institution.
- ❖ It allows us to assess and measure the effectiveness of each experiment in meeting the intended learning outcomes.

In conclusion, the quality of experiments in our institution is a product of careful planning, expert guidance, innovative practices, and a strong focus on aligning with desired educational outcomes. We are committed to providing our students with the best possible laboratory experience, equipping them with the skills and knowledge necessary for success in their academic and professional journeys.

2.2.4 Quality of Student Projects and Report Writing (35)

A. Identification of projects and allocation methodology (3)

At GEMS Polytechnic College, we recognize that true learning goes beyond the classroom, and one of the most effective ways to validate and apply the knowledge acquired by our students is through project work. We place great importance on the quality and execution of student projects as they not only deepen the understanding of subjects but also provide invaluable hands-on experience in translating theoretical knowledge into practical applications. Our project teams, consisting of 4 to 6 students each, are guided by dedicated Faculty Guides who play a crucial role in helping the teams achieve their project objectives. Engaging in project work offers students several benefits, including:

Enhanced Subject Understanding: Project work leads to a more profound comprehension of the subject matter, allowing students to apply their knowledge in real-world scenarios.

Hands-On Practical Experience: Students gain practical experience, honing their skills and competencies by working on tangible projects.

Opportunity to Showcase Skills: Projects provide students with a platform to exhibit their skills and creativity, fostering a sense of accomplishment.

Teamwork and Communication Development: Collaborative project work promotes teamwork and communication skills, essential attributes in today's professional landscape.

Project Allocation Methodology Our approach to project allocation is systematic and comprehensive:

Assignment of Project Coordinator: At the beginning of each academic year, the Head of the Department (HOD) appoints a Project Coordinator to oversee the project allocation process.

Diverse Team Formation: The Project Coordinator assembles project teams with a balanced mix of students, including those with varying academic performance levels, such as Best, Average, and slower learners. This diversity ensures well rounded project teams.

Guide Allocation: Faculty members with expertise in specific areas of specialization and fields of interest are assigned as guides to project batches, aligning the students project topics with the faculties knowledge and experience.

Project Identification in Zeroth Review

Our zeroth review process ensures the selection of high-quality projects:

Multiple Project Ideas: Students are required to present a minimum of 2 to 3 project ideas or base papers that support their proposed project work.

Presentation Standards: Project presentations must include a minimum of 7 slides, detailing the project's objectives, methodology, expected outcomes, and relevance.

Project Identification & Allocation Parameters

Project allocation is based on rigorous evaluation criteria and rubrics, including:

Type of Model: Assessing the appropriateness and suitability of the chosen project model.

Choice of Technology: Evaluating the selection of technology in line with project goals.

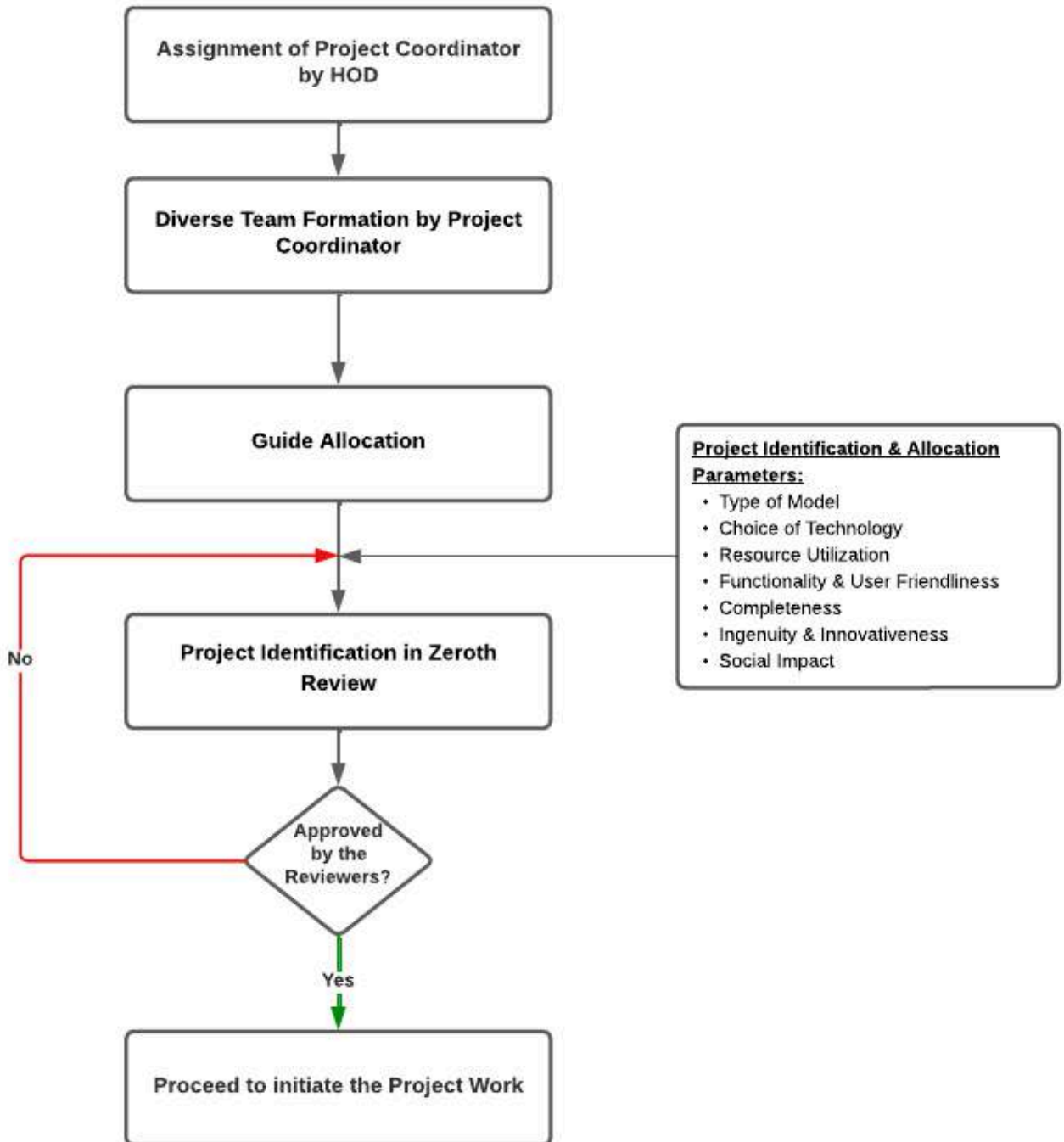
Resource Utilization: Ensuring optimal use of available resources and materials.

Functionality & User Friendliness: Evaluating the project's functionality and user-friendliness.

Aesthetic and Completeness: Assessing the overall aesthetics and completeness of the project, including documentation.

Ingenuity & Innovativeness: Recognizing creativity and innovation in project design.

Social Impact: Analyzing the potential social impact of the project on the community or industry. Projects are subject to final approval by a reviewer committee, which thoroughly evaluates them based on the parameters mentioned above. This stringent evaluation process ensures that our students engage in meaningful, relevant, and high quality project work, contributing to their holistic development and future success in their chosen fields.



B. Types and relevance of the projects and their contribution towards attainment of POs and PSOs (5)

In the field of Civil Engineering, projects play a pivotal role in enhancing students' learning experiences and preparing them for real-world challenges. These projects span across various domains, each contributing uniquely to the attainment of Course Outcomes (COs) and Program Outcomes (POs) / Program Specific Outcomes (PSOs). Let's explore the

relevance of projects in different Civil Engineering domains and their alignment with COs, POs, and PSOs.

The project can be selected from any civil engineering system like a Building construction system, transportation engineering system, or irrigation engineering system. A topic for the project can also be selected on recent developments in civil engineering.

Following is the list /areas of suggested civil engineering projects to be undertaken by a group of 4 to 6 students:

- 1) K.T. (Kolhapur-Type) Weir
- 2) Lift Irrigation scheme.
- 3) Micro irrigation –Drip/Sprinkler Irrigation
- 4) Junction planning for city roads/planning for roads for congested areas/parking Studies etc.
- 5) Watershed development of small catchments.
- 6) Rainwater harvesting for domestic or public buildings.
- 7) Campus development.
- 8) Interior decoration.
- 9) Concrete mix design.
- 10) Bridge design.
- 11) NDT of any RCC building.
- 12) Solid waste management.
- 13) Hospital waste disposal.
- 14) Recycling of resources.
- 15) Manufacturing of Precast concrete products.
- 16) Prestressed concrete.
- 17) Non-conventional sources of energy.
- 18) Concrete pipe manufacturing unit.
- 19) Advance construction techniques.
- 20) Transfer of technology to villages.
- 21) Planning and design for residential apartments/commercial complexes.
- 22) Planning and design of water treatment plant for given data.
- 23) Planning and design of water supply scheme for a given layout.
- 24) Planning and design of sewage treatment plant for given data.
- 25) Planning and design of sanitary scheme for given layout etc
- 26) Prepare a detailed estimate for the construction of the slab culvert.
- 27). Prepare a report of cropping patterns for the given irrigation project in your area concerning growth in yield, and increase in CCA & GCA.
- 28). Prepare a report of a visit to any one prefabricated unit.
- 29). Collect data on Prestressed components manufactured in your vicinity.
- 30). Prepare a model of traffic control devices.
- 31). Perform a traffic survey of busy road junctions in your area.
- 32). Collect the information on various types of steel connections used in actual practice.
- 33). Enlist various software used for the design of R.C.C. and steel structure and give details of any one software.

34). Any other relevant field of Civil Engineering.

Contribution to Course Outcomes (COs):

CO1:

Identify and define the problem and technology to be adopted. Students learn to identify engineering problems specific to their project domain. They gain knowledge of relevant technologies and their applications.

CO2:

Function as a team in the planning and execution of the project work. Projects necessitate teamwork, enhancing collaboration and communication skills. Planning and execution involve project management, time, and resource allocation.

CO3:

Apply appropriate knowledge of engineering to achieve the identified objectives of the project. Students apply theoretical and practical engineering knowledge to solve real-world problems. They adapt their skills to meet project objectives.

CO4:

Fabricating a demonstrable output. Project work often culminates in a physical or functional prototype, demonstrating their problem-solving abilities. Alignment with Program Outcomes (POs) and Program Specific Outcomes (PSOs):



Mapping of Projects to POs/PSOs (2023-2024):

Sl.No	Register Number	Name of the Student	Project Type	Project Title	Project Guide	Relevance of PO's / PSO's	Relevance of SDG
1	1991521047	Vickey Batiya (L)	Society Oriented	Smart Building	Mr.Samuel Prakash Swami	PO5,PO 7, PSO3	SDG 3, SDG11, SDG 12,
	1991521034	Kunal Kumar Patel					
	1991521038	Niraj Kumar					
	1991521041	Rajesh Kumar					
	1991521002	Amresh Kumar					
2	1991521029	Anshu Maurya(L)	Society Oriented	Turbidity Water Checken	Mrs.Jensika Rani	PO4,PO 7, PSO3	SDG 14, SDG 15
	1991521030	Chandani Kumari					
	1991521022	Sapna Kumari					
	1991521402	Nickey Kumari					
3	1991521031	John Samuel(L)	Society Oriented	Green Building	Mrs.Jensika Rani	PO5,PO 7, PSO3	SDG 3, SDG11, SDG 12
	1991521019	Rohith Kumar					
	1991521042	Sathyam Kumar					
	1991521401	Kushboo Kumari					
4	1991521046	Sudhanshu Kumar(L)	Society Oriented	Electricity from Roadways	Mrs. Chinthiya	PO5,PO 7, PSO 3	SDG 3, SDG 7, SDG11, SDG 12
	1991521016	Pratyam prakash					
	1991521036	kumari Rithika singh					
	1991521009	Kavya Prashar					
	1991521013	Shivam Kumar					
5	1991521032	Jyothi kumari(L)	Society Oriented	Smart bridge : automatic increase of height during flood	Mr.Daniel Swami	PO4,PO5,P 07	SDG 9, SDG11,
	1991521044	Shruthi kumari					
	1991521037	Navin Kumar					
	1991521025	Tanya Bharti					
6	1991521048	Vishwa Ranjan Bharti (L)	Society Oriented	Signature Bridge	Mr. Sujin. P	PO5,PO 7, PSO 3	SDG 3, SDG 7, SDG11, SDG 12
	1991521014	Pappu Kumar					
	1991521006	Bittu Kumar					
	1991521024	sonu kumar					
	1991521027	Aman Raj					

7	1991521048	Manisha Kumari	Society Oriented	Smart Dustbin	Ms.Jenisha	PO5, PO1	SDG 14, SDG 15
	1991521014	Gaurab Kumar Sharma					
	1991521004	Ayushman singh					
	1991521027	Mahima Kumari					

Mapping of Projects to POs/PSOs for the Academic Year: 2022-2023:

Sl.No	Register Number	Name of the Student	Project Type	Project Title	Project Guide	Relevance of PO's / PSO's	Relevance of SDG
1	1991520002	Aditya kumar	Society Oriented	Project on gobar gas	Mr.Daniel Swami	PO1,PO2,PO3,PO4,PO5,P06,PO7,	SDG 7, SDG 12
	1991520026	Sandeep Kumar					
	1991520031	Suraj Thakur					
	1991520039	Abhi Raj					
	1991520402	Omprakash Kumar					
2	1991520003	Abhishek Raj	Society Oriented	Rain water harvesting	Mr. Sujin P	PO1, PO2,PO3, PO4,PO5,PO6,PO7, PSO2	SDG 6, SDG12,SDG13,SDG15
	1991520007	Aman Kumar					
	1991520005	Aditya Raj					
	1991520030	Sumanth Kumar					
3	1991520008	Aman Kumar	Society Oriented	Prepare a report of cropping patterns for the given irrigation project in your area with reference to growth in yield, increase in CCA & GCA.	Mrs.Chinthiya	PO1, PO2,PO3, PO4,PO5,PO6,PO7, PSO2	SDG1, SDG12
	1991520040	Saurabh kumar singh					
	1991520041	Avinash Kumar					
	1991520607	Deep shikha					
	1991520608	Shristi kumari					
4	1991520011	Ankit Kumar	Society Oriented	Prepare detailed estimate for the construction of slab culvert	Mr. Sujin P	PO1, PO2,PO3, PO4,PO5,PO6,PO7, PSO2	SDG9, SDG11
	1991520028	satyanarayan gupta					
	1991520020	Prashanth singh					
	1991520014	Gautam Kumar					
	1991520603	Ravi Ranjan Pandey					
5	1991520012	Aryan kumar	Society Oriented	Pervious concrete	Mr.Daniel Swami	PO1, PO2,PO3, PO4,PO5,PO6,PO7, PSO2	SDG9, SDG11
	1991520019	Nirmal Kumar					
	1991520023	Rajnish kumar singh					

	1991520024	Raushan kumar					
	1991520025	Ravi Ranjan					
6	1991520015	Himanshu Kumari	Society Oriented	Integrated Farming System	Mr.Victor Emmanuel	PO1, PO2,PO3, PO4,PO5,PO 6,PO7, PS02	SDG15
	1991520018	Madhubala suhani					
	1991520044	Kumari Kushum					
	1991520606	Rinky kumari					
7	1991520021	Purushottam Kumar	Society Oriented	Construction of rotating bridge	Mr.Sujin P	PO1, PO2,PO3, PO4,PO5,PO 6,PO7, PS02	SDG9, SDG11
	1991520032	Suryakant kumar					
	1991520038	Gautam Kumar					
	1991520027	Santu Kumar					
8	1991520043	Faiz ahmad faiz	Society Oriented	Sewage treatment plant	Mrs.Chinthiya	PO1, PO2,PO3, PO4,PO5,PO 6,PO7, PS02	SDG 6
	1991520048	Prakash Kumar					
	1991520036	Ritesh Kumar					
	1991520022	Radheshyam kumar					
	1991520029	Sonu Kumar					
9	1991520611	Jayranjan kumar	Society Oriented	Micro irrigation	Mr.Daniel Swami	PO1, PO2,PO3, PO4,PO5,PO 6,PO7, PS02	SDG12
	1991520612	Rudal Kumar					
	1991520609	Yuvraj Singh					
	1991520610	Manish Kumar					
	1991520602	Balwant Kumar					

Mapping of Projects to POs/PSOs for the Academic Year: 2021-2022:

Sl.No	Register Number	Name of the Student	Project Type	Project Title	Project Guide	Relevance of PO's / PSO's	Relevant SDGs
1	1991519006	Rashmi Raj	Society Oriented	Free Space Metro line	Mr. Daniel Swami	PO1, PO2,PO3, PO4,PO5,PO 6,PO7, PS02	SDG9, SDG11
	1991519027	Priyanka Sinha					
	1991517601	Aniket Gaurav					
	1991519040	Ramesh Kumar					
	1991519044	Nitish Kumar Ojha					
2	1991519043	Ankit Kumar	Society Oriented	Plastic Paver Block with Recycle plastic waste	Mr. Victor Emanuel	PO1, PO2,PO3, PO4,PO5,PO 6,PO7, PS02	SDG6, SDG7
	1991519023	Ankesh Kumar					
	1991519015	Mahesh Kumar					
	1991519009	Rupesh Kumar					
	1991519007	Saurav Kumar					
3	1991519031	Atish Raj	Society Oriented	G+2 Residential	Ms. Freeda M	PO1, PO2,PO3,	SDG9, SDG11

	1991519039	MD Afzal		Building		PO4,PO5,PO6,PO7,PSO2	
	1991519035	Sabir Ansari					
	1991519024	Anish Kumar Singh					
	1991519038	Mukesh Kumar					
	1991519012	Mitesh Kumar Sharma					
4	1991519016	Jayant Kumar	Society Oriented	Smart City	Mrs. Chinthiya	PO1,PO2,PO3,PO4,PO5,PO6,PO7,PSO2	SDG9,SDG11
	1991519026	Saurabh Pandey					
	1991518017	Vinay Kumar					
	1991519029	Amisha Singh					
	1991519003	Archana Kumari					
5	1991519005	Juli Singh	Society Oriented	Accident Prevention Road in Hilly Area	Ms. Merlin F	PO1,PO2,PO3,PO4,PO5,PO6,PO7,PSO2	SDG3
	1991519028	Raj Nandani Raj					
	1991518602	Khushboo Kumari					
	1991519004	Sandhya Kumari					
	1991519013	MD Hussain					
6	1991519045	Ayush Kumar	Society Oriented	Waste Management in City	Mr. Rajat Kumar	PO1,PO2,PO3,PO4,PO5,PO6,PO7,PSO2	SDG6,SDG7
	1991519049	Alok Kumar					
	1991519034	Ankit Kumar					
	1991519036	Himanshu Kumar					
	1991519020	Ayush Ranjan					
7	1991519025	Awani Ranjan	Society Oriented	Rotatory Bridge	Mrs. Chinthiya	PO1,PO2,PO3,PO4,PO5,PO6,PO7,PSO2	SDG9,SDG11
	1991519033	M.D Amir					
	1991519017	Himanshu Kumar					
	1991519001	Saurabh Sumant					
	1991519032	Manish Kumar					
8	1991519601	Kanak Priya	Society Oriented	Earthquake Resistant Building	Mr. Rajat Kumar	PO1,PO2,PO3,PO4,PO5,PO6,PO7,PSO2	SDG9,SDG11
	1991519614	Anurag Panday					
	1991519022	Arya Sinha					
	1991519011	Nitish Kumar					
	1991519612	Ankush Kumar					
9	1991519401	Sitam Kumari	Society Oriented	Alternative Technique Toilet Construction	Mr. Victor Emanuel	PO1,PO2,PO3,PO4,PO5,PO6,PO7,PSO2	SDG9,SDG11
	1991519613	Dheeraj Raj					
	1991519402	Alok Kumar					
	19915119018	Hemant Raj					
	1991519603	Prabhakar Kumar					

Mapping of Projects to POs/PSOs for the Academic Year: 2020-2021:

Sl.No	Register Number	Name of the Student	Project Type	Project Title	Project Guide	Relevance of PO's / PSO's	Relevant SDGs
1	1991518007	Shubham Kumar	Society Oriented	Underwater Highway	Ms. Merlin Freeda J	PO1, PO2,PO3, PO4,PO5,PO6,P07, PS02	SDG9, SDG11
	1991518001	Shakshi Singh					
	1991518605	Anjali Kumari					
	1991518002	Nisha Kumari					
	1991518009	Shubham Prakash					
2	1991518014	Ayush Kumar	Society Oriented	Water Treatment Plant	Mr. Daniel Swami	PO1, PO2,PO3, PO4,PO5,PO6,P07, PS02	SDG6,SDG7
	1991518021	Vishal Mandal					
	1991518016	Pankaj Kumar					
	1991518012	Om Prakash					
	1991518018	Ravi Ranjan Kumar					
3	1991518006	Md. Irshad Hasan	Society Oriented	Concrete Mix Design	Mr. Pradeep Reynold A	PO1, PO2,PO3, PO4,PO5,PO6,P07, PS02	SDG9, SDG11
	1991518004	Ravi Prakash Sharma					
	1991518003	Ankit Kumar					
	1991518008	Ashish Kumar					
	1991518005	Ravi Kumar					
4	1991518015	Ankit Sourabh	Society Oriented	Green Building Theory and Model	Mrs. Chinthiya	PO1, PO2,PO3, PO4,PO5,PO6,P07, PS02	SDG9, SDG1
	1991518013	Mrityunjay Kumar					
	1991518010	Upkar Chandra					
	1991518605	Ankit Kumar					
	1991518011	Nitish Kumar					
	1991518019	Kamal Kishore Tiwari					

Every project undertaken is carefully mapped to the respective POs and PSOs of the Civil Engineering program. This ensures that students are not only acquiring technical expertise but also developing skills and competencies in line with the broader program objectives. Each project contributes to the program's mission of producing well-rounded and capable Civil Engineers ready to address the challenges of the industry.

In conclusion, projects in Civil Engineering span various domains and are instrumental in helping students achieve Course Outcomes, while also contributing to the fulfillment of Program Outcomes and Program Specific Outcomes. These projects provide a comprehensive learning experience, equipping students with the knowledge, skills, and abilities required to excel in their future careers as Civil Engineers.

C. Process for monitoring and evaluation (5)

The successful execution and assessment of student projects are critical aspects of the academic journey, ensuring that the intended objectives are met. This process involves a structured approach to monitor and evaluate student projects, providing a comprehensive view of their progress and quality. Here an overview of the process:

Process for Monitoring

Review Schedule Establishment:

- As per the Academic Calendar at the beginning of the academic year, the project coordinator prepares a tentative review schedule.
- This schedule is approved by the Head of the Department (HOD) and displayed on the notice board for student reference.

Project Work Timetable:

Weekly 2-4 hours are allotted in the timetable for project work to ensure dedicated time for project-related activities.

Regular Guidance:

During the designated project hours, students are expected to regularly meet with their project guide to discuss and receive guidance on their project work.

Review Meetings:

Three review meetings are scheduled during the semester to evaluate the progress and quality of the projects.

During these reviews, students make a formal presentation to a committee, showcasing the progress made on their projects.

Marks Calculation:

The total marks obtained in these three reviews are considered to decide on the overall performance of the project, contributing to the attainment of internal marks.

The reviews are conducted as per the schedule with a team of panel members.

Student Project Diary:

Continuous improvement in the project is tracked using the well-established student Project Diary, which contains various parameters, including project team details, general instructions, action plans, attendance records, weekly reports, and review performance along with rubrics.

Process for Evaluation

The evaluation process is an integral part of ensuring the quality and progress of student projects:

Progression Assessment:

The progression and evaluation of the work are discussed at every review by the project committee members and the project coordinator.

These assessments and discussions are documented in the student project diary.

Assessment Criteria:

Students are assessed based on the presentation and the progression of their work. Several rubrics are used to evaluate different aspects of the project at various stages.

Evaluation of Reviews:

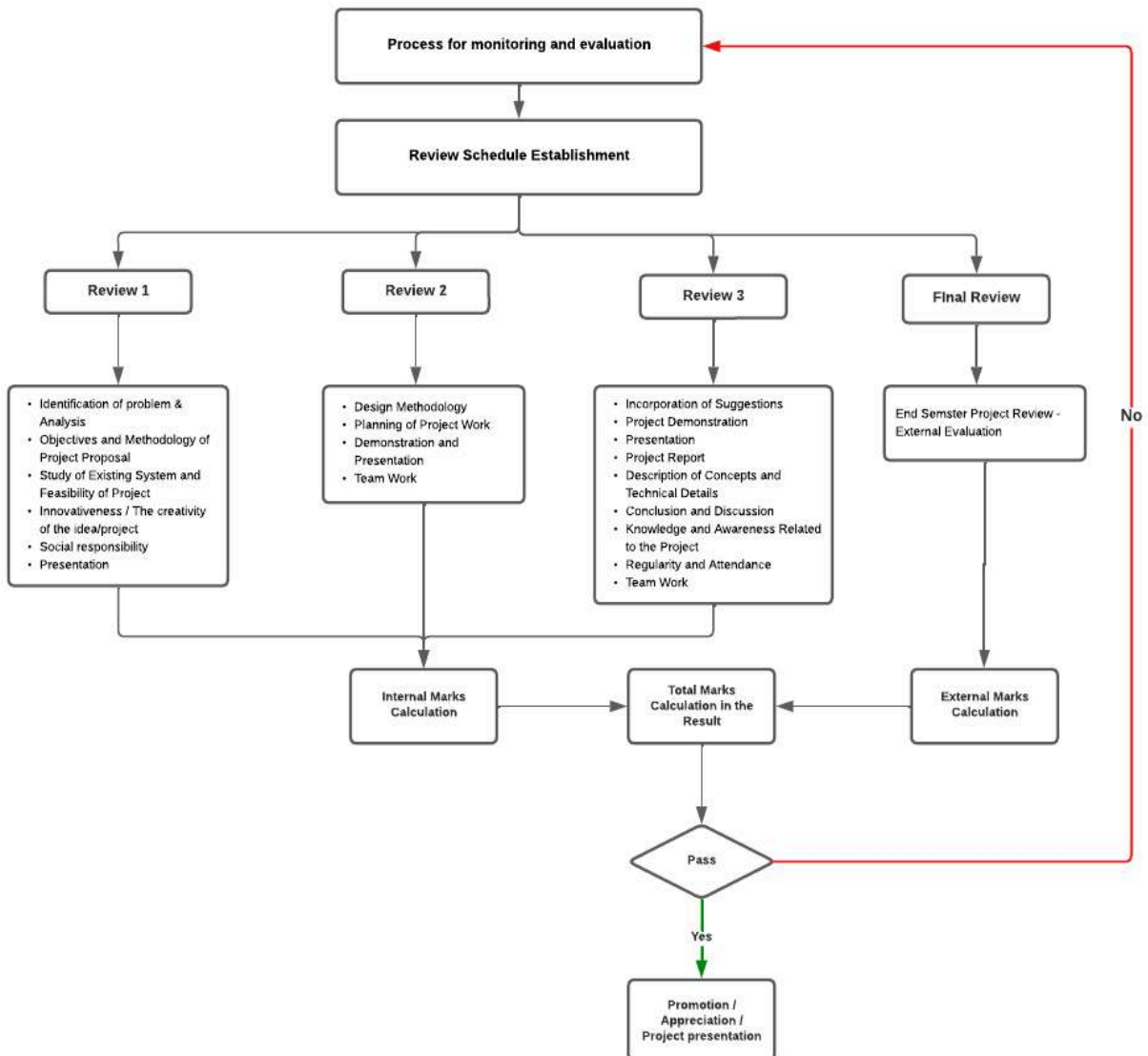
Review #	Review Agenda	Rubrics parameter	Review Assessment Max. Marks
Review 1	Project Synopsis / Proposal Evaluation	<ul style="list-style-type: none"> ● Identification of problem & Analysis ● Objectives and Methodology of Project Proposal ● Study of Existing System and Feasibility of Project ● Innovativeness / The creativity of the idea/project ● Social responsibility ● Presentation (Technical Content, Communication, Body language) 	30 Marks
Review 2	Mid-Term Project Evaluation	<ul style="list-style-type: none"> ● Design Methodology ● Planning of Project Work ● Demonstration and Presentation ● Team Work 	20 Marks
Review 3	End Semester Internal Project Evaluation	<ul style="list-style-type: none"> ● Incorporation of Suggestions ● Project Demonstration ● Presentation 	15 Marks
	Project Report Evaluation	<ul style="list-style-type: none"> ● Project Report ● Description of Concepts and Technical Details ● Conclusion and Discussion 	15 Marks
	Evaluation by Guide	<ul style="list-style-type: none"> ● Knowledge and Awareness Related to the Project ● Regularity and Attendance ● Team Work 	20 Marks
Total (A%)			100 Marks

The total of 100 marks from all reviews will be converted into corresponding internal marks, as specified in the SBTE Bihar guidelines.

All review marks are considered for internal assessment.

Project evaluation marks adhere to SBTE, Bihar Guidelines.

In summary, the process for monitoring and evaluating student projects is a systematic and thorough approach to ensure the successful completion and assessment of these projects, contributing to students academic growth and achievement.



D. Process to assess individual and team performance (5)

Evaluating student projects is a comprehensive process that assesses individual and team performance. Throughout the project lifecycle, performance is continuously monitored and assessed through various stages and Criteria:

Three Internal Reviews:

Students' performance is evaluated at three key review points during their project journey. These reviews are essential for tracking progress and quality.

Specific parameters, as detailed in the table below, are used to assess students' work and contributions.

Final External SBTE Examinations (Viva Voce):

- After completing all three internal reviews, students undergo a final external examination by an external examiner appointed by the State Board of Technical Education (SBTE).
- The viva voce examination assesses the students knowledge, presentation skills, and understanding of their project.
- The total marks evaluated for each student's project are the sum of the internal and external marks, amounting to a total of 100 marks.
- This thorough assessment process ensures that students' individual and team performances are consistently monitored, helping them grow and achieve academic excellence.

Specific parameters, as detailed in the table below, are used to assess students' work and contributions.

Category	Marks
Internal Evaluation	30
External Evaluation	70
Total Marks	100

E. Quality of deliverable, working prototypes (12)

The culmination of student projects involves the submission of fabricated projects and working prototypes. These deliverables are not only integral to the evaluation process but also serve as a testament to the students practical skills and innovative capabilities. After the final viva voce examination, the projects are showcased and displayed in the respective laboratories, allowing others to learn from and be inspired by the work of their peers.

Sl.No	Name of the First Authors	Name of the Co-Authors (Students)	Title of the Article	Academic Year	Journal Publication Details
1	Mrs. Chinthiya	Avinash Kumar Singh Saurabh Kumar Singh Aman Kumar Deepshikha Shristi kumari	A case study on the cropping pattern in a locality concerning growth in yield and increase in CCA & GCA.	2022-2023	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM & NETWORK TECHNOLOGIES, VOLUME 11, ISSUE 1, ISSN : 2053-6283
2		Himanshu Kumari Madhubala suhani Kumari Kushum Rinky kumari	A study on the Integrated farming system for sustainable agriculture	2022-2023	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM & NETWORK TECHNOLOGIES,

					VOLUME 11, ISSUE 1, ISSN : 2053-6283
3		Faiz ahmad faiz Prakash Kumar Ritesh Kumar Radheshyam kumar Sonu Kumar	A case study on the Sewage treatment plant in a prescribed locality	2022-2023	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM & NETWORK TECHNOLOGIES, VOLUME 11, ISSUE 1, ISSN : 2053-6283
4	Mr. Sujin P	Ankit Sourabh Mrityunjay Kumar Upkar Chandra Ankit Kumar Nitish Kumar Kamal Kishore Tiwari	An experimental investigation on Green Building Model using sustainable building materials	2020-2021	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM & NETWORK TECHNOLOGIES, VOLUME 9, ISSUE 3, ISSN : 2053-6283
5		Satyanarayan gupta Ankit kumar Prashant singh Gautam kumar Ravi pandey	A detailed study on the analysis of estimation and costing of the construction of slab culvert	2022-2023	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM & NETWORK TECHNOLOGIES, VOLUME 11, ISSUE 2, ISSN : 2053-6283
6	Mr. Daniel Swami & Mr.Samuel Prakash Swami	Rajnish Kumar Nirmal kumar Ravi Ranjan Raushan kumar Aryan Kumar	A Case Study On The Design and analysis of the prefabricated structure	2022-2023	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM NETWORK TECHNOLOGIES, VOLUME11, ISSUE 2, ISSN : 2053-6283
7		Faiz Ahmed faiz Prakash Kumar Ritesh Kumar Radheshyam Kumar Sonu kumar	A case study the collection various types of steel connections used in Industry.	2022-2023	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM NETWORK TECHNOLOGIES, VOLUME11, ISSUE 2, ISSN : 2053-6283
8		Aryankumar Nirmal Kumar Rajnishkumarsingh Raushan Kumar Ravi Ranjan	An Experimental investigation on structural slab model using Pervious concrete	2022-2023	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM NETWORK

					TECHNOLOGIES, VOLUME11, ISSUE 2, ISSN : 2053-6283
9		Jai Ranjan Kumar Rudal Kumar YuvrajSingh Manish Kumar Balwant Kumar	A case study on Micro irrigation in a locality	2022-2023	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM NETWORK TECHNOLOGIES, VOLUME11, ISSUE 2, ISSN : 2053-6283
10		AdityaRaj AbhishekRaj Amankumar Sumanthkumar	Analytical study on RCC and Steel structure using AutoCAD2020	2022-2023	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM NETWORK TECHNOLOGIES, VOLUME11, ISSUE 2, ISSN : 2053-6283
11	Mr. Rajatkumar	AyushKumar AlokKumar AnkitKumar HimanshuKumar AyushRanjan	A case on study the Waste Management in the City	2021-2022	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM & NETWORK TECHNOLOGIES, VOLUME 10, ISSUE 3, ISSN : 2053-6283
12		KanakPriya Anurag Pandey AryaSinha NitishKumar AnkushKumar	A case study on the Earth quake Resistant Building	2021-2022	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM & NETWORK TECHNOLOGIES, VOLUME 10, ISSUE 3, ISSN : 2053-6283
13	Mr. Samuel Prakash Swami & Mr. Victor Emmanuel	Suryakant kumar Santu kumar Gautam kumar Purushottam kumar Gaurav kumar	A case study on the data collection of Prestressed components manufactured in your vicinity	2022-2023	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM & NETWORK TECHNOLOGIES, VOLUME 11, ISSUE 2, ISSN : 2053-6283
14		Rinky kumari Himanshu kumari	A case study on the analysis of estimation	2022-2023	INTERNATIONAL JOURNAL OF

		Madhubala suhani Kumari Kushum	and costing of the construction of slab culvert		COMMUNICATION SYSTEM & NETWORK TECHNOLOGIES, VOLUME 11, ISSUE 2, ISSN : 2053-6283
15		Ankit Kumar Ankesh Kumar Mahesh Kumar Rupesh Kumar Saurav Kumar	An experimental investigation of the Paver Block model using the Recycle plastic waste	2021-2022	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM & NETWORK TECHNOLOGIES, VOLUME 10, ISSUE 3, ISSN : 2053-6283
16		Sitam Kumari Dheeraj Raj Alok Kumar Hemant Raj Prabhakar Kumar	A Detailed Study on the Alternative method adopted for Toilet Construction	2021-2022	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM & NETWORK TECHNOLOGIES, VOLUME 10, ISSUE 3, ISSN : 2053-6283
17		Juli Singh Raj Nandani Raj Khushboo Kumari Sandhya Kumari MD Hussain	A Case Study on the Accident Prevention Road in Hilly terrain	2021-2022	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM & NETWORK TECHNOLOGIES, VOLUME 10, ISSUE 3, ISSN : 2053-6283
18	Ms. Merlin Freeda	Atish Raj MD Afzal Sabir Ansari Anish Kumar Singh Mukesh Kumar Mitesh Kumar Sharma	A case study on the analysis and design of a Multi-storey Residential Building	2021-2022	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM & NETWORK TECHNOLOGIES, VOLUME 10, ISSUE 3, ISSN : 2053-6283
19	Mr. Pradeep Reynold	Md. Irshad Hasan Ravi Prakash Sharma Ankit Kumar Ashish Kumar Ravi Kumar	A theoretical study on the traditional Concrete Mix Design method	2020-2021	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM & NETWORK TECHNOLOGIES, VOLUME 9, ISSUE 3, ISSN : 2053-6283



F. Papers published /Awards/ Recognition received by projects at State/ National level (5)

In addition to project completion, students are encouraged to extend their achievements in various ways:

Paper Publication details:

Sl.No	Name of the First Authors	Name of the Co-Authors (Students)	Title of the Article	Academic Year	Journal Publication Details
1	Mrs. Chinthiya	Avinash Kumar Singh Saurabh Kumar Singh Aman Kumar Deepshikha Shristi kumari	A case study on the cropping pattern in a locality concerning growth in yield and increase in CCA & GCA.	2022-2023	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM & NETWORK TECHNOLOGIES, VOLUME 11,ISSUE 1, ISSN : 2053-6283
2		Himanshu Kumari Madhubala suhani Kumari Kushum Rinky kumari	A study on the Integrated farming system for sustainable	2022-2023	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM & NETWORK TECHNOLOGIES, VOLUME

			agriculture		11, ISSUE 1, ISSN : 2053-6283
3		Faiz ahmad faiz Prakash Kumar Ritesh Kumar Radheshyam kumar Sonu Kumar	A case study on the Sewage treatment plant in a prescribed locality	2022-2023	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM & NETWORK TECHNOLOGIES, VOLUME 11, ISSUE 1, ISSN : 2053-6283
4	Mr. Sujin P	Ankit Sourabh Mrityunjay Kumar Upkar Chandra Ankit Kumar Nitish Kumar Kamal Kishore Tiwari	An experimental investigation on Green Building Model using sustainable building materials	2020-2021	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM & NETWORK TECHNOLOGIES, VOLUME 9,ISSUE 3, ISSN : 2053-6283
5		Satyanarayan gupta Ankit kumar Prashant singh Gautam kumar Ravi pandey	A detailed study on the analysis of estimation and costing of the construction of slab culvert	2022-2023	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM & NETWORK TECHNOLOGIES, VOLUME 11, ISSUE 2, ISSN : 2053-6283
6	Mr. Daniel Swami & Mr.Samuel Prakash Swami	Rajnish Kumar Nirmal kumar Ravi Ranjan Raushan kumar Aryan Kumar	A Case Study On The Design and analysis of the prefabricated structure	2022-2023	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM NETWORK TECHNOLOGIES,VOLUME1 1, ISSUE 2, ISSN : 2053-6283
7		Faiz Ahmed faiz Prakash Kumar Ritesh Kumar Radheshyam Kumar Sonu kumar	A case study of the collection of various types of steel connections used in Industry.	2022-2023	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM NETWORK TECHNOLOGIES, VOLUME11, ISSUE 2, ISSN : 2053-6283
8		Aryankumar Nirmal Kumar Rajnishkumarsingh Raushan Kumar Ravi Ranjan	An Experimental investigation on structural slab model using Pervious concrete	2022-2023	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM NETWORK TECHNOLOGIES, VOLUME11, ISSUE 2, ISSN : 2053-6283
9		Jai Ranjan Kumar Rudal Kumar YuvrajSingh Manish Kumar Balwant Kumar	A case study on Micro irrigation in a locality	2022-2023	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM NETWORK TECHNOLOGIES, VOLUME11, ISSUE 2, ISSN : 2053-6283
10	Mr. Rajatkumar	AdityaRaj AbhishekRaj Amankumar	Analytical study on RCC and Steel structure using AutoCAD2020	2022-2023	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM NETWORK

		Sumanthkumar			TECHNOLOGIES,VOLUME1 1, ISSUE 2, ISSN : 2053-6283
11		AyushKumar AlokKumar AnkitKumar HimanshuKumar AyushRanjan	A case on study the Waste Management in the City	2021-2022	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM & NETWORK TECHNOLOGIES, VOLUME 10, ISSUE 3, ISSN : 2053-6283
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13		Suryakant kumar Santu kumar Gautam kumar Purushottam kumar Gaurav kumar	A case study on the data collection of Prestressed components manufactured in your vicinity	2022-2023	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM & NETWORK TECHNOLOGIES, VOLUME 11, ISSUE 2, ISSN : 2053-6283
14	Mr. Samuel Prakash Swami & Mr. Victor Emmanuel	Rinky kumari Himanshu kumari Madhubala suhani Kumari Kushum	A case study on the analysis of estimation and costing of the construction of slab culvert	2022-2023	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM & NETWORK TECHNOLOGIES, VOLUME 11, ISSUE 2, ISSN : 2053-6283
15		Ankit Kumar Ankesh Kumar Mahesh Kumar Rupesh Kumar Saurav Kumar	An experimental investigation of the Paver Block model using the Recycle plastic waste	2021-2022	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM & NETWORK TECHNOLOGIES, VOLUME 10, ISSUE 3, ISSN : 2053-6283
16		Sitam Kumari Dheeraj Raj Alok Kumar Hemant Raj Prabhakar Kumar	A Detailed Study on the Alternative method adopted for Toilet Construction	2021-2022	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM & NETWORK TECHNOLOGIES, VOLUME 10, ISSUE 3, ISSN : 2053-6283
17		Ms. Merlin Freeda	Juli Singh Raj Nandani Raj Khushboo Kumari Sandhya Kumari MD Hussain	A Case Study on the Accident Prevention Road in Hilly terrain	2021-2022

18		Atish Raj MD Afzal Sabir Ansari Anish Kumar Singh Mukesh Kumar Mitesh Kumar Sharma	A case study on the analysis and design of a Multi-storey Residential Building	2021-2022	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM & NETWORK TECHNOLOGIES, VOLUME 10, ISSUE 3, ISSN : 2053-6283
19	Mr. Pradeep Reynold A	Md. Irshad Hasan Ravi Prakash Sharma Ankit Kumar Ashish Kumar Ravi Kumar	A theoretical study on the traditional Concrete Mix Design method	2020-2021	INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEM & NETWORK TECHNOLOGIES, VOLUME 9, ISSUE 3, ISSN : 2053-6283

National-Level Project Competitions:

Students are motivated to present their projects in prominent national-level competitions, allowing them to gain recognition and learn from peers nationwide.

Sl. No	Date of Project Expo	Event Details	Event Organizer	Project Title	Team Members	Participated / Awards Won
1	25th February 2023	National Level Science Exhibition	Sityog Institute of Technology, Aurangabad, Bihar	“Prototype of the model of tombs shah suri”	Md. Faiz Ahmed Mr. Aman Raj Mr. Sudhanshu Kumar Mr. Vishwaranjan Bharti	1st prize cash award of Rs. 3000

Our Model: “Prototype of the model of tombs shah suri”



At sityog Institute



Participation in BCST - Student Project Programmes:

Students are actively encouraged to participate in the Bihar Council on Science and Technology (BCST) - Student Project Programmes. These platforms provide opportunities for networking, exposure, and recognition at the state level.

LIST OF PROPOSALS SUBMITTED FOR STUDENT PROJECT PROPOSAL FOR 2021-2022

Sl.No	Department	Project Title	Student Members	Project Guide(s)
1	Civil Engineering	Design & Prototype model of Under Water Tunnel	Anish Kumar Singh Rashmi Raj Ankesh kumar Saurav Kumar	Mrs.Chinthiya
2	Civil Engineering	Reverse Vending Machine	Jayant Kumar Sabir Ansari Ayush Kumar MD.Amir	Mr.Daniel Swami
3	Civil Engineering	Design and fabrication of Concrete Chair Bench	Ravi Prakash Sharma Ankit Kumar AnjaliKumari	Mr.Samuel Prakash Swami
4	Civil Engineering	Mini Architectural Model of Concrete	Upkar Chandra Mrityunjay Kumar Kamal Kishore Tiwari Mr.Rajat Kumar	Mr.Rajat Kumar

In summary, student projects not only provide an opportunity for hands-on learning and application of knowledge but also serve as a platform for recognition, publication, and skill development. The multifaceted approach to assessment ensures that students' efforts and achievements are recognized and celebrated at both the institutional and broader academic levels.

2.2.5 Industry Interaction and Industry Internship/Training (30)

A. Industry supported Labs (2)

This section highlights Gems Polytechnic Colleges initiatives and efforts in industry interaction and contributing to community services.

A. Industry-supported Labs:

Gems Polytechnic College maintains a strong connection with various industries, facilitating an enriched learning environment for its students. This interaction includes:

Memorandum of Understanding (MoU) with Companies: The institution has established MoUs with leading companies, fostering collaboration and knowledge sharing.

3D Printing Lab: The college has a state-of-the-art 3D printing lab, supported by industry, to empower students with cutting-edge technology skills.

B. Delivery of appropriate Course work by Industry experts (5)

The Department Head and staff at Gems Polytechnic College are committed to providing students with valuable insights from industry experts. The following initiatives are undertaken:

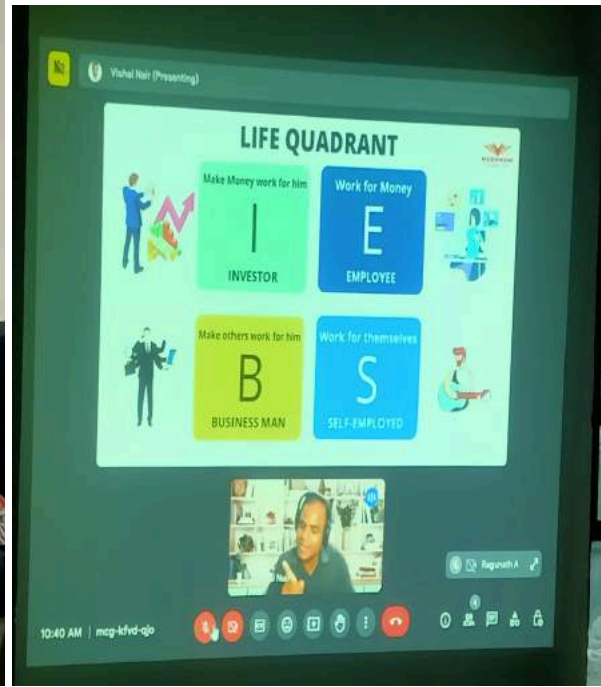
Value-added Courses:

The college arranges specialized courses, guest lectures, seminars, and workshops conducted by industry professionals to help students develop technical skills.

GEMS Polytechnic College | NBA - SAR

Sl. No	Date	Academic Year	Semester & Batch	Mode of Event (Guest Lecture /Workshop / Hands-on training, etc.)	Event Topic	Industry Expert (Designation & Company Details)	No. of Students Benefited	Relevance to POs & PSOs
1	20.12.2023	2023 - 2024	Vth 2021-2024	Workshop	Entrepreneurship and Innovation as a career opportunity	Mr.Vishal Nair, Co-founder, light nsalt pvt limited.	30	PO-5,6,7
2	06.11.2023	2023 - 2024	Vth 2021-2024	Webinar	Enhancing the Service Life of RCC Structures by an Active Technique	Dr. Kandasamy, Assoc.Prof, Civil Dept, R&D institute of science and Technology	27	PO-1,2,3
3	09.10.2023	2023 - 2024	Ist - 2023-2026	Orientation Program	Civil Engineering scope and Instruction	Mr.Samuel Prakash swami		PO-1,5,7, PSO-1,3
4	10.10.2023	2023 - 2024	IIIrd- 2022-2025 Vth 2021-2024	Orientation Program	Recent Trends in Civil Engineering	Mr.Samuel Prakash swami		PO-1,4,, PSO-1,3
5	05.05.2022	2021 - 2022	Vth - 2019-2022, IInd- 2020-2023	Webinar	"Entrepreneur opportunity in civil engineering"	Dr. Ashok Kumaravel, Project manager at National Highway Authority of India	41	PO-2,3,4,7, PSO-1
6	03.09.2022	2022 - 2023	IVth (2020-2023) Vth (20219-2022)	TECHNICAL SYMPOSIUM	Recent Trends in Civil Engineering	Mr.Samuel Prakash swami	60	PO-3,5,7,PSO-3
7	05.12.2022	2022 - 2023	Vth (2020-2023) IIIrd (2021-2024)	Guest Lecture	Awareness and importance of Water Proofing	Er. Samson Suresh	62	PO-3,5,7,PSO-3
8	25.02.2023	2022 -	Vth (2020-2023)	INTER-COLLEGE	State-level science and	"Prototype of the	4	PO-4,7,PSO-3

		2023	IIIth (2021-2024)	EVENTS-	art Exhibition competition	model of tombs sher shah suri"		
9	10.08.2022	2022 - 2023	IVth (2020-2023) Vith (2019- 2022)	ASSOCIAT ION DAY	SMART WORLD TRANSPOR TATION	Mr. Abner Gulman, PGD Rail and Metro Technology, Consultant at Bahwan Cybertek	31	PO-3,5,7,PSO- 3
10	2/04/2022	2021 - 2022	VI (2019-2022) III (2020-2023) V(2019-2022)-LE	Orientation	Civil Engineerin g scope and Instruc tions	Mr.Samuel prakash swami	104	P07,PS03
11	17/10/2022	2021 - 2022	Vth (2020-2023)	Project Exhibition	Building structures	Mr. Baskar and Mr. Christopher	40	PO-5,6,PSO-3
12	25/11/ 2022	2022 - 2023	Vth (2020-2023) IIIrd (2021-2024)	Orientatio n Program 2022	Civil Engineerin g	Mr.Samuel prakash swami	70	P07,PSO3
13	08/08/2023	2022 - 2023	VI / (2020-2023)	Career Guidance orientatio n	Personality developme nt & Resume preparatio n	Ms. Jensika Rani	40	P06,P07,PSO 3
14	22 nd June, 2023	2022 - 2023	VI/ (2020-2023) IV (2021-2024) II (2022-2025)	ORIENTA TION PROGRAM	Civil Engineerin g scope, Discipline & Instruc tions	Mr. Ranjith choudhary	120	P07,PSO3







C. Industrial visits/tours for students (3)

The institution recognizes the importance of real-world exposure in an engineering curriculum. To provide practical knowledge and connect students with industry practices, they organize industrial visits, encompassing the following steps:

Industry Selection: Contacts are developed, and industry addresses are collected for planned visits.

Permission Requests: The Head of the Department approves letters requesting permission from the concerned industry, specifying the date, time, and the number of students accompanied by staff.

Academic Year-wise Visits: A comprehensive list of industry visits is organized on an annual basis.

Sl. No	Academic Year	Semester	Batch / Session	Industry Name & Location	No.of Students Visited	Relevance to POs & PSOs
1	2023-2024	IVth	2022-2025	NH-2, Jogiya more, Ratanpura, Aurangabad	33	PO1, PO2, PO5, PSO1, PSO3
2	2023-2024	Vth	2021-2024	Gems Construction Company	30	PO1, PO2, PO5, PSO1, PSO3
3	19.08.2023	VI	2020-2023	KARAMCHAT DAM	41	PO4, PO5, PO7, PSO2, PSO3

4	2021-2022	Vlth & IVth	2018-2021 2019-2022	SONE WESTERN hydroelectric Power Plant	47	PO4,PO5,PO7,P SO2,PSO3
5	2021-2022	Vlth & IVth	2018-2021 2019-2022	Indrapuri Barrage, Bihar	47	PO4,PO5,PO7,P SO2,PSO3
6	16.12.2021	Vth Vlth	2019-2022 2018-2021 (L.E)	KARAMCHAT DAM	51	PO4,PO5,PO7,P SO2,PSO3









D. Industrial training/ internship (5)

At Gems Polytechnic College, students are encouraged to pursue industrial training during their semester breaks. This process is facilitated by faculty members and includes engagement with industry experts and alumni. Furthermore, industrial training is an integral part of the State Board of Technical Education (SBTE) curriculum, ensuring high participation rates. The process includes:

Guidance and Support: Faculty members offer guidelines, suggestions, and contact details for internships, alongside recommendations and support from alumni working in relevant industries.

High Participation: The majority of students successfully complete their internships, thanks to the inclusion in the SBTE curriculum.

S.No	Academic Year	Company Name & Location	No. of Students Attended	No.of Days
1	2023-2024	YZ INFRA Chattisgarh	11	23
		Bihar Medical Services & Infrastructure Corp.Ltd. Gaya,Bihar	12	23
		Jhajhariah -Galvano-Maxwell JV, Bilaspur	8	22
2	2022-2023	M.G. Contractor's Pvt Ltd Rohtas, Bihar	6	12
		YZ INFRA Chattisgarh	10	31
		NBCC (INDIA) LIMITED	5	24
		HOLLYHOCK INFRASTRUCTURES PVT. LTD.	5	30
3	2021-2022	GEMS CONSTRUCTION DEPARTMENT AURANGABAD, BIHAR	36	18
		ARVIND TECHNO PVT LTD BARUN, DEHRI ON SONE	8	18
4	2020-2021	ARVIND TECHNO PVT LTD BARUN, DEHRI ON SONE	10	18

E. Post training/ internship Assessment (10)

After completing their training or internship, students at Gems Polytechnic College undergo a comprehensive assessment, which includes:

Submission of Reports and Certificates:

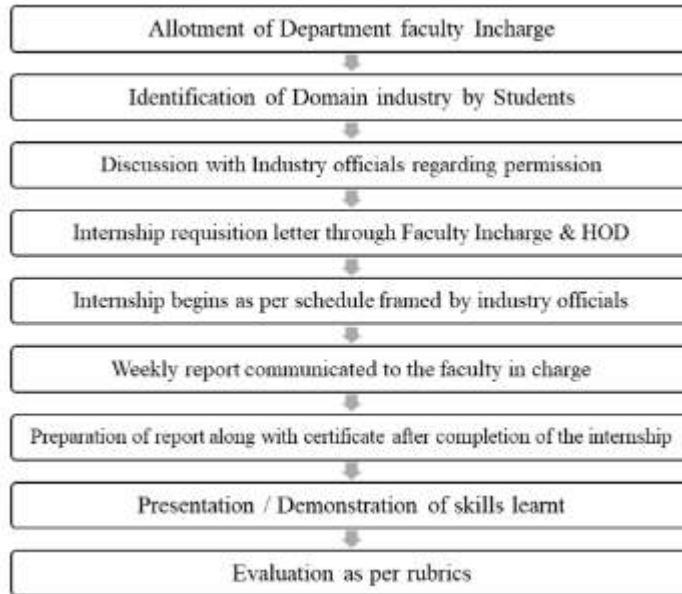
- Students are required to submit their in-plant training reports and certificates from the respective companies.

Presentation of Knowledge:

- Students present the knowledge and skills acquired during their training through PowerPoint presentations (PPTs).

Rubric-Based Assessment:

- Course teachers evaluate students based on attendance, presentation quality, acquired skills, and knowledge gained.



F. Contribution to Community related projects/activities (5)

In addition to fostering strong ties with industries, Gems Polytechnic College is committed to giving back to the community. The college actively engages in various community-related projects and activities, demonstrating a sense of social responsibility and contributing to the betterment of society.

S.No	Academic Year	Project Title	Student Members	Project Guide(s)	Contribution to Community-related
1	2022-2023	Project on Gobar Gas	Aditya kumar	Mr.Daniel Swami	Empowerment of Rural Communities: Biogas plants can be community-owned, providing a sustainable source of energy While creating job opportunities and fostering community collaboration. Health Benefits: Reduced indoor air pollution due to cleaner cooking fuels can lead to improved respiratory health among community members.
			Sandeep Kumar		
			Suraj Thakur		
			Abhi Raj		
			Omprakash Kumar		
2	2021-2022	Rain water harvesting	Abhishek Raj	Mr. Sujin P	Self-Sufficiency: Rainwater harvesting empowers communities by providing a decentralized water source,

			Aman Kumar		reducing dependency on centralized water supply systems.
			Aditya Raj		Community Projects: Initiating community-based rainwater harvesting projects encourages collaboration and collective responsibility among community members.
			Sumanth Kumar		
3	2021-2022	Reverse Vending Machine	Jayant Kumar	Mr.Daniel Swami	
			Sabir Ansari		Community Projects: Initiating community-based rainwater harvesting projects encourages collaboration and collective responsibility among community members.
			Ayush Kumar		
			MD.Amir		
4	2021-2022	Design of Concrete Chair Bench	Mr. Ravi prakash sharma	Mr.Samuel prakash swami	Social Gathering Space: Create a seating area that encourages community members to gather, fostering a sense of belonging and social interaction.
			Mr. Ankit kumar		Improving Public Spaces: Enhance the aesthetics and functionality of public spaces by installing well-designed concrete chair benches, contributing to the overall appeal and utility of the community area.

भारत सरकार

युवा कार्यक्रम एवं खेल मंत्रालय
राष्ट्रीय सेवा योजना, क्षेत्रीय निदेशालय
C विंग, 7वां मंज,
कर्पोरी थाकुर सदन, सी.जी.ओ. कॉम्प्लेक्स
आशियाना - दीघा रोड, पटना - 800 025
फोन : 0612-2952934
ई-मेल : nssrcpatna@gmail.com
patna-nss@nic.in



Government of India

Ministry of Youth Affairs & Sports
Regional Directorate of NSS
"C" Wing, 7th Floor,
Karpoori Thakur Sadan, CGO Complex
Ashiyana - Digha Road, Patna - 800 025
Phone: 0612-2952934
E-mail : nssrcpatna@gmail.com
patna-nss@nic.in

F.No. 52/ NSS/RD/PAT/2020/ 33,39 - 3402.

Date - 17-11-2021

To,
The Principal
GEMS Polytechnic College,
Ratanpura, Aurangabad, Bihar

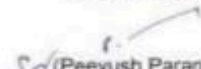
Subject: Opening of new NSS Unit - reg.

Sir,

With reference to the email dated 12th and 15th September- 2021, it is hereby to inform you that initially this office may provide approval to open Self Finance Unit of NSS for your college. With the passage of time, this office may approve your NSS unit as Govt. Funded Unit after reviewing the level of progress of NSS in your college. A short note regarding the NSS has been attached with this letter along with the form which is to be submitted to this office, duly filling up all details.

Thus, it is requested to you to submit duly filled up form so that this office may provide approval for opening the NSS Unit in your college.

Yours Faithfully,


(Peeyush Paranjape)
Regional Director

Copy to:

1. The Director, Directorate of NSS, Govt. of India, Ministry of Youth Affairs & Sports, New Delhi-110011
2. The Under Secretary (NSS), Govt. of India, Ministry of Youth Affairs & Sports, Shastri Bhavan, New Delhi-110001
3. The SNO cum Director, Department of Art, Culture & Youth Development, Govt. of Bihar, Patna, Bihar

2.2.6 Information Access Facilities and Student Centric Learning Initiatives (15)

A. Availability of facilities & Effective Utilization; specify the facilities, materials and scope for self-learning, Webinars, NPTEL Podcast, MOOCs etc (10)

In today's dynamic educational landscape, access to information and the implementation of student-centric learning initiatives are paramount. Here, we explore the facilities available for information access and the effective utilization of these resources, along with initiatives that prioritize student-centered learning.

A. Availability of Facilities and Effective Utilization: Central Library:

- Our central library is a treasure trove of knowledge. It offers textbooks and reference books covering a wide array of subjects related to the curriculum. In addition, students have access to books that can enhance their understanding and knowledge beyond their course requirements.

Department Library:

- The departmental library is another valuable resource. It houses books specifically tailored to the subjects within the department's curriculum. Furthermore, it includes supplementary materials that can deepen students' knowledge in their respective fields.

PowerPoint Presentations (PPTs):

- PPTs serve as a powerful teaching tool. Faculty members use them to deliver subject matter in a structured and point-wise manner, enhancing the efficiency of learning. The visual and organized format aids students comprehension.

E-Notes (PDF Format):

- E-Notes are shared with students through platforms like Google Classroom, email, and WhatsApp groups. These digital resources facilitate easy access to study materials, enabling students to study at their convenience.

Educational Videos:

- Multimedia content, including videos, audio, images, animations, and interactive material, enriches the learning experience. Educational YouTube channels are utilized to showcase real industry videos and animations that elucidate working principles.

- Videos provide students with control over their learning pace and the ability to revisit content as needed.

NPTEL Course Video Links:

- Specific curriculum topics are best understood through NPTEL video content. Course instructors compile lists of relevant topics and provide links for students to access these high-quality educational resources.

Website-Notes:

- Educational websites offer a plethora of resources, such as video tutorials, instructional lectures, DIY guides, self-help tutorials, interactive presentations, and animated explanations. These resources empower students to develop their learning skills and explore topics in depth.

Previous Semester Question Bank (Unit-Wise):

- Faculty members maintain a repository of previous semester question papers organized by unit. These resources are readily available to students, aiding their exam preparation and understanding of the course structure.

Multiple Choice Questions Bank (Unit-Wise):

- Similar to the question bank, unit-wise multiple-choice questions are available for students. These resources assist in self-assessment and reinforce the understanding of individual units.

Massive Open Online Courses (MOOCs):

- Our college is affiliated with prestigious platforms such as NPTEL, Spoken Tutorial, IIT Bombay, and Cisco. Through these platforms, students receive comprehensive training, evaluations, and certifications, expanding their skill set and knowledge base.

B. Student Centric Learning Initiatives & Effective Implementation (5)

In addition to providing access to a wealth of resources, our institution is committed to implementing student-centric learning initiatives:

Personalized Learning Paths:

- We recognize that every student is unique, and their learning needs differ. We encourage personalized learning paths that allow students to choose study materials and resources aligned with their learning preferences and goals.

Interactive Learning Platforms:

- We promote the use of interactive online platforms and forums where students can engage with their peers and faculty members to discuss coursework, clarify doubts, and collaborate on projects.

Project-Based Learning:

- The practical application of knowledge is emphasized through project-based learning. Students are encouraged to undertake real-world projects that not only deepen their understanding but also enhance their problem-solving and critical-thinking abilities.

Continuous Feedback and Assessment:

- Regular assessments and feedback mechanisms are in place to monitor students progress and provide timely guidance for improvement.

Mentorship Programs:

Faculty members act as mentors to students, providing academic and career guidance. This mentorship approach fosters a supportive learning environment.

Career Development Opportunities:

- Students are exposed to various career development initiatives, including internships, workshops, and seminars, to ensure their readiness for the job market.

In conclusion, our institution places a strong emphasis on information access facilities and the implementation of student-centric learning initiatives. We believe that by providing comprehensive resources and fostering a supportive and personalized learning environment, we equip our students with the knowledge and skills needed for success in their academic and professional journeys.

2.2.7 New Initiatives for embedding Professional Skills (15)

A. Employability skill enhancement Initiatives and effective implementation (8)

At GEMS Polytechnic College, we believe in preparing our students to excel in their careers. To achieve this, we have implemented a range of employability skill enhancement initiatives:

Institution's Innovation Council (IIC):

- The Institution's Innovation Council (IIC) of GEMS Polytechnic College prepares the pathway for the Entrepreneurial journey of students as per the guidelines of the Ministry of Education's Innovation Cell.

- It creates awareness of Innovation, design thinking, Problem-solving and Startups through various activities such as assessments, Exposure Visits, Workshops on innovation and startups, IPR, Business models, Technology transfer to market, etc.
- And continuously guiding in the path of entrepreneurship by providing opportunities for Expert sessions, success stories of entrepreneurs, Internal Competitions, and National competitions such as the Smart India Hackathon.
- Incubation and pre-incubation facilities develop their creativity into innovative solutions to society's problems and give confidence to become entrepreneurs and make them job providers instead of Job seekers.

Career Guidance & Higher Education Cell:

- Choosing the right career path and pursuing higher education are critical decisions. Our dedicated cell provides students with comprehensive guidance and counseling, helping them make informed choices regarding their career and higher education options.

Training & Placement Cell:

- The Training & Placement Cell plays a pivotal role in honing students' soft skills. We offer training sessions on communication, leadership, teamwork, and problem-solving. Students are coached on resume preparation, group discussions, and mock interviews to enhance their employability.

Para Academic Department:

- Our Para Academic Department complements the academic curriculum by offering skill-focused courses and workshops. These courses are designed to enhance practical skills, making students job-ready upon graduation.

B. Personality development related Initiatives & effective implementation (7)

We understand that academic excellence is just one aspect of a student's holistic development. Personality development is equally important. To foster well-rounded individuals, we have initiated several personality development programs:

Communication Skills Workshops:

- Effective communication is the cornerstone of professional success. Regular workshops and activities are conducted to enhance students' verbal and written communication skills.

Leadership and Team Building:

- Leadership qualities and the ability to work in teams are highly valued in the professional world. Students are encouraged to participate in leadership and team-building exercises to develop these skills.

Cultural and Artistic Pursuits:

- Art and culture play a vital role in personality development. Students have opportunities to engage in cultural activities, including music, dance, and theater, allowing them to explore their creative side.

Mindfulness and Stress Management:

- In today's fast-paced world, stress management is crucial. We offer programs on mindfulness and stress management techniques to help students maintain their mental well-being.

Ethics and Values Education:

- Our institution places a strong emphasis on ethics and values. Workshops and seminars on ethical behavior and values-based decision-making are integral to our curriculum.

Industry Interaction:

- Students regularly interact with industry professionals through seminars, guest lectures, and industrial visits. These interactions provide insights into the professional world and help students align their skills with industry expectations.

Mentorship Programs:

- Faculty members and experienced professionals serve as mentors to students guiding personal and professional development.

In conclusion, GEMS Polytechnic College is committed to preparing students not only for academic success but also for a successful and fulfilling professional life. Our initiatives in employability skill enhancement and personality development reflect our dedication to nurturing well-rounded individuals who are ready to excel in their chosen careers and contribute positively to society.

2.2.8 Co-curricular & Extra Curricular Activities (10)

At GEMS Polytechnic College, we believe in nurturing well-rounded individuals, and our commitment to this holistic development is reflected in the diverse co-curricular and extra-curricular activities we organize for our students. These activities play a pivotal role in enhancing their overall personality and preparing them for the challenges of the world beyond academics.

GPC-NDLI CLUB Activities:

The GPC-NDLI (National Digital Library of India) Club is a hub of intellectual engagement and enrichment. We organize a variety of events throughout the academic year, including:

Reading Skill Competition:

- Encouraging a love for reading and improving comprehension skills among students.

Elocution Competition:

- Providing a platform for students to hone their public speaking and oratory skills.

Decoding Competition:

- Challenging students to decipher complex problems, fostering critical thinking.

Quiz Competition:

- Promoting knowledge acquisition and healthy competition among students.

Orientation Program:

- Guiding students on the effective utilization of digital resources for research and learning.

Poster Presentation:

- Encouraging creativity and effective communication through visual displays.



This
**CERTIFICATE OF
APPRECIATION**
Is hereby granted to

GEMS Polytechnic College

Adjudged as One of The Best Performing NDLI Clubs in Bihar, India.

This certifies that the NDLI Club has displayed outstanding performance and unwavering dedication in promoting knowledge and learning through the National Digital Library of India (NDLI).

Through their remarkable efforts, they have successfully utilized the resources offered by the NDLI platform to foster a culture of continuous learning and digital literacy. Their commitment to organizing informative events, workshops, and study sessions has greatly contributed to the intellectual growth of its members and the wider community.

Their exceptional performance serves as an inspiring example of how a passion for learning can make a significant impact. Their achievements will serve as an inspiration to others, demonstrating the transformative power of digital resources and a passion for learning.

In recognition of their outstanding achievements, we proudly present this certificate as a token of appreciation and encouragement.

Congratulations on their remarkable performance, dedication, and contributions to promoting knowledge and learning.



NDLI Club

Kalyan Sinha

Prof. K. P. Sinhamahapatra
Joint Principal Investigator
National Digital Library of India Project
Chairman
Central Library IIT Kharagpur
Professor
Aerospace Engineering, IIT Kharagpur

B. Sutradhar

Dr. B. Sutradhar
Joint Principal Investigator
National Digital Library of India Project
Librarian
Central Library IIT Kharagpur

Sports Day:

- Our annual Sports Day is a celebration of physical fitness, teamwork, and sportsmanship. Held once a year, this two-day event brings together students from all three academic years. It features a wide range of sports events that not only provide physical exercise but also instill values of discipline, dedication, and fair play.



Morphosis Tech Fest:

The Morphosis Tech Fest is a highlight of our academic calendar. Held annually and open to students from all three years, this two-day extravaganza showcases technical prowess and creativity. The fest features a plethora of technical events, including:

- Singing
- Paper Presentation
- Technical Quiz
- Photography
- Debate
- Just a Minute (JAM)
- Best Out of Waste
- Treasure Hunt
- Cooking Without Fire
- Short Film
- Typing Speed
- Paper Wings



Morphosis Tech Fest is an opportunity for students to not only showcase their technical skills but also collaborate, innovate, and push the boundaries of their knowledge.

NSS (National Service Scheme):

- The NSS unit at GEMS Polytechnic College actively engages in community service and social responsibility. Each academic year, NSS student and faculty volunteers participate in a range of activities, including



Tree Plantation:

- Contributing to environmental conservation.





Social Awareness Programs:

- Promoting awareness about critical societal issues.

Cleaning the Environment (Swachh Bharat):

- Actively participating in cleanliness drives.

Community Development Activities:

- Providing tuition, sharing moral values, and teaching computer knowledge to nearby village children.
- Through NSS, our students learn the importance of community engagement, social responsibility, and empathy.

भारत सरकार
युवा कार्यक्रम एवं खेल मंत्रालय
राष्ट्रीय सेवा योजना, क्षेत्रीय निदेशालय
C विंग, 7वां मंज,
कपूर्ति थकुर सदन, सी.जी.ओ. कॉम्प्लेक्स
अशियाना - दिहा रोड, पटना - 800 025
फोन : 0612-2952934
ई-मेल : nssrpatna@gmail.com
patna-nss@nic.in



Government of India
Ministry of Youth Affairs & Sports
Regional Directorate of NSS
"C" Wing, 7th Floor,
Kerpoori Thakur Sadan, CGO Complex
Ashiyana - Digha Road, Patna - 800 025
Phone : 0612-2952934
E-mail : nssrpatna@gmail.com
patna-nss@nic.in

F.No. 52/ NSS/RD/PAT/2020/ 3399 - 3402.

Date - 17-11-2021

To,
The Principal
GEMS Polytechnic College,
Ratanpura, Aurangabad, Bihar

Subject: Opening of new NSS Unit - reg.

Sir,

With reference to the email dated 12th and 15th September- 2021, it is hereby to inform you that initially this office may provide approval to open Self Finance Unit of NSS for your college. With the passage of time, this office may approve your NSS unit as Govt. Funded Unit after reviewing the level of progress of NSS in your college. A short note regarding the NSS has been attached with this letter along with the form which is to be submitted to this office, duly filling up all details.

Thus, it is requested to you to submit duly filled up form so that this office may provide approval for opening the NSS Unit in your college.

Yours Faithfully,

Sp (Peeyush Paranjape)
Regional Director

Copy to:

1. The Director, Directorate of NSS, Govt. of India, Ministry of Youth Affairs & Sports, New Delhi-110011
2. The Under Secretary (NSS), Govt. of India, Ministry of Youth Affairs & Sports, Shastri Bhavan, New Delhi-110001
3. The SNO cum Director, Department of Art, Culture & Youth Development, Govt. of Bihar, Patna, Bihar

In conclusion, our co-curricular and extra-curricular activities are an integral part of the educational experience at GEMS Polytechnic College. These activities not only enrich students lives but also help them develop a well-rounded personality, enhancing their academic, physical, and social skills while instilling values that will serve them well in their future endeavors.

Criterion 3

Course Outcomes and Program Outcomes

3 COURSE OUTCOMES AND PROGRAM OUTCOMES (100)

Define the Program specific outcomes

PSO1: The graduates will have proficiency in mathematics, basic science and engineering fundamentals to excel in core areas of civil engineering.

PSO2: The graduates will plan, analyze, design, write specifications and prepare cost estimates for Civil Engineering structures.

PSO3: The graduates will be able to apply technical and management skills for the execution of work.

3.1 Establish the correlation between the courses and the POs and PSOs (20)

3.1.1 Course Outcomes (SAR should include course outcomes of one course from each semester of study, however, should be prepared for all courses) (5)

Note : Number of Outcomes for a Course is expected to be 3 to 5.

Course Year: 2023 - 2024

Mathematics-II 2002201	
CO ID.	Course Outcome
CO101.1	Solve the simple problems on functions, limits and continuity derivatives.
CO 101.2	Solve the antiderivatives and indefinite integrals by various methods.
CO 101.3	Solve the definite integrals and apply the concepts to find the area bounded by the curves
CO 101.4	Solve first-order and first-degree differential equations using the variable separable method
CO 101.5	Use vector algebra concepts to solve problems related to work, moment, and angular velocity
2001101 Mathematics-I	
CO ID.	Course Outcome
CO 113.1	Illustrate necessary background in trigonometry and appreciate the importance of the geometric study as well as for the calculation and the mathematical analysis.
CO 113.2	Apply a pattern linking in coordinate geometry a connection between algebra and geometry through graphs of lines and curves.
CO 113.3	Demonstrate the basic algebraic manipulation with complex numbers & Partial fractions.

CO 113.4	Solve simple and identify the value of factorial notations on Permutation, Combinations & expansion of binomial theorem
CO 113.5	Solve systems of linear equations by using the matrices & determinants.
2015302 Basic Surveying	
CO ID.	Course Outcome
CO202.1	Select the type of survey required for given situation
CO 202.2	Compute area of open field using chain, tape and cross staff.
CO202.3	Conduct traversing in the field using chain and compass.
CO202.4	Use leveling instruments to determine reduced level for preparation of contour maps
CO202.5	Use a digital planimeter to calculate the areas.
2015402 Advance Surveying	
CO ID.	Course Outcome
CO 214.1	Implement the plans using plane table surveys
CO 214.2	Execute the plans using theodolite surveys.
CO 214.3	Illustrate the calculation of distance and elevation using tacheometer and setting out a curve in roadways and railways
CO 214.4	Operate the basics of advance surveying equipments
CO 214.5	Implement the applications of Remote sensing, GPS, GIS & drone surveying
2015504A Precast And Prestressed Concrete	
CO ID.	Course Outcome
CO 304.1	Select the relevant precast concrete element for a given type of construction
CO 304.2	Use relevant components for prefabricated structures
CO 304.3	Justify the relevance of prestressed elements in a given situation
CO 304.4	Select relevant methods / systems for given construction work
CO 304.5	Propose suitable cable profile for the given prestressed concrete members

2015602 Public Health Engineering	
CO ID.	Course Outcome
CO313.1	Know the procedure to identify the sources of surface and subsurface water
CO313.2	Estimate the quantity of drinking water required for a population
CO313.3	Draw labeled layout for the water supply scheme.
CO313.4	Devise suitable water treatment techniques.
CO313.5	Evaluate the characteristics and suggest treatment of sewage.

3.1.2 CO-PO matrices of courses selected in 3.1.1(Six matrices to be mentioned; one per semester from 1st to 6th semester) (5)

Mathematics-II 2002201										
CO ID.	P01	P02	P03	P04	P05	P06	P07	PS01	PS02	PS03
CO101.1	3	1						1		
CO 101.2	3	1						1		
CO 101.3	3	1						1		
CO 101.4	3	1						1		
CO 101.5	3	1						1		
Average	3	1						1		
2001101 Mathematics-I										
CO ID.	P01	P02	P03	P04	P05	P06	P07	PS01	PS02	PS03
CO 113.1	3	1						1		
CO 113.2	3	1						1		
CO 113.3	3	1						1		
CO 113.4	3	1						1		
CO 113.5	3	1						1		
Average	3	1						1		

2015302 Basic Surveying										
CO ID.	P01	P02	P03	P04	P05	P06	P07	PS01	PS02	PS03
CO202.1	3	1					1	3	3	3
CO 202.2	3	2					1	3	2	2
CO202.3	3	2					1	3	2	2
CO202.4	3	2					1	2	3	2
CO202.5	3	2					1	2	3	1
Average	3	1.8					1	2.6	2.6	2
2015402 Advance Surveying										
CO ID.	P01	P02	P03	P04	P05	P06	P07	PS01	PS02	PS03
CO 214.1	3	2		2				1	3	1
CO 214.2	3	2		2				1	3	1
CO 214.3	3	2		2				1	3	1
CO 214.4	3			2			1	1	3	
CO 214.5	3	2		2			1	1	3	1
Average	3	2		2			1	1	3	1
2015504A Precast And Prestressed Concrete										
CO ID.	P01	P02	P03	P04	P05	P06	P07	PS01	PS02	PS03
CO 304.1	3								2	1
CO 304.2	3	1	1						2	1
CO 304.3	3	1	1						2	1
CO 304.4	3	2	2						2	1
CO 304.5	3	1	1						2	1
Average	3	1.25	1.25						2	1

2015602 Public Health Engineering										
CO ID.	P01	P02	P03	P04	P05	P06	P07	PS01	PS02	PS03
C0313.1	1	2	2					2	2	1
C0313.2		2	1	2				2	2	2
C0313.3	2							2	2	2
C0313.4	1	2	1					2	1	1
C0313.5	1	2	2					2	2	1
Average	1.25	2	1.5	2				2	1.8	1.4

3.1.3 - A Program level Course-PO matrix of all courses INCLUDING first year courses (10)

Course Index	P01	P02	P03	P04	P05	P06	P07
C101	3.00	1.00					
C102	3.00	1.00					1
C103	3.00			1	1		1
C104	2.67	2.00	2				1
C105	3.00	1.20		1.6	1.5		
C106	3.00	2.00					
C107	3.00			1	1		1
C108	2.00	2.13	2.75	1.88	1.25	1.63	2
C109	3.00	1.25	1		1.33		1.5
C110	3.00	1.50	1.25	1.5			
C111							1
C112	3.00	2.00			1		2
C113	3.00	1.00					
C114	3.00	1.33		1.25			1
C115	3.00	2.00		1	1		2
C116	1.75					1	1
C117	3.00	1.40	1				1
C118	3.00			3			1
C119	3.00	1.00	1	2	2	1	2
C120						1	1
C121	2.00			2	1		1
C122							1
C123	2.50			1.5		1.75	1.67
C201	2.43				2.14		
C202	3.00	1.80					1

C203	3.00	1.80	1.8	1			
C204	3.00	2.00		1.67	1.6		1.33
C205	2.20	1.80	1.5	2	1.75	1	1
C206	1.80			2.2	1.4		2
C207	3.00				2		
C208	3.00		1	2.6	1.75	1	1
C209	3.00	2.20	2.25	2			
C210	3.00			2	1		
C211	1.00	1.25					
C212	1.50	2.33	2	1			1.67
C213	2.80	1.6					1.67
C214	3.00	2		2			1
C215	3.00	2.67	1.67				1
C216	2.00	2	3	2.5	1		
C217	3.00	2.33	3	3	2		1
C218	2.20	2		3	1		1
C219	3.00	2		2			1
C220	3.00		1		1		2
C221	3.00	3		2	2	2	1
C222	2.40			1.4			
C223	1.67	1	1.33	1	1.67	1.33	1.67
C301	2.6	1.80	1.8	2	2.4	1.8	2.4
C302	3	1.00			1.75		
C303	2.6	2.00	2		2.2		1.67
C304	3	1.25	1.25				
C305	2.6			1			
C306	3	1.00			1.75		
C307	1.67	1.33	1.67	1.33	1.67	1.33	1.67
C308	1.5	1.50	1.5	1.5	1.5	1.75	1.5
C309	2.25	2.50	1	1	2	3	2
C310	2	1.00	1		1		2
C311	3	2.67	1.67				2.67
C312	1.43					3	
C313	1.25	2.00	1.5	2			
C314	1.20	3.00	1.4		1		
C315	3.00				2	1.6	
C316	3.00	2.00	2			2.8	1.33
C317	2.50			1.67			
C318	3.00	2.00	1				2
C319	2.25	2.50	1	1	2	3	2
C320	2.00	1	1		1		2
C321	3.00				1.00	2.00	
Average	2.57	1.76	1.58	1.73	1.50	1.78	1.45

3.1.3 - B Program level Course-PSO matrix of all courses INCLUDING first year courses

Course Index	PSO1	PSO2	PSO3
C101	1		
C102	1		
C103			1
C104	2.5		
C105	2.5		2
C106			
C107			1
C108			
C109	3	1	
C110			
C111			
C112			
C113	1		
C114	2		
C115			
C116			
C117	1		1
C118	2		
C119			
C120			
C121			
C122			
C123	1.5		
C201	3		2.57
C202	2.6	2.6	2
C203	1	2	
C204	3	1.8	2
C205	2.2	1.5	2
C206	1.6		
C207	3	1	1
C208			
C209	3	2	
C210	3	1	1
C211			1
C212		1	1
C213	2.8	2.4	2.2

C214	1	3	1
C215	2		
C216	1	1	2
C217	2.6	2.2	1.6
C218	1.6		2
C219	1	3	1
C220	2.5		
C221	1.67	1	1.67
C222	1.2	1.4	
C223	1.33	1.67	1.67
C301	2	2	1.8
C302	3	3	2
C303	2.2	1	
C304		2	1
C305	2.4	1.4	2.4
C306	3	3	2
C307	1.33	2	1
C308	1.5	1.75	1.75
C309	2	3	2.5
C310	2	1	1
C311	2	2	2
C312	1.29		2
C313	2	1.8	1.4
C314	1.8	1	
C315	3	1	2
C316			2.4
C317	1.25	1.75	
C318	2	1.8	1.2
C319	2	3	2.5
C320	2	1	1
C321	3.00	1.00	2.00
Average	2.01	1.78	1.65

3.2 Attainment of Course Outcomes (40)

3.2.1 Describe the assessment processes used to gather the data upon which the evaluation of Course Outcome is based (10)

The assessment processes for evaluating Course Outcomes (COs) at our institution encompass both direct and indirect methods, ensuring a comprehensive understanding of student learning and the attainment of intended outcomes.

Types of Assessment:

- ❖ Direct Assessment
- ❖ In Direct Assessment

Direct Assessment:

- ❖ Direct assessment involves the evaluation of students' performance through various activities and examinations directly related to the course.
- ❖ Here are the direct assessment processes used:

Internal Examination Assessment:

- ❖ Internal assessments are carried out based on students' performance in Class Tests. Three Class Tests, each addressing a specific portion of the syllabus, and one optional Model Exam are conducted as per the academic calendar.
- ❖ Class Tests carry different weightage, with Class Test I covering 30% of the syllabus and its associated COs, Class Test II covering 35%, Class Test III covering 35%, and the Model Exam addressing CO1 to CO5.
- ❖ Assessment of students' performance in these examinations is conducted by the course faculty in charge.

Board Examination Assessment:

- ❖ Board examinations are conducted by the State Board of Technical Education (SBTE) for each course. These exams account for a significant portion of the CO attainment, with a maximum of 70 marks and a duration of 3 hours.
- ❖ The results obtained by students in these board exams are collected by the Class advisor from the SBTE web portal, and result analysis is performed. CO attainment is analyzed as an average based on this SBTE mark analysis.

Assignment:

- ❖ Assignments are a critical component of reinforcing learning and aligning with COs. Two assignments, each carrying 25 marks, are scheduled before specific Class Tests.
- ❖ Assignments are mapped to specific COs to ensure they directly address the intended learning outcomes.

Seminar:

- ❖ Seminars are used as a platform for students to showcase their understanding of the subject. The faculty in charge evaluates these seminars using rubrics.

Laboratory Experiments:

- ❖ Laboratory experiments are designed to address specific COs. The assessment includes evaluating students on theoretical concepts, execution, calculations, viva voce, and record notes, totalling 50 marks.

Student Projects:

- ❖ Student projects, including minor projects in the second year and major projects in the final year, are comprehensively assessed through a combination of internal and external evaluations.
- ❖ Three internal reviews assess project progress, and a final external examination (Viva Voce) evaluates students' knowledge, presentation skills, and understanding of their project.
- ❖ The total evaluation for each project includes internal and external marks, totalling 100 marks.

Indirect Assessment:

- ❖ Indirect assessment is conducted by gathering data through surveys and feedback from students. This method helps in understanding the effectiveness of the courses more holistically:

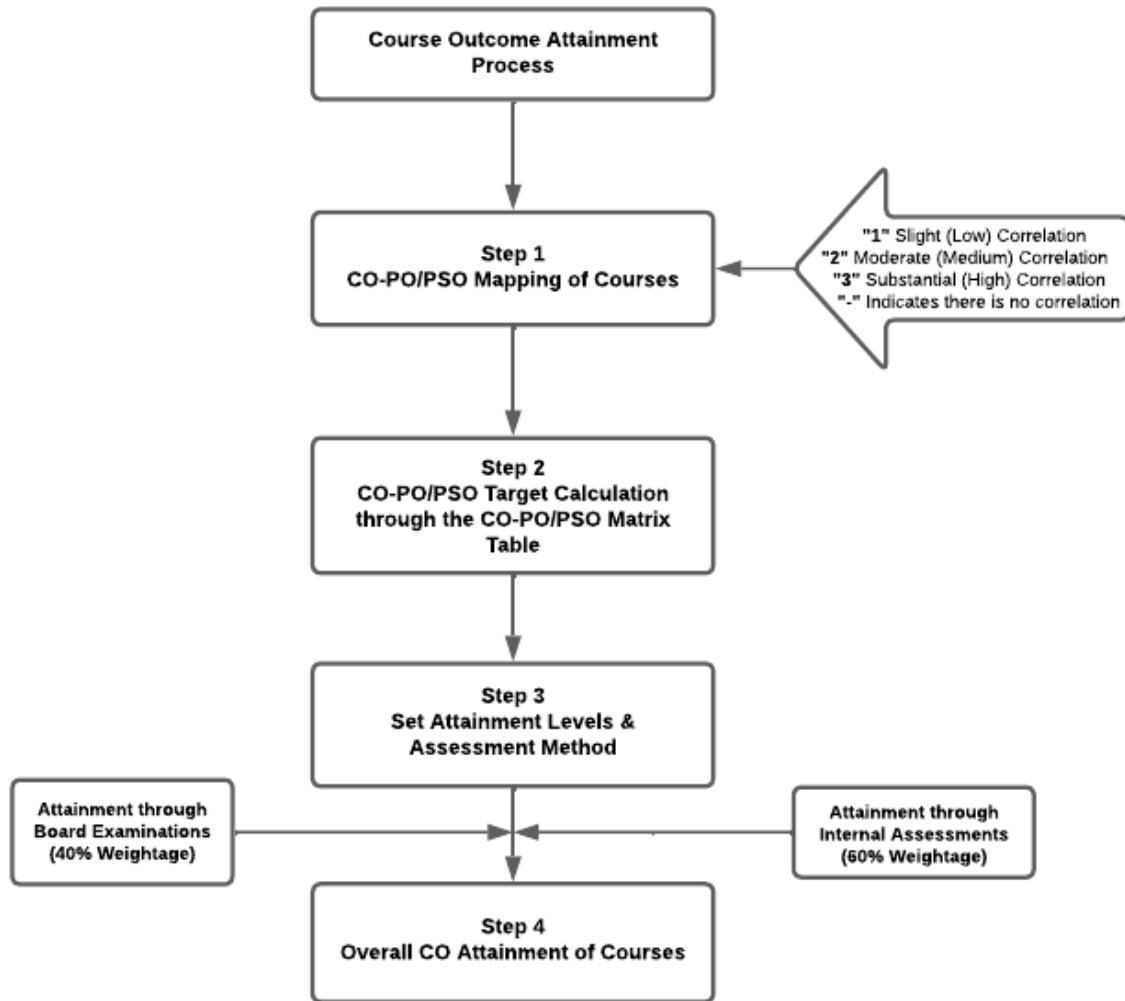
Course-End Survey:

- ❖ A course-end survey is administered for every theory course, and individual students pursuing the program are also surveyed.
- ❖ These surveys are conducted online through a cloud-based software platform.
- ❖ Survey questions are carefully mapped to specific COs, ensuring that the feedback received directly relates to the intended learning outcomes.
- ❖ Ratings provided by students are aggregated, and the overall percentage of ratings is computed. This provides valuable insights into the effectiveness of the courses and whether COs are being met.

These robust assessment processes, comprising both direct and indirect methods, help ensure that the evaluation of Course Outcomes at our institution is comprehensive, transparent, and aligns with our educational goals. They also provide essential feedback for continuous improvement and curriculum development.

3.2.2 Record the attainment of Course Outcome of all courses with respect to set attainment levels (30)

In order to ensure that courses meet their intended learning objectives, it is essential to record the attainment of Course Outcomes (COs) in alignment with the predefined attainment levels. This process is crucial for maintaining and enhancing the quality of education. Here, we outline a systematic approach to record and assess the attainment of Course Outcomes, utilizing a combination of CO-PO/PSO mapping, target calculation, and attainment assessment.



Step 1: CO-PO/PSO Mapping of Courses

Course Outcome (CO) attainment begins with a clear understanding of the Program Outcomes (POs) and Program-Specific Outcomes (PSOs) to which they are linked. This mapping ensures that each course is aligned with the broader program goals, making it easier to assess how well the course is contributing to these objectives.

All the courses together must cover all the POs (and PSOs). For a course, we map the COs to POs through the CO-PO matrix and to PSOs through the CO-PSO matrix as shown below.

The various correlation levels are:

Correlation Number	Correlation
1	Slight (Low) Correlation
2	Moderate (Medium) Correlation
3	Substantial (High) Correlation
-	Indicates there is no correlation

Step 2: CO-PO/PSO Target Calculation through the CO-PO/PSO Matrix Table

Once the mapping is complete, we calculate the target attainment levels for each Course Outcome. This is achieved through a matrix table that outlines the relationships between COs, POs, and PSOs. The target levels are based on the specific needs and expectations of each course, taking into consideration the overall program goals.

Step 3: Set Attainment Levels & Assessment Method:

To assess a course, we consider 40% of the total marks selected by the program. This allocation helps us evaluate the course outcomes based on a significant portion of the assessment process.

Set Attainment Levels:

For each course, we have established specific attainment levels, which are as follows:

Measuring Course Outcomes attained through Internal Assessments:

The procedure to decide on attainment level is as follows:

In order to decide the attainment in internal performance of students, the marks obtained in each internal assessment instrument such as assignments, class tests, Lab Evaluation, Major projects, Seminars and Mini projects are calculated and they are compared with the set average score of the whole class in respective internal assessment instruments.

Attainment Level 1:	This level is achieved when 40 - 49% of the students score more than 40% of the marks in the respective internal assessment instruments for the course. It indicates a basic level of achievement of course outcomes.
Attainment Level 2:	When 50 - 59% of the students score more than 40% of the marks in the respective internal assessment instruments, the course attains Level 2. This signifies a higher level of attainment
Attainment Level 3:	If 60% or more students score more than the set target average percentage in the final examination, the attainment level is considered to be: 3 This reflects an excellent level of achievement of course outcomes.

Step 4: CO Attainment of Courses:

Overall Course Outcome Attainment:

To assess the attainment of Course Outcomes, we use a combination of direct assessment methods:

Direct COs Attainment Assessments:**Internal Examination Assessment (Weightage: 60%)**

Internal examinations play a vital role in evaluating how well students have achieved the Course Outcomes. A significant weightage of 60% is assigned to this assessment method. Justification for this weightage may include the idea that internal assessments are designed by the instructors, allowing them to tailor questions directly to the COs. This level of customization ensures a more focused assessment of CO attainment.

Board Examination Assessment (Weightage: 40%)

Board examinations, being external assessments, provide an objective measure of student performance related to Course Outcomes. The weightage of 40% is attributed to this assessment method. Justification for this weightage may emphasize the impartiality and standardization of board examinations, ensuring a reliable measure of CO attainment.

Direct COs Attainment Assessments:

Direct Assessment	Percentage of Weightage
Internal Examination Assessment	60%
Board Examination Assessment	40%
Total Direct COs Attainment	100%

This structured approach to recording and evaluating the attainment of course outcomes allows our institution to maintain a clear and transparent system for assessing the effectiveness of our courses. By setting specific attainment levels, we can continuously monitor and improve the quality of education we provide and ensure that our students achieve the intended learning outcomes.

Course Index	Course Name	Attainment through Internal Assessment	Attainment through Board Examination	Overall CO Attainment
C101	Mathematics-II	1.70	1.2	2.90
C102	Applied Physics-II	1.10	1.2	2.30
C103	Introduction to IT Systems	1.60	1.2	2.80
C104	Fundamental of Electrical & Electronics	0.70	1.2	1.90

	Engg.			
C105	Engg. Mechanics	1.30	1.2	2.50
C106	Applied Physics Lab-II	1.80	1.2	3.00
C107	Introduction to IT Systems Lab	1.80	1.2	3.00
C108	Fundamental of Electrical & Electronics Engg. Lab	1.80	1.2	3.00
C109	Engg. Mechanics Lab	1.80	1.2	3.00
C110	Course under MOOCS /SWAYAM/ETC/ Others	1.80	1.2	3.00
C111	KYP/IT Essential/ Python / Others	1.80	1.2	3.00
C112	Environmental Science	1.80	1.2	3.00
C113	Mathematics-1	1.50	1.2	2.70
C114	Applied Physics-I	1.60	1.2	2.80
C115	Applied Chemistry	1.80	1.2	3.00
C116	Communication Skills in English	1.60	1.2	2.80
C117	Engg. Graphics	1.80	1.2	3.00
C118	Applied Physics Lab-I	1.80	1.2	3.00
C119	Applied Chemistry Lab	1.80	1.2	3.00
C120	Communication Skills in English Lab	1.80	1.2	3.00
C121	Engg. Workshop Practice	1.80	1.2	3.00
C122	Sports and Yoga	1.80	1.2	3.00
C123	C/KYP/IT Essential / Python / Others	1.80	1.2	3.00
C201	Building Construction and Construction Materials	1.80	1.2	3.00
C202	Basic Surveying	1.78	1.2	2.98

C203	Mechanics of Materials	1.57	1.2	2.77
C204	Concrete Technology	1.80	1.2	3.00
C205	GeoTechnical Engineering	1.42	1.2	2.62
C206	Basic Surveying Lab	1.80	1.2	3.00
C207	Building Construction and Construction materials Lab	1.80	1.2	3.00
C208	Web Technology Lab	1.80	1.2	3.00
C209	Mechanics of Materials Lab (TW)	1.80	1.2	3.00
C210	Concrete Technology Lab (TW)	1.80	1.2	3.00
C211	Python	1.80	1.2	3.00
C212	GeoTechnical Eng. Lab (TW)	1.80	1.2	3.00
C213	Hydraulics	1.80	1.2	3.00
C214	Advance Surveying	1.80	1.2	3.00
C215	Theory of Structure	1.69	1.2	2.89
C216	Building Planning and Drawing	1.49	1.2	2.69
C217	Transportation Engineering	1.53	1.2	2.73
C218	Hydraulics lab	1.80	1.2	3.00
C219	Advance Surveying lab	1.80	1.2	3.00
C220	Theory of Structure Lab(Tw)	1.80	1.2	3.00
C221	Building Planning and Drawing Lab(TW)	1.80	1.2	3.00
C222	Transportation Engineering Lab(TW)	1.80	1.2	3.00
C223	Course Auto CAD/STAAD . Pro/Others(TW)	1.80	1.2	3.00
C301	Design of steel and R.C.C Structure	1.37	1.2	2.57

C302	Estimating and Costing	1.80	1.2	3.00
C303	Water Resources Engineering.	1.73	1.2	2.93
C304	Precast and Prestressed Concrete	1.80	1.2	3.00
C305	Advanced Construction Technology	1.80	1.2	3.00
C306	Estimating & Costing Lab	1.80	1.2	3.00
C307	Design of steel and RCC structure Lab	1.80	1.2	3.00
C308	In- Plant training	1.80	1.2	3.00
C309	Minor Project	1.80	1.2	3.00
C310	Course Under COE / Moocs / NPTEL / Others	1.80	1.2	3.00
C311	Course Primavera/ 3D Max / Others	1.80	1.2	3.00
C312	Entrepreneurship and Starts -Ups	1.60	1.2	2.80
C313	Public Health Engineering	1.70	1.2	2.90
C314	Advance Design of Structures	1.40	1.2	2.60
C315	Tendring and Accounts	1.80	1.2	3.00
C316	Project Management	1.30	1.2	2.50
C317	Public Health Engineering Lab	1.80	1.2	3.00
C318	Seminar	1.80	1.2	3.00
C319	Major Project	1.80	1.2	3.00
C320	Course Under Moocs/NPTEL/Others (TW)	1.80	1.2	3.00
C321	Tendring and Accounts(TW)	1.80	1.2	3.00

3.3 Attainment of Program Outcomes and Program-Specific Outcomes (40)

3.3.1 Describe assessment tools and processes used for assessing the attainment of each POs and PSOs as mentioned in Annexure 1 (10)

In the realm of education, the attainment of Program Outcomes (POs) and Program Specific Outcomes (PSOs) is of paramount importance to ensure that educational goals and objectives are met. To gauge the achievement of these outcomes, various assessment tools and processes are utilized. This section will delve into the assessment methods employed, detailing both direct and indirect methodologies, the weightage assigned to each, and the overarching attainment process.

Assessment Tools and Processes:

The following are the types of assessment tools used for the attainment process:

- ❖ Direct Method of Attainment
- ❖ Indirect Method of Attainment

Direct Method of Attainment

The direct method of assessing the attainment of Program Outcomes and Program Specific Outcomes is primarily focused on evaluating students' performance in a tangible and quantifiable manner. This assessment method encompasses:

Examinations:

Both Internal and Board Examinations: These examinations are conducted regularly and rigorously to gauge students comprehension, knowledge, and skills in each course.

Indirect Method of Attainment:

The indirect method involves assessing the attainment of outcomes through more qualitative means, capturing the students perspectives and feedback. This approach includes:

Surveys:

Student and Alumni Surveys:

Gathering feedback from current students and alumni to understand their perceptions of the program's effectiveness in preparing them for the real world.

Exit Surveys:

Conducted as students graduate to gain insight into their overall educational experience.

Industrial Visits:

Learning from real-world experiences by engaging in visits to industries relevant to the program.

Attainment Process:**Weightage Allocation:**

In determining the attainment levels of Program Outcomes and Program Specific Outcomes, a specific weightage allocation is applied. The overall attainment is achieved through a combination of both direct and indirect attainment as follows:

Attainment	Percentage of Weightage
Direct Attainment	80%
Indirect Attainment	20%
Total Attainment	100%

Direct Attainment:

Direct attainment comprises a significant portion of the overall assessment, accounting for 80% of the total attainment. The 100% direct attainment is achieved by considering the following:

Internal Assessment:

Internal assessments, including class tests and assignments, contribute 60% to the direct attainment.

SBTE End Semester Examination:

The final 40% of the direct attainment is based on the performance of students in the State Board of Technical Education (SBTE) end-semester examinations.

Indirect Attainment:

Indirect attainment plays a complementary role, accounting for 20% of the total attainment. To achieve 100% indirect attainment, the program follows a structured approach:

Course-End Surveys:

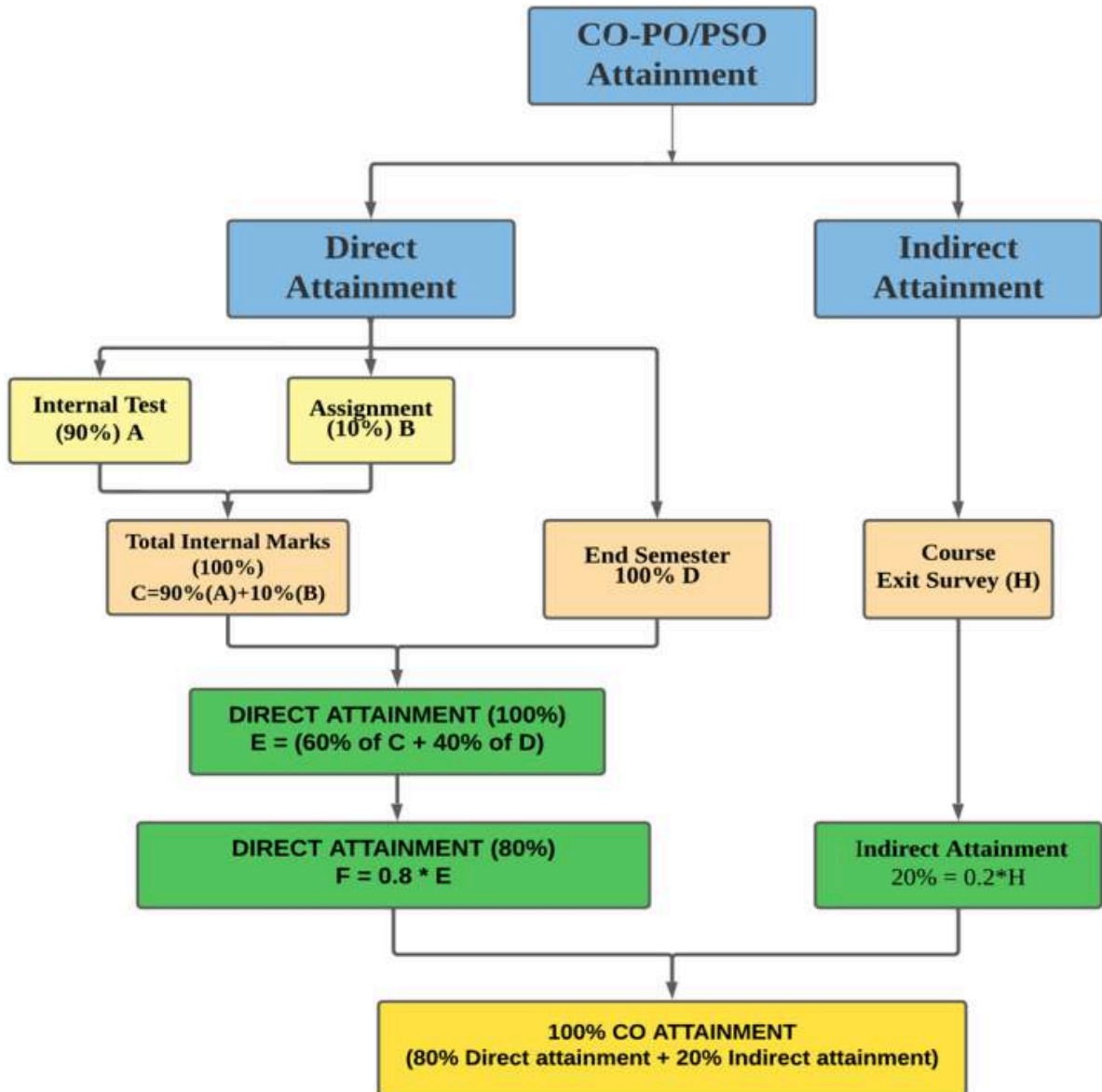
These surveys are conducted for each theory course, allowing for the collection of valuable insights from students about their experiences and learning outcomes.

Final Attainment:

The final 100% attainment, which represents the comprehensive evaluation of Program Outcomes and Program Specific Outcomes, is calculated as a combination of 80% from direct attainment and 20% from indirect attainment.

Theory Course Internal / External examination Plan							
Direct Attainment	S.No	Evaluation	Exams	Syllabus Completion	Outcome Weightage	Total Marks	
	1	Internal	CLASS TEST - 1	30%	30%	35	
	2		CLASS TEST - 2	60%	30%	35	
	3		CLASS TEST - 3	100%	30%	35	
	4		Assignment - 1	1st 50%	5%	25	
	5		Assignment - 2	2nd 50%	5%	25	
	Overall Internal Outcome Weightage					100%	
	Internal Exam Outcome Attainment for 60% (A)					60%	
	7	External	SBTE END SEMESTER	100%	100%	100	
	External Exam Outcome Attainment for 40% (B)					40%	
Total Direct Outcome Attainment for 100% (A+B)					100%		
Total Direct Outcome attainment for 80% (C)					80%		
Indirect Attainment	Course End Survey					100%	
	Course End Survey for 20% (D)					20%	
Total Attainment Direct + Indirect (C+D)					100%		

By using these well-defined assessment tools, processes, and weightage allocations, our educational institution ensures a thorough evaluation of the attainment of Program Outcomes and Program Specific Outcomes. This systematic approach helps us in continuously enhancing the quality of education and meeting the expectations of our students and stakeholders.



PO Attainment

Course Index	PO1	PO2	PO3	PO4	PO5	PO6	PO7
C101	2.93	0.98					
C102	2.31	0.77					0.77
C103	2.82			0.94	0.94		0.94
C104	1.66	1.24	1.24				0.62
C105	2.47	0.99		1.32	1.24		
C106	3	2					
C107	3			3			
C108	2	2.13	2.75	1.88	1.25	1.63	2
C109	3	1.25	1		1.33		1.5
C110	3	1.5	1.25	1.5			
C111							1
C112	1.2	1.2	0.6	0.6	0.9	1.2	1.2

C113	2.73	0.91					
C114	2.82	1.25		1.18			0.94
C115	3	2		1	1		2
C116	1.62					0.93	0.93
C117	3	1.4	1				1
C118	3			3			1
C119	3	1	1	2	2	1	2
C120						1	1
C121	2			2	1		1
C122							1
C123	2.5			1.5		1.75	1.67
C201	2.43				2.14		
C202	2.98	1.79					0.99
C203	2.78	1.67	1.67	0.93			
C204	3	2		1.67	1.6		1.33
C205	1.92	1.57	1.31	1.74	1.53	0.87	0.87
C206	1.8			2.2	1.4		2
C207	3				2		
C208	3	1	1	2.6	1.75	1	1
C209	3	2.2	2.25	2			
C210	3			2	1		
C211	1	1.25					
C212	1.5	2.33	2	1			1.67
C213	2.8	1.6					1.67
C214	3	2		2			1
C215	2.89	2.57	1.61				0.96
C216	1.79	1.79	2.69	2.24	0.9		
C217	2.74	2.12	2.74	2.74	1.82		0.91
C218	2.2	2		3	1		1
C219	3	2		2			1
C220	3	1	1		1		2
C221	3	3		2	2	2	1
C222	2.4			1.4			
C223	1.67	1	1.33	1	1.67	1.33	1.67
C301	2.23	1.54	1.54	1.71	2.05	1.54	2.05
C302	3	1			1.75		
C303	2.54	1.95	1.95		2.15		1.63
C304	3	1.25	1.25				
C305	2.6			1			
C306	3	1			1.75		
C307	1.67	1.33	1.67	1.33	1.67	1.33	1.67
C308	1.5	1.5	1.5	1.5	1.5	1.75	1.5
C309	2.25	2.5	1	1	2	3	2
C310	3	2.67	1.67				2.67
C311	2	1	1		1		2
C312	1.35					2.84	
C313	1.23	1.96	1.47	1.96			
C314	1.05	2.63	1.23		0.88		

C315	3				2	1.6	
C316	2.5	1.67	1.67			2.34	1.11
C317	2.5			1.67			
C318	3	2	1				2
C319	2.25	2.5	1	1	2	3	2
C320	2	1	1		1		2
C321	3				1	2	

PO Attainment Level:

Attainment	P01	P02	P03	P04	P05	P06	P07
Direct Attainment	2.46	1.65	1.46	1.71	1.48	1.69	1.40
Indirect Attainment	2.27	1.78	1.58	1.7	1.71	1.67	1.77
Total Attainment	2.42	1.68	1.48	1.71	1.53	1.69	1.47

PSO Attainment

Course Index	PSO1	PSO2	PSO3
C101	0.98		
C102	0.77		
C103			0.94
C104	1.55		
C105	2.06		1.65
C106			
C107			1
C108			
C109	3	1	
C110			
C111			
C112			
C113	0.91		
C114	1.88		
C115			
C116			
C117	1		1
C118	2		
C119			

C120			
C121			
C122			
C123	1.5		
C201	3		2.57
C202	2.58	2.58	1.98
C203	0.93	1.85	
C204	3	1.8	2
C205	1.92	1.31	1.74
C206	1.6		
C207	3	1	1
C208			
C209	3	2	
C210	3	1	1
C211			1
C212		1	1
C213	2.8	2.4	2.2
C214	1	3	1
C215	1.93		
C216	0.9	0.9	1.79
C217	2.37	2.01	1.46
C218	1.6		2
C219	1	3	1
C220	2.5		
C221	1.67	1	1.67
C222	1.2	1.4	
C223	1.33	1.67	1.67
C301	1.71	1.71	
C302	3	3	
C303	2.15	0.98	
C304		2	
C305	2.4	1.4	
C306	3	3	
C307	1.33	2	
C308	1.5	1.75	
C309	2	3	
C310	2	2	
C311	2	1	
C312	1.22		1.89
C313	1.96	1.76	1.37
C314	1.58	0.88	

C315	3	1	2
C316			2
C317	1.25	1.75	
C318	2	1.8	1.2
C319	2	3	2.5
C320	2	1	1
C321	3	1	2

PSO Attainment level

Attainment	PSO1	PSO2	PSO 3
Direct Attainment	1.94	1.75	1.56
Indirect Attainment	1.91	1.82	1.75
Total Attainment	1.93	1.76	1.60

Criterion 4

Student's Performance

4 STUDENTS' PERFORMANCE (200)**Intake Information:****Table 4.1**

Item	CAY (Current Academic Year)	CAYm1 (Current Academic Year Minus 1)	CAYm2 (Current Academic Year Minus 2)	CAYm3 (Current Academic Minus 3)	CAYm4 (Current Academic Year Minus 4)	CAYm5 (Current Academic Year Minus 5)
	2023-2024	2022-2023	2021-2022	2020-2021	2019-2020	2018-2019
Sanctioned intake strength of the program (N)	60	48	48	48	48	60
Total number of students, admitted through state level counseling(N1)	60	48	48	48	47	0
Number of students, admitted through Institute level quota (N2)	0	0	0	0	0	20
Number of students, admitted through lateral entry (N3)	0	2	2	14	5	6
Total number of students admitted in the Program (N1 + N2 + N3)	60	50	50	62	52	26

Table 4.2

Year of entry		N1 + N2 + N3 (As defined in 4.1)	Number of students who have successfully graduated without backlogs in any semester/year of study		
			<i>(Without Backlog means no compartment or failures in any semester/year of study)</i>		
			<i>I Year</i>	<i>II Year</i>	<i>III Year</i>
CAY (Current Academic Year)	2023-2024	60			
CAYm1 (Current Academic Year Minus 1)	2022-2023	48	25		
CAYm2 (Current Academic Year Minus 2)	2021-2022	50	13	13	
CAYm3 (Current Academic Year Minus 3) LYG – Last Year Graduate	2020-2021	62	13	11	10
CAYm4 (Current Academic Year Minus 4) LYG-1 – (Last Year Graduate minus 1)	2019-2020	52	21	21	20
CAYm5 (Current Academic Year Minus 5) LYG-2 – (Last Year Graduate minus 2)	2018-2019	26	15	6	6

Table 4.3

Year of entry		N1 + N2 + N3 (As defined in 4.1)	Number of students who have successfully graduated		
			<i>(Students with backlog in stipulated period of study)</i>		
			<i>I Year</i>	<i>II Year</i>	<i>III Year</i>
CAY (Current Academic Year)	2023-2024	60			
CAYm1 (Current Academic Year Minus 1)	2022-2023	48	22		
CAYm2 (Current Academic Year Minus 2)	2021-2022	50	26	26	
CAYm3 (Current Academic Year Minus 3) LYG – Last Year Graduate	2020-2021	62	25	32	34
CAYm4 (Current Academic Year Minus 4) LYG-1 – (Last Year Graduate minus 1)	2019-2020	52	25	27	28
CAYm5 (Current Academic Year Minus 5) LYG-2 – (Last Year Graduate minus 2)	2018-2019	26	5	14	13

4.1 Enrolment Ratio (20)

AY	N	N1 + N2	Enrollment Ratio ((N1 + N2 / N)*100)
2023-2024	60	60	100
2022-2023	48	48	100
2021-2022	48	48	100

Average [(ER1 + ER2 + ER3) / 3] : 100

Assessment : 20.00

4.2.1 Success rate without backlogs in any year of study (40)

Item	Last Year Graduate Batch (LYG)	Last Year Graduate Minus 1 Batch (LYGm1)	Last Year Graduate Minus 2 Batch (LYGm2)
	2020-2021	2019-2020	2018-2019
Total number of students (admitted through state level counselling + admitted through Institute on level quota + actually admitted through lateral entry) (N1 + N2 + N3)	62	52	26
Number of students who have passed without backlogs in the stipulated period	10	20	6
Success index SI	0.16	0.38	0.23

Average SI [(SI1 + SI2 + SI3) / 3] : 0.26

Assessment [40 * Average SI] : 10.4

4.2.2 Success rate in stipulated period (20)

Item	Last Year Graduate Batch (LYG)	Last Year Graduate Minus 1 Batch (LYGm1)	Last Year Graduate Minus 2 Batch (LYGm2)
	2020-2021	2019-2020	2018-2019
Total number of students (admitted through state level counseling + admitted through Institute on level quota + actually admitted through lateral entry) (N1 + N2 + N3)	62	52	26
Number of students who have passed with backlogs in the stipulated period	34	48	19
Success index (SI)	0.55	0.92	0.73

Average SI[(SI1 + SI2 + SI3) / 3]: 0.73

Assessment [20 * Average SI] : 14.6

4.3 Academic Performance in First Year (25)

Academic Performance	CAYm1	CAYm2	LYG
	2022-2023	2021-2022	2020-2021
Mean of CGPA or Mean Percentage of all successful students (X)	7.7	7.9	9.54
Total no. of successful students (Y)	47	39	38
Total no. of students appeared in the examination (Z)	47	48	48
API = $X * (Y/Z)$	7.66	6.42	7.55

Average API [$(AP1 + AP2 + AP3)/3$] : 7.21

Assessment [$2.5 * \text{AverageAPI}$] : 18.03

4.4 Academic Performance in Second Year (20)

Academic Performance	CAYm2	CAYm3	CAYm4
	2021-2022	2020-2021	2019-2020
Mean of CGPA or Mean Percentage of all successful students (X)	7.55	7.69	8.62
Total no. of successful students (Y)	39	43	48
Total no. of students appeared in the examination (Z)	48	52	51
API = X* (Y/Z)	6.13	6.36	8.11

Average API [(AP1 + AP2 + AP3)/3] : 6.87

Assessment [2.5 * AverageAPI] : 17.18

4.5 Academic Performance in Final Year (15)

Academic Performance	Last Year Graduate (LYG)	Last Year Graduate Minus 1 Batch (LYGm1)	Last Year Graduate Minus 2 Batch (LYGm2)
	2020-2021	2019-2020	2018-2019
Mean of CGPA or Mean Percentage of all successful students (X)	7.91	8.24	7.9
Total no. of successful students (Y)	42	48	19
Total no. of students appeared in the examination (Z)	42	48	20
API = $X * (Y/Z)$	7.91	8.24	7.50

Average API [(AP1 + AP2 + AP3)/3] : 7.88

Assessment [1.5 * AverageAPI] : 11.82

4.6 Placement and Higher Studies (40)

Item	Last Year Graduate, (LYG)	Last Year Graduate Minus 1 Batch, (LYGm1)	Last Year Graduate Minus 2 Batch, (LYGm2)
	2020-2023	2019-2022	2018-2021
Total No. of Final Year Students (N)	42	48	20
No. of students placed in companies or Government Sector (X)	42	33	4
No. of students admitted to higher studies (Y)	0	8	12
No. of students turned entrepreneur in the respective field of engineering/technology (Z)	0	0	0
$1.25X + Y + Z$	52.5	49.25	17
Placement Index (P) : $(1.25X + Y + Z)/N$	1.25	1.03	0.85

Average Placement [$(P1 + P2 + P3)/3$] : 1.04

Assessment [$40 * \text{Average Placement}$] : 41.6

Provide the placement data in the below mentioned format with the name of the program and the assessment year (separately for CAYm1, CAYm2 and CAYm3):

Program Name : Civil Engg.

Assessment Year : 2022 - 23 (CAYm1)

S.No	Student Name	Enrollment No	Employee Name	Appointment No
1	Aditya kumar	1991520002	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/001
2	Abhishek Raj	1991520003	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/002
3	Aditya Raj	1991520005	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/003
4	Aman Kumar	1991520007	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/004
5	Aman Kumar	1991520008	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/005
6	Ankit Kumar	1991520011	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/006
7	Aryan kumar	1991520012	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/007
8	Gautam Kumar	1991520014	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/008
9	Himanshu Kumari	1991520015	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/009
10	Madhubala suhani	1991520018	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/010
11	Nirmal Kumar	1991520019	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/011
12	Prashanth singh	1991520020	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/012
13	Purushottam Kumar	1991520021	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/013
14	Radheshyam kumar	1991520022	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/014
15	Rajinish kumar singh	1991520023	VBB INFRA PVT.LTD	VBB/HO/LTR/090

16	Raushan kumar	1991520024	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/016
17	Ravi ranjan	1991520025	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/017
18	Sandeep Kumar	1991520026	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/018
19	Santu Kumar	1991520027	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/019
20	Satyanarayan gupta	1991520028	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/020
21	Sonu Kumar	1991520029	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/021
22	Sumanth Kumar	1991520030	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/022
23	Suraj Thakur	1991520031	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/023
24	Suryakant kumar	1991520032	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/024
25	Ritesh Kumar	1991520036	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/025
26	Gautam Kumar	1991520038	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/026
27	Abhi Raj	1991520039	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/027
28	Saurabh kumar singh	1991520040	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/028
29	Avinash Kumar	1991520041	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/029
30	Faiz ahamed faiz	1991520043	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/030
31	Kumari Kushum	1991520044	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/031
32	Prakash Kumar	1991520048	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/032
33	Omprakash Kumar	1991520402	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/033
34	Balwant Kumar	1991520602	Ultratech Cement Ltd	GEMS/CIVIL/2023/034

35	Ravi Ranjan Pandey	1991520603	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/035
36	Rinky kumari	1991520606	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/036
37	Deep shikha	1991520607	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/037
38	Shristi kumari	1991520608	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/038
39	Yuvraj Singh	1991520609	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/039
40	Manish Kumar	1991520610	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/040
41	Jayranjan kumar	1991520611	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/041
42	Rudal Kumar	1991520612	KP Reliable Technique India Pvt Lmt.	GEMS/CIVIL/2023/042

Assessment Year : 2021 - 22 (CAYm2)

S.No	Student Name	Enrollment No	Employee Name	Appointment No
1	Saurabh Sumant	1991519001	KP Reliable Technique India Pvt Ltd	GEMS/CIVIL/2022/001
2	Archana Kumari	1991519003	SPECIAL SURVEY AMIN	2230092778
3	Sandhya Kumari	1991519004	SPECIAL SURVEY AMIN	2230024360
4	Juli Singh	1991519005	SPECIAL SURVEY AMIN	2230055538
5	Rashmi Raj	1991519006	SPECIAL SURVEY AMIN	2230031765
6	Saurav Kumar	1991519007	KP Reliable Technique India Pvt Ltd	GEMS/CIVIL/2022/002
7	Rupesh Kumar	1991519009	URBANAAC STRUCTURES LLP	US LLP/HR/Rect./2023
8	Rohit Kumar	1991519010	KP Reliable Technique India Pvt Ltd	GEMS/CIVIL/2022/005
9	Mahesh Kumar	1991519015	KP Reliable Technique India Pvt Ltd	GEMS/CIVIL/2022/006
10	Jayant Kumar	1991519016	SPECIAL SURVEY AMIN	2230079139
11	Himanshu Kumar	1991519017	SPECIAL SURVEY AMIN	2230028257

12	Chandramohan Kumar	1991519019	KP Reliable Technique India Pvt Ltd	GEMS/CIVIL/2022/011
13	Ankesh Kumar	1991519023	KP Reliable Technique India Pvt Ltd	GEMS/CIVIL/2022/013
14	Anish Kumar Singh	1991519024	SPECIAL SURVEY AMIN	2230165628
15	Awani Ranjan	1991519025	KP Reliable Technique India Pvt Ltd	GEMS/CIVIL/2022/015
16	Saurabh Pandey	1991519026	SPECIAL SURVEY AMIN	2230079817
17	Raj Nandani Raj	1991519028	SPECIAL SURVEY AMIN	2230033460
18	Amisha Singh	1991519029	SPECIAL SURVEY AMIN	2230086861
19	Atish Raj	1991519031	KP Reliable Technique India Pvt Ltd	GEMS/CIVIL/2022/017
20	Manish Kumar	1991519032	KP Reliable Technique India Pvt Ltd	GEMS/CIVIL/2022/018
21	MD Amir	1991519033	SPECIAL SURVEY AMIN	2230157595
22	Ankit Kumar	1991519034	SPECIAL SURVEY AMIN	2230116213
23	Himanshu Kumar	1991519036	KP Reliable Technique India Pvt Ltd	GEMS/CIVIL/2022/022
24	Ravindra Kumar Singh	1991519037	KP Reliable Technique India Pvt Ltd	GEMS/CIVIL/2022/023
25	Mukesh Kumar	1991519038	KP Reliable Technique India Pvt Ltd	GEMS/CIVIL/2022/024
26	Ramesh Kumar	1991519040	KP Reliable Technique India Pvt Ltd	GEMS/CIVIL/2022/026
27	Ankit Kumar	1991519043	KP Reliable Technique India Pvt Ltd	GEMS/CIVIL/2022/027
28	Nitish Kumar Ojha	1991519044	SPECIAL SURVEY AMIN	2230138976
29	Aditya Kaushal	1991519047	KP Reliable Technique India Pvt Ltd	GEMS/CIVIL/2022/030
30	Alok Kumar	1991519049	KP Reliable Technique India Pvt Ltd	GEMS/CIVIL/2022/031
31	Vinay Kumar	1991518017	SPECIAL SURVEY AMIN	2230054611
32	Khushboo Kumari	1991518602	SPECIAL SURVEY AMIN	2230173325
33	Alok Kumar	1991519402	SPECIAL SURVEY AMIN	2230064583
34	Sitam Kumari	1991519401	SPECIAL SURVEY AMIN	2230063426
35	Kanak Priya	1991519601	SPECIAL SURVEY AMIN	2230044296

Assessment Year : 2020 - 21 (CAYm3)

S.No	Student Name	Enrollment No	Employee Name	Appointment No
1	Sakshi Singh	1991518001	SPECIAL SURVEY AMIN	2230054583
2	Nisha Kumari	1991518002	SPECIAL SURVEY AMIN	2230071332
3	MD Irshad Hassan	1991518006	N.A Construction Pvt.LTD	U45200MH2009PTC 192764
4	Upkar Chandra	1991518010	SPECIAL SURVEY AMIN	2230024902
5	Anjali Kumari	1991518601	SPECIAL SURVEY AMIN	2230013744

**List of Selected Students Under
Revenue and Land Reforms Deptt. Govt. of Bihar
(Directorate of Land Records & Survey)**

GEMS POLYTECHNIC COLLEGE
DEPARTMENT OF CIVIL ENGINEERING

List of Selected Students under (Post-Special Survey Amin)
Revenue and Land Reforms Department Government of Bihar
(Directorate of Land Records & Survey)



NARGIS PARWEEN
LRC RANK - JE/0008252
Post: SSA(Since 5 Year)
Batch:2015-18/6 LPA



SHAGUFTA ALI
LRC R.NO -2230126696
LRC RANK-FE.EBC-287
Batch:2015-18/4 LPA



NEHA KUMARI
LRC R.NO -2230146302
LRC RANK-FE.SC-123
Batch:2016-19/4 LPA



PAPPU KUMAR
LRC R.NO -2230024844
LRC RANK-SC-481
Batch:2016-19/4 LPA



PRIYANKA KUMARI
LRC R.NO -2230014838
LRC RANK-FE.UR-738
Batch:2016-19/4 LPA



SUBASH KUMAR
LRC R.NO -2230023348
LRC RANK-SC-348
Batch:2016-19/4 LPA



RAHUL RAJ
LRC R.NO -2230023348
LRC RANK-BC-1655
Batch:2016-19/4 LPA



REEMA KUMARI
LRC R.NO -2230072755
LRC RANK-DQ-100
Batch:2016-19/4 LPA



SITU KUMARI
LRC R.NO -2230039776
LRC RANK-FE.EBC-316
Batch:2016-19/4 LPA



SHIVA NISHANT
LRC R.NO -2230126040
LRC RANK-SC-919
Batch:2017-20/4 LPA



SAKSHI SINGH
LRC R.NO -2230054583
LRC RANK-FE.EBC-451
Batch:2018-21/4 LPA



NISHA KUMARI
LRC R.NO -2230071332
LRC RANK-FE.UR-244
Batch:2018-21/4 LPA



UPKAR CHANDRA
LRC R.NO -2230024902
LRC RANK-SC-460
Batch:2018-21/4 LPA



ANJALI KUMARI
LRC R.NO -2230013744
LRC RANK-FE.SC-200
Batch:2018-21/4 LPA



KHUSHBOO KUMARI
LRC R.NO -2230173135
LRC RANK-FE.BC-422
Batch:2019-22/4 LPA



ARCHANA KUMARI
LRC R.NO -2230092778
LRC RANK-FE.EC-526
Batch:2019-22/4 LPA



SANDHYA KUMARI
LRC R.NO -2230024360
LRC RANK-FE.SC-168
Batch:2019-22/4 LPA



JULI SINGH
LRC R.NO -2230055538
LRC RANK-FE.UR-928
Batch:2019-22/4 LPA



RASHMI RAJ
LRC R.NO -2230031765
LRC RANK-FE.BC-376
Batch:2019-22/4 LPA



JAYANT KUMAR
LRC R.NO -2230079139
LRC RANK-SC-740
Batch:2019-22/4 LPA



HIMANSHU KUMAR
LRC R.NO -2230028157
LRC RANK-UR-198
Batch:2019-22/4 LPA



ANISH KUMAR SINGH
LRC R.NO -2230161638
LRC RANK-EWS-270
Batch:2019-22/4 LPA



SAURABH PANDEY
LRC R.NO -2230079817
LRC RANK-EWS-749
Batch:2019-22/4 LPA



RAJNANDANI RAJ
LRC R.NO -2230033460
LRC RANK-FE.BC-524
Batch:2019-22/4 LPA



AMISHA SINGH
LRC R.NO -2230084861
LRC RANK-FE.EWS-116
Batch:2019-22/4 LPA



MD AMIR
LRC R.NO -2230157595
LRC RANK-EWS-777
Batch:2019-22/4 LPA



ANKIT KUMAR
LRC R.NO -2230116113
LRC RANK-UR-2563
Batch:2019-22/4 LPA



NITISH KUMAR OJHA
LRC R.NO -2230138976
LRC RANK-EWS-460
Batch:2019-22/4 LPA



VINAY KUMAR
LRC R.NO -2230054411
LRC RANK-ST-88
Batch:2019-22/4 LPA



ALOK KUMAR
LRC R.NO -2230044583
LRC RANK-UR-481
Batch:2019-22/4 LPA



SITAM KUMARI
LRC R.NO -2230063426
LRC RANK-FE.SC-141
Batch:2019-22/4 LPA



KANAK PRIYA
LRC R.NO -2230044296
LRC RANK-FE.UR-1063
Batch:2019-22/4 LPA


Congratulations!

 www.gemspolytechnic.edu.in

SL. NO	REGISTRATION NO	NAME	BATCH	LRC ROLL NO.	RANK	POST	PACKAGE
1	1991515006	Nargis Parween	2015- 2018	JEA/0008252	Working Since 4 Years	SPECIAL SURVEY AMIN	6 LPA
2	1991515052	Shagufta Ali	2015- 2018	2230126696	FE.EBC-28 7	SPECIAL SURVEY AMIN	4 LPA
4	1991516007	Neha Kumari	2016- 2019	2230146302	FE.SC-123	SPECIAL SURVEY AMIN	4 LPA
5	1991516008	Pappu Kumar	2016- 2019	2230024844	SC-481	SPECIAL SURVEY AMIN	4 LPA
6	1991516009	Priyanka Kumari	2016- 2019	2230014838	FE.UR-738	SPECIAL SURVEY AMIN	4 LPA
7	1991516012	Subash Kumar	2016- 2019	2230069865	SC-348	SPECIAL SURVEY AMIN	4 LPA
8	1991516016	Rahul Raj	2016- 2019	2230023348	BC-1655	SPECIAL SURVEY AMIN	4 LPA
9	1991516401	Reema Kumari	2016- 2019	2230072755	DQ-100	SPECIAL SURVEY AMIN	4 LPA
10	1991516601	Situ Kumari	2016- 2019	2230039776	FE.EBC-21 6	SPECIAL SURVEY AMIN	4 LPA
11	1991517006	Shiva Nisant	2017-2020	2230126040	SC-919	SPECIAL SURVEY AMIN	4 LPA
12	1991518001	Sakshi Singh	2018-2021	2230054583	FE.BC-551	SPECIAL SURVEY AMIN	4 LPA
13	1991518002	Nisha Kumari	2018-2021	2230071332	FE.UR-244	SPECIAL SURVEY AMIN	4 LPA

14	1991518010	Upkar Chandra	2018-2021	2230024902	SC-460	SPECIAL SURVEY AMIN	4 LPA
15	1991518601	Anjali Kumari	2018-2021	2230013744	FE.SC-200	SPECIAL SURVEY AMIN	4 LPA
16	1991519003	Archana Kumari	2019-2022	2230092778	FE.BC-526	SPECIAL SURVEY AMIN	4 LPA
17	1991519004	Sandhya Kumari	2019-2022	2230024360	FE.SC-168	SPECIAL SURVEY AMIN	4 LPA
18	1991519005	Juli Singh	2019-2022	2230055538	FE.UR-928	SPECIAL SURVEY AMIN	4 LPA
19	1991519006	Rashmi Raj	2019-2022	2230031765	FE.BC-376	SPECIAL SURVEY AMIN	4 LPA
20	1991519016	Jayant Kumar	2019-2022	2230079139	SC-740	SPECIAL SURVEY AMIN	4 LPA
21	1991519017	Himanshu Kumar	2019-2022	2230028257	UR-198	SPECIAL SURVEY AMIN	4 LPA
22	1991519024	Anish Kumar Singh	2019-2022	2230165628	EWS-270	SPECIAL SURVEY AMIN	4 LPA
23	1991519026	Saurabh Pandey	2019-2022	2230079817	EWS-749	SPECIAL SURVEY AMIN	4 LPA
24	1991519028	Raj Nandani Raj	2019-2022	2230033460	FE.BC-524	SPECIAL SURVEY AMIN	4 LPA
25	1991519029	Amisha Singh	2019-2022	2230086861	FE.EWS-16	SPECIAL SURVEY AMIN	4 LPA
26	1991519033	MD Amir	2019-2022	2230157595	EWS-777	SPECIAL SURVEY AMIN	4 LPA

27	1991519034	Ankit Kumar	2019-2022	2230116213	UR-2563	SPECIAL SURVEY AMIN	4 LPA
28	1991519044	Nitish Kumar Ojha	2019-2022	2230138976	EWS-460	SPECIAL SURVEY AMIN	4 LPA
29	1991518017	Vinay Kumar	2019-2022	2230054611	ST-88	SPECIAL SURVEY AMIN	4 LPA
30	1991518602	Khushboo Kumari	2019-2022	2230173325	FE.BC-422	SPECIAL SURVEY AMIN	4 LPA
31	1991519402	Alok Kumar (LE)	2019-2022	2230064583	UR-881	SPECIAL SURVEY AMIN	4 LPA
32	1991519401	Sitam Kumari (LE)	2019-2022	2230063426	FE.SC-141	SPECIAL SURVEY AMIN	4 LPA
33	1991519601	Kanak Priya (LE)	2019-2022	2230044296	FE.UR-106 3	SPECIAL SURVEY AMIN	4 LPA

4.7.1 Professional societies/ student chapters and organising technical events (10)

A. Availability of Professional Societies/Chapters & Relevant activities (5)

In the Department of Civil Engineering at GEMS Polytechnic College, we actively encourage students to participate in various professional societies and department associations. These platforms provide students with opportunities for skill development, networking, and enhancing their knowledge. Here are the key organisations and their relevant activities:

Professional Societies / Chapters:

Sl. No	Name of the Professional Society	Institutional Membership	Student Chapter Membership	Number of Students Registered (https://docs.google.com/spreadsheets/d/1cHHckEuBEG_q6jN1vw18fNCQWoKokspGUyJqamCZ-g0/edit?usp=sharing)
1	Indian Society for Technical Education (ISTE)	IM-2867	BH-09	28

BH - 09

The Indian Society for Technical Education



FOUNDED 1968

Devoted to Promotion of Quality and Standards in Technical Education

*This is to certify that
the Executive Council has approved the formation of an*

ISTE STUDENT CHAPTER

at

**GEMS POLYTECHNIC COLLEGE
AURANGABAD, BIHAR**

*With all privileges granted by the Consitution of
the Society*



2021

Executive Secretary, ISTE

Relevant Activities:

Technical Quiz:

ISTE conducts regular technical quizzes, allowing students to test their knowledge and problem-solving skills.

Department of
CIVIL ENGINEERING

IS ORGANIZING

TECHNICAL SYMPOSIUM

Quiz

CIVIL TECH 2022

EVENTS :

- PAPER PRESENTATION
- POSTER PRESENTATION
- QUIZ COMPETITION

Organizer
Mr. Samuel Prakash Swami
HOD, CIVIL

Faculty Coordinator
● Mr. Victor Emmanuel
● Mrs. Chinthiya
● Mr. Sujin P

SATURDAY 3rd SEPTEMBER

"Let's see who will be the **WINNER**"

Major attraction:- Winner will be honoured with certification

Project Expo:

Students can showcase their innovative projects in Project Expos, fostering creativity and teamwork.



Guest Lectures:

We invite experts and industry professionals to deliver insightful guest lectures, exposing students to real-world applications of their studies.



Webinars:

ISTE organizes webinars on various engineering topics, ensuring that students are up-to-date with the latest industry trends and technologies.

**Department Associations:**

Name of the Association:

BUILD-UP

Relevant Activities:

Orientation Program:

At the beginning of each academic year, BUILD-UP conducts an orientation program for first-year students. This program helps newcomers become acquainted with the department, faculty, and their peers, ensuring a smooth transition into college life.



Farewell Program:

BUILD-UP organises a heartfelt farewell program for final-year students, bidding them adieu as they prepare to embark on their professional journey. Its a memorable event that acknowledges their contribution to the department.



Guest Lectures:

We regularly host guest lectures, where industry experts and alumni share their experiences and insights, bridging the gap between academia and the practical world.

Participating in these societies and associations not only enriches students' academic experiences but also equips them with valuable skills and networks that are essential for their future careers. These activities contribute to the holistic development of students in the Department of Civil Engineering at GEMS Polytechnic College.

Office Bearers of the Association CAY (2023-2024)			
Sl.No	Name of the Student	Designation	Class
1.	Ms.Anshu maurya	Student Chairman	3rd year
2.	Mr.Vishwa Ranjan bharti	Student Vice Chairman	3rd year
3.	Mr.Vickey bhatiya	Student Secretary	3rd year
4.	Ms.Chandani kumari	Joint Secretary	3rd year
5.	Ms.Rohit kumar	Treasurer	3rd year
6.	Ms.Anjali	Executive Member	2nd year
7.	Mr.Arsh kumar	Executive Member	2nd year
8.	Mr.Roushan kumar	Executive Member	2nd year

Office Bearers of the Association CAYm1 (2022-2023)			
Sl.No	Name of the Student	Designation	Class
1.	Mr.Faiz ahmad faiz	Student Chairman	3rd year
2.	Mr.Rajnish kumar	Student Vice Chairman	3rd year
3.	Mr.Aman kumar	Student Secretary	3rd year
4.	Ms.Rinky kumari	Joint Secretary	3rd year
5.	Mr.Avinash kumar	Treasurer	3rd year
6.	Ms.Anshu maurya	Executive Member	2nd year
7.	Mr.Vishwa Ranjan bharti	Executive Member	2nd year
8.	Mr.Vickey bhatiya	Executive Member	2nd year

Office Bearers of the Association CAYm2 (2021-2022)			
Sl.No	Name of the Student	Designation	Class
1.	Mr.Jayant kumar	Student Chairman	3rd year
2.	Ms.Rashmi raj	Student Vice Chairman	3rd year
3.	Mr.Anish kumar	Student Secretary	3rd year

4.	Mr.Atish kumar	Joint Secretary	3rd year
5.	Ms.Archana kumari	Treasurer	3rd year
6.	Mr.Aman kumar	Executive Member	2nd year
7.	Mr.Rajnish kumar	Executive Member	2nd year
8.	Mr.Faiz ahmad faiz	Executive Member	2nd year

B. Number, quality of engineering events (5)

Professional Excellence in Engineering:

At the Department of Civil Engineering, GEMS Polytechnic College, we take pride in our numerous high-quality engineering events. These events, meticulously organised and executed, serve as dynamic platforms for knowledge exchange, networking, and skill development. Our commitment to professional activities enriches the academic journey, ensuring our students are well-prepared for the challenges of the engineering world.

List of Event / Activities under Professional Society:

(<https://docs.google.com/document/d/1gcJw7VJA0wzvWkNpeV8QzOAFrXMmfFsVDiyHWEYm9Y/edit?usp=sharing>)

Sl.No	Date	Name of the Event / Activity	Name of the resource person with Designation
1.	20-12-2023	Workshop on Entrepreneurship skill, behaviour and attitude	Mr.Vishal Nair, Co-founder, light salt pvt ltd.
2.	10-08-2022	Association day, SMART WORLD TRANSPORTATION	Mr. Abner Gulman, PGD Rail and Metro Technology Consultant at Bahwan Cybertek
3.	03-09-2022	Technical Symposium	Mr. Samuel Prakash Swami, HOD in Civil Engineering Department, GEMS Polytechnic College.
4.	24-09-2022	Interdepartmental competition	Mr. Anil Kolli, HOD in Mechanical Engineering Department, GEMS Polytechnic College

List of Events / Activities under the Department Association:

Sl.No	Date	Name of the Event / Activity	Name of the resource person with Designation
1.	02-04-2022	Orientation Programme 2020-2023	Mr. Rama Gopal Chella, Principal, GEMS Polytechnic College Mr. Ranjith Choudary Dean of Academics, GEMS Polytechnic College
2.	05-05-2022	Entrepreneur Opportunity in civil Engineering	Dr.Ashok kumaravel, M.E,(PhD).A.I.V PROJECT MANAGER (National Highway Authority Of India)
3.	28-05-2022	Farewell 2019-2022	Mr. Samuel Prakash Swami, HOD in Civil Engineering Department, GEMS Polytechnic College.
4.	08-08-2022	Departmental Symposium	Mr. Samuel Prakash Swami, HOD in Civil Engineering Department, GEMS Polytechnic College.
5.	17-10-2022	Project Exhibition	Mr. Baskar sir and Mr. Christopher sir (EXECUTIVE DIRECTOR,GEMS)
6.	05-12-2022	Seminar on water proofing	Er. Samson Suresh Civil Engineer, Consultant @ waterproofing
7.	20 -12-2022 to 24 -12-2022	Add on course on REVIT Architecture	Mr. Jerushan J Teaching Research Assistant , Dept. of Civil Engineering Karunya University, Coimbatore
8.	10-12-2022	Alumni Meet 2022	Mr. Stephen Daniel and Dr. Leela Stephen (GEMS PRINCIPAL,Bhabua)
9.	25-11-2022	Orientation Programme 2021-2024	Mr. Rama Gopal Chella, Principal, GEMS Polytechnic College Mr. Ranjith Choudary Dean of Academics,

			GEMS Polytechnic College
10.	28-05-2023	Farewell 2020- 2023	Mr. Samuel Prakash Swami, HOD in Civil Engineering Department, GEMS Polytechnic College.
11.	22-06-2023	Orientation Programme 2022-2025	Mr. Rama Gopal Chella, Principal, GEMS Polytechnic College Mr. Ranjith Choudary Dean of Academics, GEMS Polytechnic College
12.	10-10-2023	Orientation in Recent Trends in Civil Engineering	Mr. Samuel Prakash Swami, HOD in Civil Engineering Department, GEMS Polytechnic College.
13.	09-10-2023	Orientation in Civil Engineering scope and Instructions	Mr. Samuel Prakash Swami, HOD in Civil Engineering Department, GEMS Polytechnic College.
14.	06-11-2023	Enhancing the Service Life of RCC Structures by anActive Technique	Dr. Kanda samy, Assoc.Prof, Civil Dept, R&D institute of science and Technology
15.	20-12-2023	Entrepreneurship and Innovation as a career opportunity	Mr.Vishal Nair, Co-founder, light salt pvt limited.
16.	29-02-2024	Site Visit on Framed Structure	Mr. Sujin P, Lecturer, Department of Civil Engineering, GEMS Polytechnic College.
17.	16-04-2024	Site Visit on Overview of Highway	Mr. Daniel Swami, Senior Lecturer, Department of Civil Engineering, GEMS Polytechnic College.

4.7.2 Publication of technical magazines, newsletters, etc. (5)

A. Quality & Relevance of the contents and Print Material (3)

In our relentless pursuit of knowledge dissemination and fostering a culture of learning and innovation, the Department of Civil Engineering at GEMS Polytechnic College proudly presents "BUILD-UP" – our semi-annual technical newsletter.

Newsletter Details:

Name: BUILD-UP

Publication Period: Half-Yearly

Academic year	News Letter	Publication Details
2023-2024 <i>(Odd Semester)</i>	BUILD-UP <i>A Half yearly Newsletter</i>	Volume: 6, Issue: 1 Edition: July- Dec
2022-2023 <i>(Even Semester)</i>	BUILD-UP <i>A Half yearly Newsletter</i>	Volume: 5, Issue :1 Edition: Jan- June
2022-2023 <i>(Odd Semester)</i>	BUILD-UP <i>A Half yearly Newsletter</i>	Volume: 4, Issue: 2 Edition: July- Dec
2021-2022 <i>(Even Semester)</i>	BUILD-UP <i>A Half yearly Newsletter</i>	Volume:3, Issue :1 Edition: Jan- June
2021-2022 <i>(Odd Semester)</i>	BUILD-UP <i>A Half yearly Newsletter</i>	Volume: 2, Issue: 2 Edition: July- Dec
2020-2021 <i>(Even Semester)</i>	BUILD-UP <i>A Half yearly Newsletter</i>	Volume:1, Issue :1 Edition: Jan- June

Quality and Relevance of Contents:

Our newsletter, BUILD-UP, stands as a testament to our commitment to provide valuable and relevant content to our students and faculty. Here's what sets BUILD-UP apart:

Eco-Friendly Approach:

In an effort to minimise our ecological footprint, we have adopted an eco-friendly approach to the printing process. We limit the number of physical copies, focusing on sustainability, and sparing resources. Printed copies are meticulously preserved within the department for future reference.

Digital Distribution:

To ensure that our content reaches the widest possible audience, we have adopted a digital distribution model. Each issue of BUILD-UP is converted into PDF format. These PDF copies are then distributed to both students and faculty through their official email accounts and official WhatsApp groups.

Content Highlights:

The contents of BUILD-UP are carefully curated to cater to the diverse interests and informational needs of our readers.

Our newsletter typically features:

Technical Articles:

In-depth articles authored by both students and faculty, exploring various facets of mechanical engineering, current industry trends, and research developments.

Student Spotlights:

Highlighting exceptional student achievements, projects, and experiences within the department.

Faculty Contributions:

Sharing the knowledge and expertise of our esteemed faculty members, covering topics of academic and industrial relevance.

Alumni Stories:

Narratives from our successful alumni who share their journeys and provide insights for the aspiring engineers.

Upcoming Events:

Announcements of departmental seminars, workshops, and other academic events to keep our community informed.

Student and Faculty Achievements:

Recognizing and celebrating the accomplishments of our talented individuals.

GEMS POLYTECHNIC COLLEGE**DEPARTMENT OF
CIVIL ENGINEERING****BUILD-UP BULLETIN****Volume : 2 Issue : 2****July-Dec, 2021****Editorial**

Greetings and a warm welcome to Volume-2, Issue-2 of GEMS Built-Up Bulletin, dedicated to tailored for the dynamic community of the Civil Engineering Department at Gems Polytechnic College. As we embark upon this edition, we embrace the essence of a new academic year—a canvas of possibilities where innovation thrives and aspirations find wings to soar.

ABOUT THE DEPARTMENT:

The Department of Diploma in Civil Engineering was established in the year 2015. It is a professional engineering discipline that deals with the design, construction and maintenance of the physical and naturally built environment including public works. The length of study is three years; the curriculum generally includes classes in basic science, mathematics, project management, design and specific topics in civil engineering.

VISION OF THE DEPARTMENT

Empowering the students in technical education and Excel those in the field of Civil Engineering with concern of socio-economic development of region, state and nation.

**MISSION OF THE DEPARTMENT**

- To inculcate ethical and moral values among the students.
- To encourage students to pursue higher education and take competitive exams.
- To establish the Centers of Excellence in emerging area of research.

BUILD-UP is not just a newsletter; its a platform that showcases the brilliance and innovative spirit within the Department of Civil Engineering at GEMS Polytechnic College. Through our eco-conscious approach, we aim to conserve resources and ensure that knowledge is readily accessible to all, furthering our commitment to learning and sustainability

B. Participation of Students from the program (2)

Our department's technical newsletter is a collective effort that thrives on the contributions of both faculty and students. This collaborative initiative not only disseminates knowledge but also nurtures a sense of community and engagement within the Department of Civil Engineering.

The editorial board, consisting of five members, plays a pivotal role in curating and creating these informative publications.

Editorial Board Composition:

Editorial Role	Responsible Persons	Responsibilities
Chief Editors	Mr.Samuel Prakash Swami, Head of the Department Mr.Sujin P, Lecturer	The Chief Editor, often a senior faculty member, oversees the entire publication process. They provide guidance, ensure the quality of content, and maintain the overall consistency of the newsletter.
Faculty Advisors:	Class Advisor 1. Mr. Sujin P (1st year) 2. Mrs.Chinthiya (2nd year) 3. Ms.Jenisha (3rd year)	A faculty advisor works closely with the editorial team and serves as a mentor to student contributors. They offer valuable insights, helping students refine their articles and contributions.
Student Editors:	1. Pratyam Prakash(3rd year) 2. Nishikant kumar (2nd year) 3. Satyam Kumar (1st year)	The student editor, typically an experienced student from the department, collaborates with faculty and students to coordinate the newsletter's content. They ensure that articles are on-topic and align with the publication's objectives.
Student Writer / Contributor:	1. Vickey bhatiya (3rd year) 2. Supriya (2nd year) 3. Shivani Kumari (1st year)	Students actively engage in creating content for the newsletter. They craft articles, reports, and pieces that reflect their insights, experiences, and interests in Civil Engineering.

		These contributions may include research findings, project updates, or reflections on department activities.
Design and Layout Specialist:	Mr.Ravi Ranjan kumar, Teaching Assistant.	A design and layout specialist, often a student with graphic design skills, is responsible for the visual presentation of the newsletter. They ensure that the publication is visually appealing, easy to read, and professional in its layout.

Participation of Students in the Publication of Technical Newsletters:'

Our department strongly encourages students to actively participate in the publication of technical newsletters. Here's how students can get involved:

Article Contributions:

Students can contribute articles on topics related to Civil Engineering , including their research findings, project updates, or personal experiences. These contributions are invaluable for sharing knowledge and fostering a sense of camaraderie.

Editorial Team Roles:

Students have the opportunity to join the editorial team, taking on roles such as student editor, writer, or design specialist. These roles not only enhance their writing and design skills but also provide a chance to influence the content and aesthetics of the newsletter.

Peer Review:

Students can engage in the peer review process, offering constructive feedback on articles and content submitted by their peers. This involvement ensures the quality and accuracy of the publication.

Department Events Coverage:

Students can report on departmental events, seminars, workshops, and activities. These reports help capture the essence of department life and highlight the achievements and endeavours of their fellow students.

Highlighting Excellence:

Acknowledging top performers in End Semester examinations, college toppers, champions in inter-college competitions, and the finest final year projects.

The active participation of students not only enriches the content of our technical newsletters but also fosters a sense of ownership and pride in their departments' publications. It's a collaborative effort that strengthens the academic and creative bonds within the Department of Civil Engineering at GEMS Polytechnic College.

4.7.3 Participation in inter-institute / state/national events by students of the program of study (5)**Empowering Excellence Beyond Borders:**

Students in the Department of Civil Engineering at GEMS Polytechnic College actively engage in a wide array of inter-institute, state, and national events. These young talents enthusiastically participate in competitions, technical symposia, and innovation challenges, showcasing their skills and knowledge on regional and national platforms. Their dedication and achievements contribute significantly to the reputation of our institution, inspiring future leaders in the field of Civil Engineering

Participation in inter-institute / state/national events by students of the program of study:

Academic Year: 2023-2024						
S.no.	Name of the student	SBTE Register No.	Event Description	Event Level (Inter-institute/ State/National)	Name of the Participating Institute / Organisation	Participated / Prize Won
1	Rohit Kumar	1991521019	Sports Meet 2023	District level	Sityog Institute of technology, Aurangabad,Bihar	Winner in Cricket
2	Abhijit Kumar	1991522001	Sports Meet 2023	District level	Sityog Institute of technology, Aurangabad,Bihar	Winner in Cricket
3	Niraj Kumar	1991522025	Sports Meet 2023	District level	Sityog Institute of technology, Aurangabad,Bihar	Winner in Cricket
4	Gaurav Kumar	1991522018	Sports Meet 2023	District level	Sityog Institute of technology, Aurangabad,Bihar	Winner in Cricket
5	Komal Kumari	1991522022	Sports Meet 2023	District level	Sityog Institute of technology, Aurangabad,Bihar	Runner up in Kabbadi

Academic Year minus 1: 2022-2023						
S.no.	Name of the student	SBTE Register No.	Event Description	Event Level (Inter-institute/ State/National)	Name of the Participating Institute / Organisation	Participated / Prize Won
1	Mr.Faiz Ahmad faiz	1991520043	State Level science and art exhibition for diploma students in Bihar	State level science and art exhibition	Sityog Institute of technology, Aurangabad,Bihar	1st prize in Art Exhibition
2	Mr.Aman raj	1991521027	State Level science and art exhibition for diploma students in Bihar	State level science and art exhibition	Sityog Institute of technology, Aurangabad,Bihar	1st prize in Art Exhibition
3	Mr.Sudhanshu kumar	1991521046	State Level science and art exhibition for diploma students in Bihar	State level science and art exhibition	Sityog Institute of technology, Aurangabad,Bihar	1st prize in Art Exhibition
4	Mr.Vishwa Ranjan bharti	1991521048	State Level science and art exhibition for diploma students in Bihar	State level science and art exhibition	Sityog Institute of technology, Aurangabad,Bihar	1st prize in Art Exhibition

Criterion 5

Faculty Information and Contributions

5 FACULTY INFORMATION AND CONTRIBUTIONS (150)

Name	University Degree	Area of Specialization	Contribution to the program(% load)			Research Paper Publications	Faculty receiving Ph.D/ M.Tech during the Assessment year	Current Designation	Initial Date of Joining	Association Type	At present working with the Institution(Yes/No)	In case of NO, Date of Leaving	IS Principal?
			CAY (2023-24)	CAYm1 (2022-23)	CAYm2 (2021-22)								
Samuel Prakash Swami	M.TECH	Highway Engineering	100	100	100	5		HOD	17/03/2020	Regular	Yes		No
Daniel Swami	M.TECH	Highway Engineering	100	100	100	4		Sr.Lecturer	17/07/2020	Regular	Yes		No
Chinthiya S	M.E	Structural Engineering	100	100	100	3		Sr.Lecturer	22/07/2019	Regular	Yes		No
Sujin P	B.E	Civil	100	75	0	2		Lecturer	01/04/2022	Regular	Yes		No
Jensika Rani J	M.E	Structural Engineering	75	0	0	4		Sr.Lecturer	21/07/2023	Regular	Yes		No
Jenisha	M.E	Construction Engineering & Management	100	0	0	2		Lecturer	01/11/2023	Regular	Yes		No
Chiruguri Victor Emmanuel	M.E/M.Tech	Structural Engineering	0	25	100	3		Lecturer	28/10/2021	Regular	No	03/11/2023	No
Rajat Kumar	M.E/M.Tech	Highway Engineering	0	75	34	3		Sr.Lecturer	17/07/2020	Regular	No	31/03/2023	No
Merlin Freeda J	M.E/M.Tech	Structural Engineering	0	0	100	2		Lecturer	18/02/2021	Regular	No	30/04/2022	No
Jaslin Christy S	MA (English)	English	0	40	33			Lecturer	24/06/2019	Regular	No	05/08/2023	No
Arun Pandian P	B.E	Mechanical Engineering	50	0	0			Sr.Lecturer	22/07/2019	Regular	Yes		No
Himanshu Kumar Singh	B.E	Bio-Technology	80	30	20			Sr.Lecturer	13/02/2017	Regular	Yes		No
Kukkamalla Velangi Babu	MSc Physics	Physics	36	33	0			Lecturer	16/12/2021	Regular	Yes		No
Kumar	B.Tech	Computer Science and Engineering	36	0	0			Lecturer	22/06/2023	Regular	Yes		No
Catharine	BE	Electronics and Communication Engineering	53	0	0			Lecturer	19/07/2021	Regular	Yes		No
Maxmark Horo	B.Tech	Mechanical Engineering	13	0	0			Lecturer	01/09/2023	Regular	Yes		No
Ketu Kumar Sahitya	B.E/B.Tech	Electrical and Electronics Engineering	0	25	25	2		Lecturer	14/06/2021	Regular	Yes		No
Ravi Kumar Saksena	B.E/B.Tech	Mechanical Engineer	0	0	30	1		Lecturer	16/07/2018	Regular	Yes		No
Yogesh C	M.Sc (Maths)	Mathematics	0	0	25			Lecturer	15/10/2020	Regular	No	27/10/2022	No
Karnika Vijaya Bhaskar	B.E/B.Tech	Electrical and Electronics Engineering	0	0	50			Lecturer	31/07/2019	Regular	No	28/05/2022	No
Vivek Kumar	M.E/M.Tech	Software Engineering	0	0	30			Sr.Lecturer	06/05/2019	Regular	No	04/09/2023	No

Sudhir Kumar	B.E/B.Tech	Mechanical Engineering	0	0	25	1		Lecturer	04/02/2019	Regular	Yes		No
Daddanala Sanjeeva Kumar	M.Sc (Maths)	Mathematics	0	20	0			Lecturer	12/11/2020	Regular	Yes		No
Anugrah Ashish Kumar	B.E/B.Tech	Electronics and Communication Engineering	0	25	0	1		Lecturer	01/12/2022	Regular	Yes		No
Anil Kolli	B.E/B.Tech	Mechanical Engineering	0	50	0	1		HOD	09/05/2016	Regular	Yes		No
Jeganraj I	M.E/M.Tech	Avionics	0	50	33			Sr.Lecturer	08/06/2015	Regular	No	28/10/2023	No

5.1 Student-Faculty Ratio (SFR) (25)

Year	N	F	SFR=N/F
2023-24(CAY)	160	8.43	18.98
2022-23(CAYm1)	160	7.48	21.39
2021-22(CAYm2)	163	8.03	20.25

Average SFR : 20.20

Assessment SFR : 25

5.1.1. Provide the information about the regular and contractual faculty as per the format mentioned below:

	Total number of regular faculty in the department	Total number of contractual faculty in the department
2023-24(CAY)	12	0
2022-23(CAYm1)	13	0
2021-22(CAYm2)	15	0

5.2 Faculty Qualification (25)

5.2.1 Faculty Qualification Index (20)

	X	Y	F	$FQ = 2 \times [(10X + 7Y) / F]$
2023-24	5	1	6.00	19
2022-23	4	3	6.00	20.33
2021-22	6	2	6.00	24.67

Average Assessment : 20.22

5.2.2 Availability of Faculty/principal of that discipline with PhD. Qualification (5)

S.No	Name of the Faculty	Area of Specialization/Topic	Date of Registration	No.of Publication
1.	Ms.Jensika Rani J	Civil Engineering- Topology optimization of structural elements	7/01/2020 (Pursuing)	4

5.3 Faculty Retention (20)

Description	2022-23 (CAYm1)	2023-24 (CAY)
No of Faculty Retained	7	4
Total No of Faculty	13	12
% of Faculty Retained	54	33

Average : 43.2

5.4 Faculty as participants in Faculty development/training activities conducted by other organizations (30)

Name of the faculty	Max 5 Per Faculty		
	2021-22 (CAYm2)	2022-23 (CAYm1)	2023-24 (CAY)
Chinthiya S	2	3	5
Daniel Swami	3	2	5
Samuel Prakash Swami	3	2	5
Sujin P	2	5	5
Jensika Rani	0	0	5
Chiruguri Victor Emmanuel	0	3	0
Ravi Kumar Saksena	2	0	0
Karnika Vijayabhaskar	2	0	0
Ketu Kumar Sahitya	2	0	0
Anil kolli	0	2	5
Merlin Freeda J	3	0	0
Vivek Kumar	0	3	0
Sum	19	20	30
RF = Number of Faculty required to comply with 25:1 SFR as	6.52	6.40	6.40
Assessment [$6 * (\text{Sum} / 0.5\text{RF})$](Marks limited to 30)	30	30	30

Average assessment over 3 years (Marks limited to 30): 20

5.4. a. Organized/ Conducted FDPs and STTP by this department at State / National Level (12)

S.N O	ACADEMI C YEAR	PROGRAM CONDUCTED DATE		PROGRA M TYPE (WORKS HOP / FDP / STTP)	NAME OF THE PROGRAMME	PROGRA M LEVEL (STATE / NATIONA L)	RESOURCE PERSONS / INSTITUTIONS/ ORGANIZATION S
		FROM	TO				
1	2022-202 3	20/11/202 3	21/11/2023	FDP	Two days FDP on NBA Orientation on SAR	STATE LEVEL	Dr.Vijayalaxmi Birdar, Kalinga University Chhattisgarh
2	2022-202 3	06/11/202 3	10/11/2023	FDP	One-week Virtual Faculty Development Program (FDP) on "BLENDER"	NATIONA L	Spoken Tutorial, IIT Bombay
3	2022-202 3	17/07/202 3	18/07/2023	FDP	"Paper to digital Quantity take off & Estimating Solution"	STATE LEVEL	Mr. Jerushan J, Teaching Research Assistant in the department of Civil Engineering from Karunya University, Coimbatore.
4	2022-202 3	10/04/202 3	11/04/2023	FDP	Two days FDP on NBA Orientation	STATE LEVEL	Dr.Vijayalaxmi Birdar, Kalinga University Chhattisgarh
5	2022-202 1	20/12/202 1	24/12/2021	FDP	" Revit Architecture"	STATE LEVEL	Mr. Jerushan J, Teaching Research Assistant in the department of Civil Engineering from Karunya University, Coimbatore.
6	2021-202 2	16.04.2021	17.04.2021	FDP	White Cement & its application in Construction Industry	STATE LEVEL	Mr. Rameshwar Singh Zonal Head Customer Technical Service JK Cement ltd. East Zone-2 Patna Bihar

5.5 Product development, Consultancy, Manufacturing contracts, testing contracts (8)

Consultancy in civil engineering involves providing expert advice, guidance, and solutions for various projects and challenges in the field.

As a Department, we have done **consultancy** in various fields:

1. Design and Planning of 2BHK building and layout of various projects.
2. Cost Estimation
3. Quality control and assurance.
4. College Building Maintenance work

Testing Contracts:

1. Material Testing of sand, brick, aggregates, and reinforcement generated revenue of 2500/-
2. Report and documentation of the Testing contracts typically require detailed reporting of test results, analysis, and recommendations for further action.

Consultancy in civil engineering involves providing expert advice, guidance, and solutions for various projects and challenges in the field.

As a Department, we have done **consultancy** in various fields:

1. Design and Planning of 2BHK building and layout of various projects.
2. Cost Estimation
3. Quality control and assurance.
4. College Building Maintenance work

Testing Contracts:

1. Concrete Cube Test and generated revenue of 1000/-
2. Report and documentation of the Testing contracts typically require detailed reporting of test results, analysis, and recommendations for further action.

5.6 Faculty Performance Appraisal and Development System (FPADS) (30)

A. A well-defined FPADS instituted for all the assessment years (5)

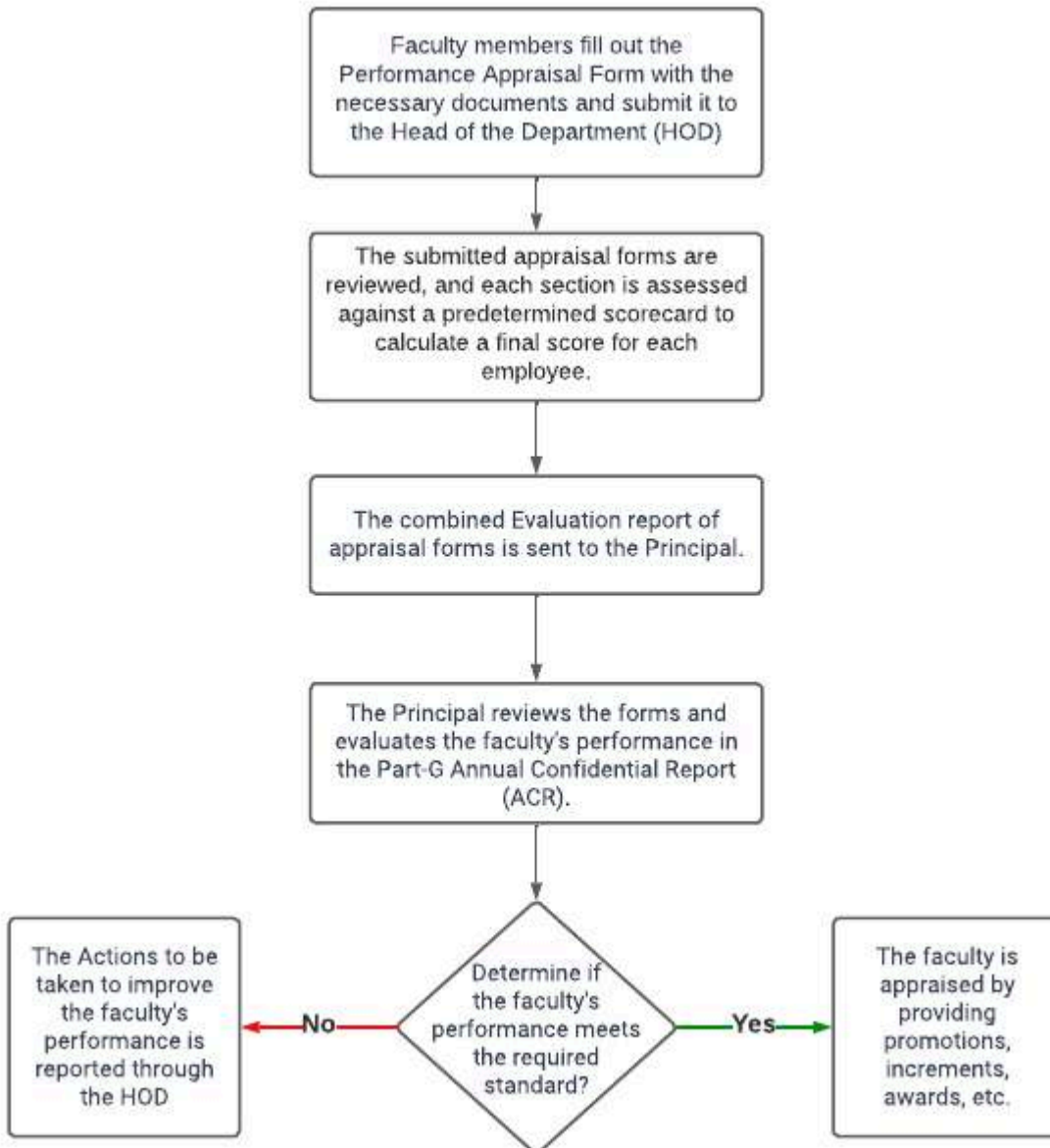
GEMS Polytechnic College ensures the highest education and faculty performance standards. We have established the Annual Faculty Performance Appraisal and Development System (AFPADS) for all assessment years to achieve this. This transparent system assesses the performance of our faculty members and provides them with valuable feedback while considering career progression opportunities.

Operating Authorities:

- The Director
- The Principal
- The Dean of Academics
- Head of the Department (HoD)
- Human Resource Officer

Summary of FPADS Points

Part	Parameters	Max. Points	
A	Educational Qualification & Experience (Max 20 Points)		
	A.1	Educational Qualifications	10
	A.2	Experience	10
B	Teaching & Learning Process (Max 150 Points)		
	B.1	Teaching, Learning & Evaluation Process	50
	B.2	Students' feedback	50
	B.3	Result Analysis	50
C	Research & Development (Max 50 Points)		
	C.1	Awards / Honours & Membership in Professional Societies/Bodies	10
	C.2	Online Certification Courses / Attended FDP, Workshop	10
	C.3	Research Paper /Books / Chapter Publications	10
	C.4	NITTT Trainings Certificate	10
	C.5	Consultancy	10
D	Department Development Activities	60	
E	Institute Development Activities	50	
F	Contribution to Society	50	
G	ACR	20	
Total (Max Points 400)		400	
Total Appraisal score on 10 Point scale		10	



B. Its implementation and effectiveness (15)

Operating Procedure

Our AFPADS operates as follows:

Eligibility:

Faculty members who have completed one year of employment at our institution are eligible for the annual performance appraisal program.

Communication:

- At the beginning of each academic year, we circulate a detailed circular outlining the objectives and the process of the Performance Appraisal Program to all employees.

Appraisal Form:

- Employees are required to fill out the Performance Appraisal Form, which assesses them on various parameters, including job proficiency, interpersonal relationships, communication skills, and attitude.

Evaluation:

- The submitted appraisal forms are evaluated, and each field is weighted against a predetermined scorecard to calculate the final score for each employee.

Performance Appraisal Meeting:

- An appraisal meeting is scheduled with each employee. This meeting involves a panel consisting of the Management, including the HoD, Dean of Academics, Principal, and Director, who conduct the appraisal.

Discussion Points:

During the Appraisal Meeting, several crucial areas are discussed, including:

- Review and confirm an understanding of the essential job functions, annual goals, and performance standards.
- Recognizing strengths and achievements.
- Identifying areas requiring improvement and establishing agreements on how to achieve improvement.
- Identifying areas where education, training, or development opportunities are needed, along with strategies for development.
- Discussions and confirmations about the steps the employee and the institution will take to accomplish self-development goals.

Outcome:

Based on the scores from individual performance assessments, the management decides on monetary increments and promotions. This system provides a fair and transparent basis for recognizing and rewarding faculty members for their work and dedication to our institution.

The Annual Faculty Performance Appraisal and Development System (AFPADS) at GEMS Polytechnic College is a cornerstone of our commitment to academic excellence and professional growth, ensuring that our faculty members continue to excel in their roles while pursuing opportunities for advancement within our institution.

C. Details of qualification up-gradation of faculty (10)

Empowering Faculty through Continuous Professional Development:

At GEMS Polytechnic College, we recognize that for our faculty to be effective educators, they must not only be experts in their respective subjects but also proficient in the art of teaching and knowledge dissemination. To address this need continuous improvement, we have implemented a comprehensive program for qualification up-gradation of our faculty, in line with the "National Initiative for Technical Teachers Training (NITTT)" proposed jointly by the Ministry of Human Resource Development (MHRD) and the All India Council for Technical Education (AICTE).

Details of Qualification Up-gradation of Faculty:

National Initiative for Technical Teachers Training (NITTT)

The NITTT initiative focuses on equipping technical teachers with the necessary pedagogical skills to effectively impart knowledge and skills to students. This initiative is vital, especially for faculty members in technical education who play a pivotal role in shaping the future of our students.

Key Features of the NITTT Program:

Eligibility:

All faculty members of AICTE-approved Technical Institutes with less than five years of service are eligible to participate in this initiative. It is particularly beneficial for aspiring teachers in the technical education sector.

Mandatory Stage-I Modules:

For lecturers of Polytechnic colleges who joined after 1st March 2014, there are eight mandatory online modules available on the NITTT platform (www.nittt.ac.in). These modules are designed to enhance the skills and knowledge necessary for effective teaching.

Module 1: Orientation towards Technical Education & Curriculum Aspects (40 hours)

Module 2: Professional Values, Ethics, Ecology & Sustainable Development (40 hours)

Module 3: Communication Skills, Modes, and Knowledge Dissemination (20 hours)

Module 4: Instructional Planning and Delivery (40 hours)

Module 5: Technology-Enabled Learning and Lifelong Self-Learning (40 hours)

Module 6: Effective Modes of Student Assessment and Evaluation (40 hours)

Module 7: Creative Problem Solving, Innovation, and Meaningful R&D (40 hours)

Module 8: Miscellaneous Aspects (Institutional Management & Administrative Procedures) (40 hours)

Certification:

Faculty members must successfully complete the above-mentioned modules, followed by industry and mentor-based training. Certification from NITTT is a crucial aspect

of the qualification up-gradation process, and it is instrumental both for probation and for seeking promotions within the institution.

Support from GEMS Polytechnic College

In line with our commitment to the professional development of our faculty, GEMS Polytechnic College provides financial support for the one-time registration of faculty members on the NITTT portal. This support ensures that our educators have resources and opportunities to enhance their pedagogical skills, fostering a culture of continuous improvement in teaching and knowledge dissemination.

Through the National Initiative for Technical Teachers Training (NITTT) and the support of GEMS Polytechnic College, our faculty members are better equipped to provide high-quality technical education and contribute to the holistic development of our students, ensuring that they are well-prepared for the challenges of the modern world.

List of Teaching Faculties undergoing / Completed NITTT Stage-1 Modules:

Sl.No	Name of the Faculty	Stage-1 Modules	Completion Status
1	Mr.Daniel Swami	Module 1	Completed & Certified
		Module 2	Completed & Certified
		Module 3	Completed & Certified
		Module 4	Completed & Certified
		Module 5	Completed & Certified
		Module 6	Completed & Certified
		Module 7	In Progress
		Module 8	Completed & Certified
2	Mr.Samuel Prakash Swami	Module 1	Completed & Certified
		Module 2	Completed & Certified
		Module 3	Completed & Certified
		Module 4	Completed & Certified
		Module 5	Completed & Certified
		Module 6	In Progress

		Module 7	In Progress
		Module 8	Completed & Certified
3	Mrs.Chinthiya	Module 1	Completed & Certified
		Module 2	Completed & Certified
		Module 3	Completed & Certified
		Module 4	Completed & Certified
		Module 5	Completed & Certified
		Module 6	Completed & Certified
		Module 7	In Progress
		Module 8	In Progress
4	Mr.Sujin P	Module 1	Completed & Certified
		Module 2	Completed & Certified
		Module 3	In Progress
		Module 4	In Progress
		Module 5	In Progress
		Module 6	In Progress
		Module 7	In Progress
		Module 8	In Progress

This certificate is computer generated and can be verified by scanning the QR code given below. This will display the certificate from the NPTEL repository, <https://nptel.ac.in/noc/>

Roll No: NPTEL21GE02S21450078


To
CHINTHIYA
NH-2, JOGIYA MORE
GEMS POLYTECHNIC COLLEGE CAMPUS
AURANGABAD
BIHAR - 824121
PH. NO :91852599948



Score	Type of Certificate
>=90	Elite+Gold
75-89	Elite+Silver
>=60	Elite
40-59	Successfully Completed
<40	No Certificate

No. of credits recommended by NPTEL:1

An additional 1 credit may be awarded if the University deems it fit, based on the actual student effort involved.



Elite

NPTEL Online Certification
(Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to
CHINTHIYA
for successfully completing the course

Effective Engineering Teaching in Practice

with a consolidated score of **73** %

Online Assignments	18.25/25	Proctored Exam	55/75
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Total number of candidates certified in this course: **475**

Devendra Jalihal
Prof. Devendra Jalihal
Chairman
Centre for Continuing Education, IITM

Jan-Feb 2021
(4 week course)

Andrew Thangaraj
Prof. Andrew Thangaraj
NPTEL, Coordinator
IIT Madras

 Indian Institute of Technology Madras



Roll No: NPTEL21GE02S21450078

To validate and check scores: <https://nptel.ac.in/hoc>

List of Teaching Faculties Completed Courses Under NPTEL:

- Our department's teaching faculties have successfully completed courses under the National Programme on Technology Enhanced Learning (NPTEL), enhancing their expertise in diverse technical subjects.
- This accomplishment reflects their dedication to staying abreast of the latest advancements, enriching the quality of education they provide.
- The acquired knowledge from NPTEL courses empowers our faculty members to impart cutting-edge insights and skills to students, fostering a dynamic and forward-thinking learning environment.

S.NO	Name of the Faculty	Title of the FDP Trainings /	Period of FDP / Training Conducted	No.of days	Institute Organised
1	Mr.Daniel Swami	Effective Engineering Teaching practice in	Jan-Feb 2021	4 Weeks	NPTEL
2	Mr.Chinthiya S	Effective Engineering Teaching practice in	Jan-Feb 2021	4 Weeks	NPTEL
3	Mr.Sujin P	Project Planning and Control	July-Sep 2023	8 Weeks	NPTEL



NPTEL Online Certification

(Funded by the MoE, Govt. of India)



This certificate is awarded to
SUJIN P
for successfully completing the course
Project Planning & Control
with a consolidated score of **49** %

Online Assignments	11.38/25	Proctored Exam	37.5/75
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Total number of candidates certified in this course: 554



Prof. Devendra Jalihal
Chairperson,
Centre for Outreach and Digital Education, IITM

Jul-Sep 2023
(8 week course)



Prof. Andrew Thangaraj
NPTEL, Coordinator
IIT Madras



Indian Institute of Technology Madras



Roll No: NPTEL23CE59S44350184

To verify the certificate 

No. of credits recommended: 2 or 3

Faculty ISTE Life Membership Details:

- As a testament to their commitment to professional development, our department faculties have registered for a lifetime membership with the Indian Society of Technical Education (ISTE).
- This affiliation ensures continuous access to cutting-edge resources, fostering a culture of innovation and excellence in technical education within our academic community.
- Through this lifetime membership, our faculty members are poised to contribute significantly to the advancement of teaching methodologies and technological practices in the ever-evolving landscape of technical education.

Faculty ASCE Life Membership Details:

- As a testament to their commitment to professional development, our department faculty has registered for a Proud member for lifetime with the American Society of Civil Engineers (ASCE).
- This affiliation ensures continuous access to cutting-edge resources, fostering a culture of innovation and excellence in technical education within our academic community.
- Through this membership, our faculty members are poised to contribute significantly to the advancement of enhancing the students' knowledge and skills through workshops and webinars.

S.NO	Name of the Faculty	Organization Name	ISTE Membership Number
1	Mr. Samuel Prakash Swami	ISTE	LM-138380
2	Ms. Jensika Rani J	ISTE	LM-138375
S.NO	Name of the Faculty	Organization Name	ASCE Membership Number
1	Ms. Jensika Rani J	ASCE	12323110

Sample ID cards



Indian Society for Technical Education

IIT Delhi Campus, Katwaria Sarai, Shaheed Jeet Singh Marg, New Delhi- 110016
Ph: 011-26963431, 26513542 Web: www.isteonline.in



Name: Samuel Prakash Swami

M.No: LM 138380

Year: 2023

Executive Secretary

LIFE MEMBERSHIP CARD

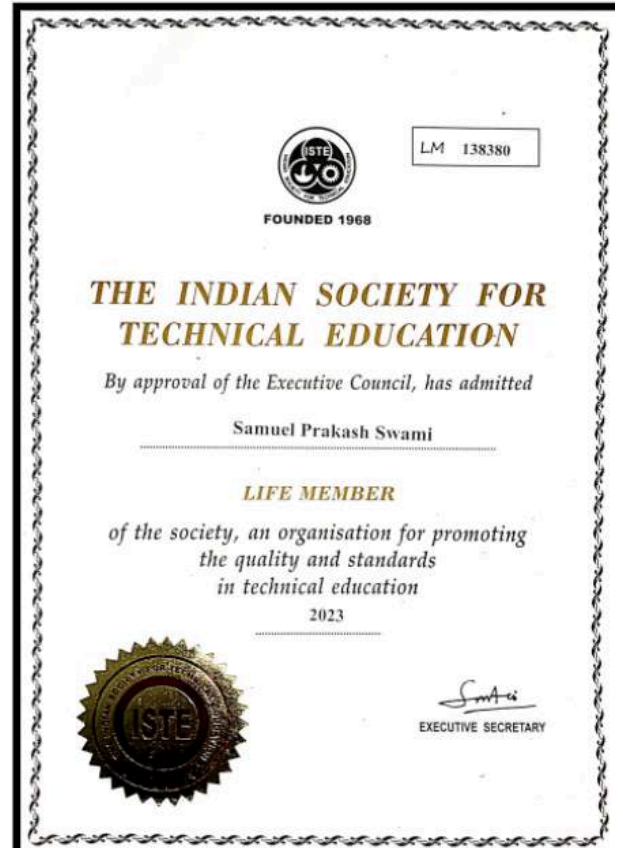
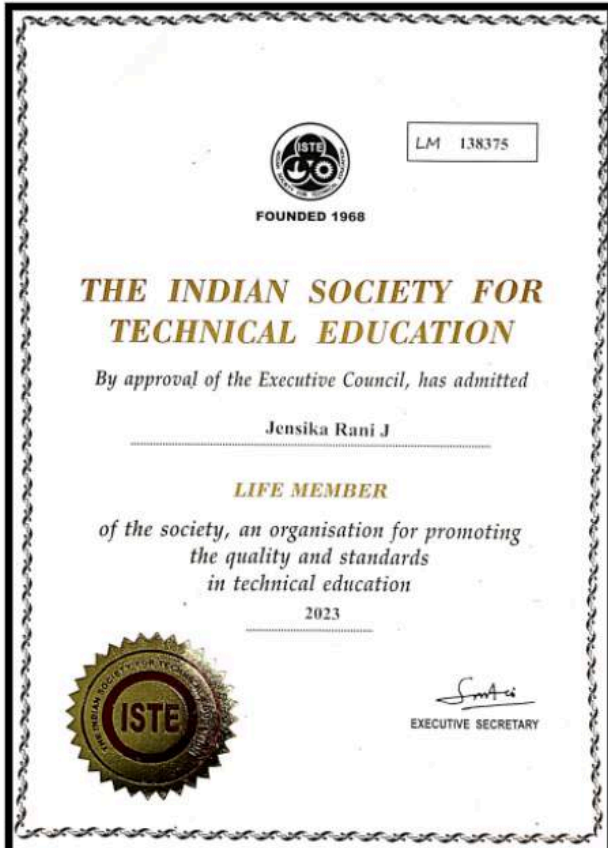
Jensika Rani J, Ph.D., Aff.M.ASCE

PROUD MEMBER OF THE
AMERICAN SOCIETY
OF CIVIL ENGINEERS

Member since 2022

Member I.D. # 12323110

Sample certificate



Criterion 6

Facilities and Technical Support

6 FACILITIES AND TECHNICAL SUPPORT (100)

6.1 Availability of adequate, well equipped classrooms to meet the curriculum requirements (10)

In line with AICTE norms, our Civil Engineering department at GEMS Polytechnic College is equipped with ample and well-furnished classrooms. These facilities are thoughtfully designed to cater to the specific curriculum requirements of the department, ensuring a conducive learning environment for our students.

Sl.No.	Class Room	Carpet Area	Shared / Exclusive	Seating Capacity	Availability of Smart facilities	Weekly utilization
1	1201 - (3rd Year)	66 sqm	Exclusive	60	Black board	6 Days
2	1202 - (2nd Year)	66 sqm	Exclusive	60	Smart Board & marker, Blackboard, Projector, speakers	6 Days
3	1203 - (1st year)	66 sqm	Exclusive	60	Smart Board & marker, Blackboard, Projector, speakers	6 Days
4	Drawing Hall - Workshop III	132 sqm	Shared	60	Black board, Drawing table	5 Days
5	Seminar Hall	448.7 sqm	Shared	1000	Projector and Sound Systems	Once in a Week



6.1.1 Class room 1202 (2nd year)

6.2 Availability of adequate and well-equipped workshops, Laboratories and Technical manpower to meet the curriculum requirements (40)

A. Adequacy (10)

At GEMS Polytechnic College, the Department of Civil Engineering ensures the availability of well-equipped laboratories and workshops to meet the curriculum requirements. Adequate provisions are in place:

Sl.No.	Location	Name of the Labs	Shared / Exclusive
1	Second Floor (1206)	Surveying Laboratory	Exclusive
2	Second Floor (1205)	Building Construction & Construction Materials Laboratory	Exclusive
3	Second Floor (1205)	GeoTechnical Laboratory	Exclusive
4	Second Floor (1206)	Advance Survey Laboratory	Exclusive
5	Ground Floor (1001)	Hydraulics Laboratory	Shared

6	Second Floor (1209 D)	CAD Laboratory	Shared
7	Second Floor (1204)	Theory of Structure Laboratory	Exclusive
8	Second Floor (1204)	Estimating & costing Laboratory	Exclusive
9	Second Floor (1208)	Public Health Engineering Laboratory	Exclusive

Survey Lab Facilities



Dumpy Level



Tilting Level



Theodolite



Auto Level



Plane Table

Hydraulics Lab Facilities



bernoulli's apparatus



centrifugal pump

Geo-Technical Lab



Direct shear test apparatus



Compressive test machine



Los Angeles Abrasion Machine



triaxial shear test apparatus

Public Health engineering Lab & CAD Lab

PHE Lab



CAD Lab



Efficient Equipment: All laboratories are furnished with efficient equipment, enabling students to conduct practical work during scheduled hours and beyond based on their interests. Both SBTE curriculum-prescribed and additional experiments are conducted, enriching the students' practical knowledge.

Organized Storage: Equipment and consumables are stored in designated racks for easy access by faculty, technicians, and students.

Facility and Notice Boards: The laboratories have sufficient furniture, blackboards, and notice boards for effective teaching and information dissemination. Internet LAN connections are provided as needed.

B. Quality of Labs/workshop (20)

The emphasis is on the quality and practical application of knowledge in the laboratories and workshops:

Importance of Practical Work: Laboratories take precedence over theoretical classes, allowing students to engage in application-oriented practical work.

Dedicated Instructors: Each laboratory has a designated faculty in charge to facilitate the development of complete practical knowledge among students.

Student Involvement: Students actively participate in practical work under the guidance of faculty members, and they maintain observation notes, ensuring immediate faculty review.

Safety and Cleanliness: Cleanliness and safety are paramount. Safety measures, including water cans, first aid boxes, and fire extinguishers, are maintained, and students are required to adhere to safety attire and practices.

Information Display: Display boards conveying dos and don'ts, the experiments (syllabus) list and equipment specifications are provided to enhance student awareness.

C. Technical Manpower support –Eligible and Adequate (10)

The department is supported by eligible and adequate technical manpower, ensuring that students receive guidance and assistance as needed in the laboratories. Faculty members and technical support staff work together to create a conducive and knowledge-rich environment for our students.

At GEMS Polytechnic College, we are committed to providing students in the Department of Civil Engineering with well-equipped, quality laboratories, workshops, and the necessary technical support to meet their curriculum requirements, fostering a dynamic and hands-on learning experience.

Sr.	Name of the Laboratory	No. of students per setup (Batch Size)	Name of the Important equipment (costing more than Rs.30,000/-)	Weekly utilization status (all the courses for which the lab is utilized)	Technical Manpower support		
					Name of the technical staff	Designation	Qualification
1	GEO TECHNICAL	4	Cement Autoclave	6 Hrs	Mr.Yerukali lokesh	Lab Assistant	DCE
		2	Los Angeles Apparatus	6 Hrs			
		4	Proctor Compaction test Apparatus	6 Hrs			
		3	Direct Shear Test Apparatus	6 Hrs			
		3	Triaxial Shear Test Apparatus	6 Hrs			
		3	Uniaxial Shear Test Apparatus	6 Hrs			
		2	Tile abrasion testing machine	6 Hrs			
2	HYDRAULICS	4	Venturimeter Apparatus	6 Hrs	Mr.Yerukali lokesh	Lab Assistant	DCE
		4	Centrifugal Pump Test Rig	6 Hrs			
		4	Reciprocating Pump Test rig	6 Hrs			
		4	Notch (Triangular)	6 Hrs			

6.3 Additional facilities created for improving the quality of learning experience in laboratories (20)

A. Facilities (10)

In pursuit of enhancing the quality of the learning experience within laboratory settings, our institution has embarked on a comprehensive endeavor to establish state-of-the-art facilities. These new facilities are designed to provide students with an enriched and engaging educational environment.

The following are some of the key features and facilities introduced:

Sr.No.	Facility Name
1	Models, posters and charts
2	Smart class room
3	Internet & Wifi facility
4	English language laboratory

5	Digital Library
6	Profile Projector
7	College and Department library
8	Manual Records Facilities
9	Virtual labs
10	NPTEL video lectures
11	Previous semester projects models and reports of civil engineering
12	Spoken Tutorial-IIT Bombay

B. Effective Utilization (5)

It is not enough to merely introduce new facilities; ensuring their effective utilization is equally crucial.

It is not enough to merely introduce new facilities; ensuring their effective utilization is equally crucial.

Sr. No.	Facility Name	Utilization
1	Prototype of Civil Components Models	a. Enhance hands-on understanding of Civil Components concepts b. Encourage creative design and experimentation with physical models.
2	High-speed Internet Access	a. high-speed internet connection, as its essential for research, online collaboration, and accessing online resources.
3	Virtual Lab	a. Provide a safe environment for conducting experiments and simulations. b. Enable remote access for students to practice and learn at their convenience.
4	Profile Projector	a. Aid in precision measurement and inspection of workpieces. b. Teach students how to analyze and document geometric features
5	Air Conditioning	a. Comfortable room temperature and ventilation to create a conducive learning environment.
6	Previous Semester Projects Models & Reports	a. Serve as references for future projects and learning. b. Showcase successful project outcomes and

		encourage knowledge sharing.
7	Display Charts	a. Visual aids for better comprehension of complex concepts. b. Create an interactive and engaging learning environment in the lab.
8	NPTEL Video Lectures	a. Offer supplementary learning resources for theoretical concepts. b. Support a blended learning approach by providing expert-led content.
9	Projector and Display Screens	a. Projectors or large display screens for instructors to demonstrate concepts and for presentations.
10	Remote Learning Facilities	a. In addition to physical infrastructure, consider integrating technology for remote learning, including video conferencing equipment and collaboration software for hybrid or online classes.
11	Engaging Learning Resources	a. Providing access to online courses, tutorials, and educational websites to complement classroom learning.

C. Relevance to POs/PSOs (5):

The additional laboratory facilities are designed with a clear focus on aligning with the program outcomes and program-specific outcomes.

Here's how they contribute to attaining these Program Outcomes / Program Specific Outcomes:

Sr. No.	Facility Name	Details	Reason(s) for creating facility	Utilization	Areas in which students are expected to have enhanced learning	Relevance to POs/PSOs
1	Projector with auto lock screen, Soundbar	For innovation in teaching practice in CAD Lab	To have better understanding of subjects through video, animation and drawing	In life skill and technology development	All courses under the SBTE curriculum & add-on courses, MOOCs course	PO1, PO7, PS01, PS02
2	Models, posters and charts	Some models of Civil Engg. Equipments or some basic concepts kept in the lab and charts for more understanding	To give better understanding of the equipments, machineries	Specifically in hydraulics, Irrigation, surveying, in both practical and theory papers it is used	In the department paper (3rd to 6th sem) and practical use	PO1, PO6, PS01, PS02

3	Smart class room	Fully equipped with smart class room with all the basic facilities	For better understanding of computer Aided Engineering lab and Geo technical lab	In every semester 15 to 20 lectures can be done with a help of this facilities	Softwares like Stadd pro, Revit, Auto cad drawings, video tutorials on various laboratories	PO1,PO7,PSO1,PSO2
4	Internet & Wifi facility	50 MBPS bandwidth data is allocated for all the students	To create easy access of internet for staffs and students	complete semester is open to utilize	Better understanding of laboratories experiments and do the things virtually	PO1,PSO3,PO7,PSO1,PSO2
5	Digital Library	Our college is a overall member of NDLI club	To get more sources of gaining knowledge	All our faculties and students are member of NDLI utilizing it	From a book to n number of books for extra support	PO1,PO5,PO7,PSO1,PSO2,PSO3
6	College and Department library	Program Specific text books and reference books, previous year question paper, Career guidance	To provide additional support for the students	complete semester is open to utilize	Student and staff can refer more than one book and have a better understanding	PO1,PO5,PSO1,PSO2,PSO3
7	Manual Records Facilities	To provide manuals for all the labs	The student will understand the concepts of each lab in advance. It will be like a guideline to undertake each experiments	For all year students - 1st to 6th semester	For tabulation, formulas, for better view of experiments and guidelines	PO1,PSO1,PSO2,PSO3
8	Virtual labs	A virtual lab can be done by an Initiative of Ministry of Education Under the National Mission on Education through ICT through online platform in our lab computers	For the practical knowledge of students and to improve their skills	All 2nd-semester to 6th-semester students are open to utilize. online conference, seminar, Expert lectures also conducted	For all areas related to Civil engineering	PO1,PO5,PO7,PSO1,PSO2,PSO3
9	NPTEL video lectures	NPTEL videos displayed in laboratories for better learning	we got better understanding about the experiment through reputed teaching faculties through NPTEL video lectures	Throughout the semester	Better understanding of experiments in depth knowledge and beyond the syllabus also	PO1,PO5,PO7,PSO1,PSO2,PSO3
10	Previous year - Projects models and reports of civil engineering	Reports kept for further studies	To innovative new ideas and learning experience based on the existing projects	Used by current batch students as literature survey for projects	Academic project, Fell Engineering projects	PO1,PO6,PSO1,PSO2



Virtual Lab

6.4 Laboratories: Maintenance and overall ambiance (10)

A. Maintenance of Laboratory Equipment:

Equipment and Software Provision:

- All laboratories are equipped with hardware and software in accordance with the curriculum and syllabus requirements.

Periodic Service and Maintenance:

- Regular service and maintenance of laboratory equipment are ensured to keep them in optimal working condition.

Uninterruptible Power Supply (UPS):

- An uninterruptible power supply is provided in computer laboratories to prevent data loss and equipment damage during power fluctuations.

Identification and Numbering:

- Personal computers and equipment are numbered for easy maintenance and identification.

Software and System Upgradation:

- Software and system upgrades are carried out as needed to meet curriculum demands and technological advancements.

Antivirus and Security:

- Antivirus software is installed and regularly updated to safeguard computers from malware and security threats.

Entry Registers:

- IN-OUT entry registers are maintained to track laboratory usage.

Consumables:

- Consumables are purchased each academic year to ensure the smooth conduct of laboratory experiments.

Consumable Issue Registers:

- Registers for issuing and tracking consumables are maintained for efficient stock management.

Stock Verification:

- Internal stock verification is conducted annually, and action reports are prepared to address any discrepancies.

Extended Laboratory Hours:

- Laboratories are available beyond regular working hours when necessary to accommodate student needs.

Student Resources:

- Laboratory manuals are prepared and provided to students for reference.
- Technical informative charts are displayed in laboratories.
- Innovative projects are showcased in laboratories to inspire and engage students.

Information Displays:

- Practical session timetables, experiment lists, equipment lists, and safety measures are prominently displayed in all laboratories.

B. Overall Ambiance:**Illumination and Ventilation:**

- All laboratories are designed with sufficient windows to ensure proper illumination and ventilation, creating a comfortable working environment.

Safety Measures:

- Gangways in the laboratories are clearly marked for safe navigation.
- The floors are regularly cleaned to maintain a dust-free environment conducive to laboratory work.
- The above-mentioned outlines for maintaining laboratory equipment and ensuring a conducive overall ambience in the laboratories cover equipment provision, regular maintenance, software updates, security measures, consumables

management, extended laboratory hours, lighting, ventilation, and safety precautions. This comprehensive approach contributes to the efficient functioning of laboratories and creates a comfortable and safe learning environment for students and staff.

6.5 Availability of computing facility in the department (10)

S.no	No. of Computer terminals	Students Computer Ratio	Details of Legal Software	Details of Networking	Details of Printers, Scanners etc.
1	60	1:1	AUTOCAD 2024	LOCAL AREA NETWORK USING STAR TOPOLOGY - BIG DATA - AIRTEL	EPSON Printer
			3Ds Max		
			Revit Architecture. 2024		
			FUSION 360 (Education License)		



CAD Lab - computing facility

6.6 Language lab (10)

Availability:

In today's rapidly evolving professional landscape, effective communication has become a fundamental prerequisite for success in any career. The imperative to cultivate such skills is a widely acknowledged phenomenon in contemporary society.

Recognizing the critical importance of communication, both the All India Council for Technical Education (AICTE) and the State Board of Technical Education (SBTE) in Bihar place significant emphasis on nurturing students communicative skills. As technology has seamlessly integrated into every aspect of human life, it has extended its influence into the field of communication.

Our Language Lab serves as a cornerstone for the development of our students language and communication skills. It harnesses the power of advanced audio and video systems to fortify students' abilities in learning, reading, writing, and speaking.

Key Features of our Language Lab:

Location:

- Our well-equipped Language Lab is situated on the second floor in room no. 1204.

Ambience:

- The lab is fully air-conditioned, providing a comfortable and conducive environment for language learning.

Software:

- We utilize the ORELL Talk Smart Version software, offering students access to state-of-the-art language learning tools.

Shared - With all departments:

- Our Language Lab is a resource shared across all academic departments, fostering cross-disciplinary language development and promoting a collaborative learning atmosphere.

Beneficiaries:

- The Language Lab caters to students across all three academic years, including 1st, 2nd, and 3rd-year students, ensuring a comprehensive and continuous development of language and communication skills throughout their academic journey.

Name of the software	ORELL Talk smart version
No.of Computers	32
No.of Head Phones	32
LCD Projector	1
Sound System	-

Infrastructure:

- The number of Computer Terminals:
- With a total of 30 computer terminals, each student enjoys an individual workstation, maintaining a favorable student-computer ratio of 1:1.

Available Facilities:

- The lab is equipped with essential facilities, including an LCD projector, microphones and headphones, computers with internet connectivity, and a media player with a sound system, creating an enriching and immersive learning environment.

Utilization:

- The Language Lab offers a wide array of activities and exercises that empower students to enhance their language and communication skills effectively. Here are some of the key ways in which the lab is utilized:

Listening Practice:

- Students engage in listening exercises, sharpening their comprehension skills as they follow passages and answer questions.

Enhancing Language Proficiency:

- The language lab is a valuable resource for students to improve their language skills through interactive exercises and real-life simulations.

Personalized Learning:

- It offers a tailored learning experience, allowing students to practice listening, speaking, and writing in a controlled environment at their own pace.

Multi-Lingual Support:

- The language lab caters to a variety of languages, enabling learners to explore and master different languages effortlessly.

Pronunciation and Accent Improvement:

- Students can work on perfecting their pronunciation and reducing their accents by utilizing the labs audio and visual aids.

Assessment and Feedback:

- The lab also provides a platform for instructors to evaluate students' progress and offer constructive feedback to help them refine their language abilities.



Criterion 7

Continuous Improvements

7 CONTINUOUS IMPROVEMENT (75)

7.1 Actions taken based on the results of evaluation of each of the POs and PSOs (25)

POs Attainment Levels and Actions for Improvement- (2022-23)

PO1:	<p><u>Basic and Discipline-specific knowledge:</u> Apply knowledge of basic mathematics, science and engineering fundamentals and engineering specialization to solve engineering problems.</p>	
Target Level		Attainment Level
2.57		2.46
<p>Observations</p> <ul style="list-style-type: none"> • A lag of 0.11 is observed 		
<p>Actions Taken:</p> <ul style="list-style-type: none"> • ACTION 1: Enhance the lectures with PPTs and live demonstrations of topics imparted using video lectures. • ACTION 2: Implementing Real-time application knowledge using interactive sessions. 		

PO2:	<p><u>Problem Analysis:</u> Identify and analyze well-defined engineering problems using codified standard methods.</p>	
Target Level		Attainment Level
1.76		1.65
<p>Observations</p> <ul style="list-style-type: none"> • A lag of 0.11 is observed 		
<p>Actions Taken:</p> <ul style="list-style-type: none"> • ACTION 1: Motivate the students to gather ideas and think of possible ways to find solutions by taking them on field visits and industrial visits. 		

PO3:	<u>Design/ Development of solutions:</u> Design solutions for well-defined technical problems and assist with the design of system components or processes to meet specified needs.	
	Target Level	Attainment Level
	1.58	1.46
Observations		
<ul style="list-style-type: none"> • A lag of 0.12 is observed 		
Actions Taken:		
<ul style="list-style-type: none"> • ACTION 1: Motivate the students to take up internships with design projects. 		

PO4:	<u>Engineering tools, Experimentation and Testing:</u> Apply modern engineering tools and appropriate techniques to conduct standard tests and measurements.	
	Target Level	Attainment Level
	1.73	1.71
Observations		
<ul style="list-style-type: none"> • A lag of 0.02 is observed 		
Actions Taken:		
<ul style="list-style-type: none"> • ACTION 1: Teaching Modern tools like Revit at the workshop level. 		

PO5:	<u>Engineering Practices for society, sustainability and Environment:</u> Apply appropriate technology in the context of society, sustainability and environment.	
	Target Level	Attainment Level
	1.50	1.48
Observations		
<ul style="list-style-type: none"> • A lag of 0.02 is observed 		
Actions Taken:		
<ul style="list-style-type: none"> • ACTION 1: Motivate the students to be involved in activities for the societal cause. 		

PO6:	<u>Project Management:</u> Using engineering management principles individually as a team member or a leader to manage projects and effectively communicate about well-defined engineering activities.	
	Target Level	Attainment Level
	1.78	1.69
Observations		
<ul style="list-style-type: none"> • A lag of 0.09 is observed 		
Actions Taken:		
<ul style="list-style-type: none"> • ACTION1: Motivate the students and to Provide an opportunity for them to estimate and manage projects in industries through internship 		

PO7:	<u>Life-long learning:</u> Ability to analyze individual needs and engage in updating in the context of technological changes.	
	Target Level	Attainment Level
	1.45	1.40
Observations		
<ul style="list-style-type: none"> • A lag of 0.05 is observed 		
Actions Taken:		
<ul style="list-style-type: none"> • ACTION 1: Motivate the students to be involved and participate in technical events. 		

PS01:	The graduates will have proficiency in mathematics, basic science and engineering fundamentals to excel in core areas of civil engineering.	
	Target Level	Attainment Level
	2.01	1.94
Observations		
<ul style="list-style-type: none"> • A lag of 0.07 is observed 		
Actions Taken:		
<ul style="list-style-type: none"> • ACTION 1: Encourage the students to apply basic science, mathematics and engineering fundamentals in real-time applications. 		

PS02:	The graduates will plan, analyze, design, write specifications and prepare cost estimates for Civil Engineering structures.	
	Target Level	Attainment Level
	1.78	1.75
Observations		
<ul style="list-style-type: none"> A lag of 0.03 is observed 		
Actions Taken:		
<ul style="list-style-type: none"> ACTION 1: Encourage the students to collect and interpret data in the civil sector to plan and design structures. 		

PS03:	The graduates will be able to apply technical and management skills for the execution of work.	
	Target Level	Attainment Level
	1.65	1.56
Observations		
<ul style="list-style-type: none"> A lag of 0.09 is observed 		
Actions Taken:		
<ul style="list-style-type: none"> ACTION 1: Encourage the students to estimate and schedule the particulars in civil projects. 		

7.2 Improvement in Success Index of Students without the backlog (10)

Items	Latest Passed out Batch (2020-21)	Latest Passed out Batch minus 1 (2019-20)	Latest Passed out Batch minus 2 (2018-19)
Success Index (from 4.2.1)	0.16	0.38	0.23

7.3 Improvement in Placement and Higher Studies (10)

Items	Latest Passed out Batch (2020-21)	Latest Passed out Batch minus 1 (2019-20)	Latest Passed out Batch minus 2 (2018-19)
Placement Index (from 4.6)	1.25	1.03	0.85

7.4 Improvement in Academic Performance in Final year (10)

Items	Latest Passed out Batch (2020-21)	Latest Passed out Batch minus 1 (2019-20)	Latest Passed out Batch minus 2 (2018-19)
Academic Performance Index (from 4.3)	7.91	8.24	7.50

7.5 Internal Academic Audits to Review Complete Academics & to Implement Corrective Actions on Continuous Basis (10)

Items	2022-23 (CAYm1)	2021-22 (CAYm2)	2020-21 (CAYm3)
Internal Academic Audits	3	4	3

7.6 New Facility created in the Program (10)

Items	2022-23 (CAYm1)	2021-22 (CAYm2)	2020-21 (CAYm3)
New Facility Created	Expansion of Internet coverage	Internet Connection	Smart Board

Institute Level Criteria

Criterion 8

Student Support System

8 STUDENT SUPPORT SYSTEMS

8.1 Mentoring system to help at the individual level (10):

A. Details of the mentoring system that has been developed for the students for various purposes and also state the efficacy of such system (10)

- Type of mentoring: Professional guidance/career advancement/course work specific/laboratory specific/all-around development.
- Number of faculty mentors:
- Number of students per mentor:
- Frequency of meeting:

(The institution may report the details of the mentoring system that has been developed for the students for various purposes and also state the efficacy of such a system.)

Write Answer:

In our institution, we have implemented a robust mentoring system aimed at providing comprehensive support to our students on an individual level. This system has been designed to cater to various aspects of students' academic and personal development. In this article, we will delve into the details of our mentoring system and highlight its effectiveness.

Type of Mentoring:

- Our mentoring program encompasses different facets of a student's journey, including professional guidance, career advancement, course-specific assistance, laboratory-specific support, and all-round personal development.
- This multifaceted approach ensures that students receive tailored guidance based on their unique needs and aspirations.

Faculty Involvement:

- To make this system effective, we have dedicated 4 to 5 experienced faculty members per class who serve as mentors.
- These mentors are carefully selected based on their expertise and willingness to engage with students on a personal level.

Student-to-Mentor Ratio:

- We maintain a low student-to-mentor ratio, with each mentor responsible for a group of 10 to 15 students.
- This ensures that mentors can provide personalized attention to each student under their care.

Frequency of Meetings:

- Our mentoring program encourages regular interactions.
- Mentors meet with their assigned students either once a month or twice a semester, depending on the specific needs and goals of the students.

Contact Hours:

- To accommodate students' schedules, mentor-mentee meetings are scheduled during the zeroth hour, from 3:50 pm to 4:40 pm.
- This time slot allows for uninterrupted discussions and ensures that students can focus on their academic and personal growth.

Specific Mentor Profile:

- Our mentoring system relies on a comprehensive mentor profile that includes various aspects of the student's life and performance.

This profile encompasses:

Personal Details:

- Understanding each student's background, interests, and aspirations.

Academic & Non-Academic Performance:

- Analyzing academic achievements, as well as involvement in extracurricular activities.

Attendance Performance:

- Tracking attendance to identify potential issues or patterns.

Parents Interaction:

- Encouraging communication with parents to ensure a holistic support network.

Non-Compliance Details:

- Addressing any non-compliance issues or disciplinary concerns.

Mentor-Mentee Meeting Details:

- Documenting the progress and outcomes of each mentoring session.

Efficacy of Our Mentoring System:

Our mentoring system has proven to be highly effective in several ways:

Improved Academic Performance:

- Students who actively engage with their mentors tend to perform better academically. The personalized guidance helps them set and achieve their academic goals.

Enhanced Career Prospects:

- By receiving guidance on career choices and development, students are better equipped to make informed decisions about their future.

Personal Growth:

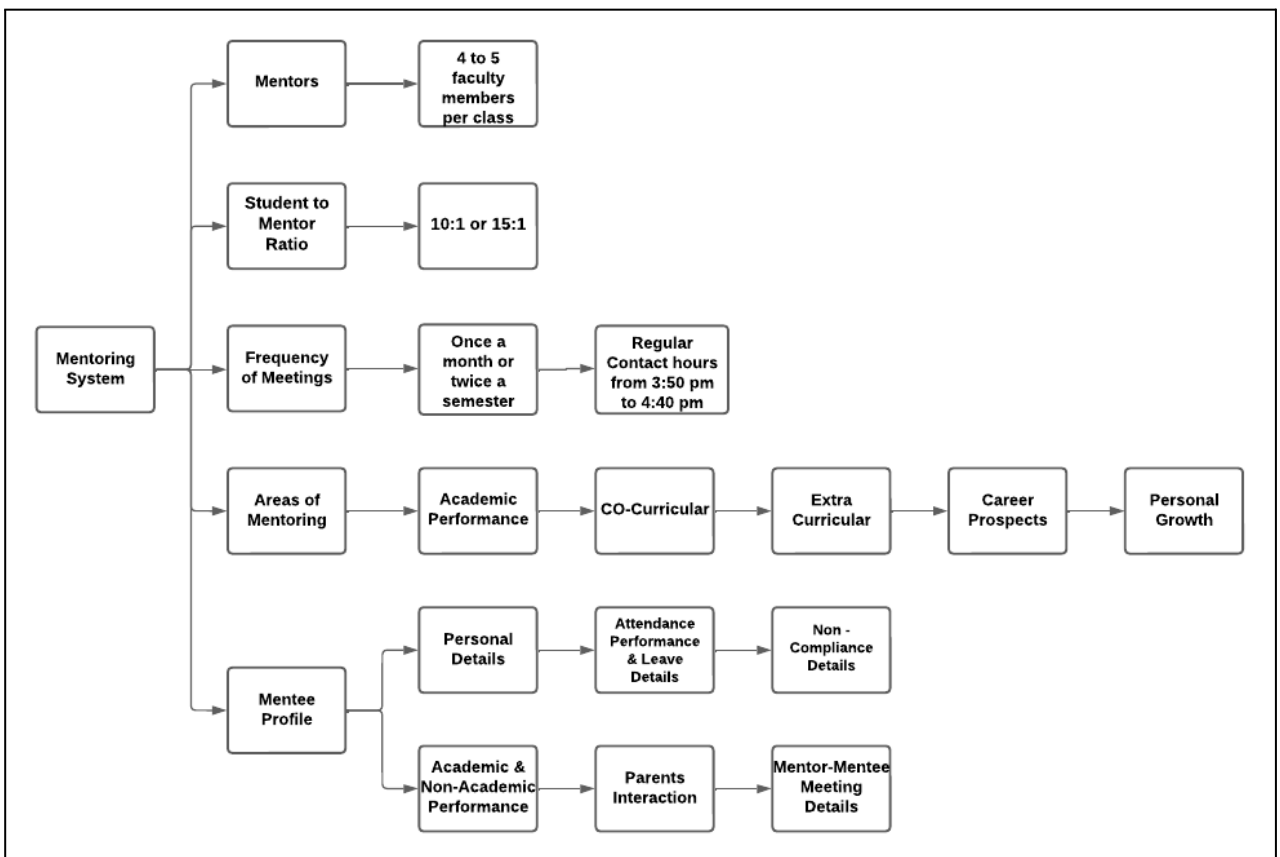
- The all-round development aspect of our mentoring system fosters personal growth, including improved communication skills, confidence, and leadership abilities.

Retention and Satisfaction:

- Our system has contributed to higher student retention rates and overall satisfaction among students and their families.

Early Intervention:

- Through the mentor profile, we can identify and address issues promptly, ensuring that students receive the support they need when they need it.



In conclusion, our institution's mentoring system has been meticulously designed to cater to the individual needs of our students. By providing professional guidance, personalized support, and regular interactions, we aim to empower our students to excel

academically and personally. The proven efficacy of this system underscores its value in nurturing the potential of each student.

8.2 Feedback analysis and reward/ corrective measures taken if any (10)

- Feedback collected for all courses: YES/NO;
- Specify the feedback collection process;
- Average Percentage of students who participate;
- Specify the feedback analysis process;
- Basis of reward/ corrective measures, if any;
- Indices used for measuring quality of teaching & learning and summary of the index values for all courses/teachers;
- Number of corrective actions taken.

A. Methodology being followed for feedback collection, analysis and its effectiveness (5)

Write Answer:

Introduction to the feedback collection on teaching & learning:

Feedback is an integral part of our commitment to continuous improvement in the quality of education. It serves as a valuable tool for assessing and enhancing the teaching and learning experience within our institution.

Feedback collected for all courses: **YES**

Specify the feedback collection process:

Direct Feedback from the Students:

- We leverage technology through the VMEDULIFE Campus management software to allow students to provide their valuable input on their educational experiences.

Interactive Feedback:

- In addition to online feedback, key academic figures who include Director, Principal, Dean of Academics, or HoD engage in face-to-face interactions with students, fostering a more comprehensive understanding of their needs.

Average Percentage of students who participate:

- Those Students have More than 60% of attendance and students can participate in the feedback process, ensuring a representative sample.

Specify the feedback analysis process:**Feedback Form Preparation:**

- Feedback forms are meticulously designed, incorporating various parameters and collectively totaling 100%.
- These parameters encompass a wide range of aspects relevant to teaching and course delivery.

Timing of Feedback:

- At the middle and end of each semester, students are provided with the opportunity to share their feedback, enabling a holistic evaluation.

Distribution via VMEDULIFE:

- Feedback forms are seamlessly assigned to students through the VMEDULIFE software, allowing students to rate faculty members on designated parameters during assigned hours using computer systems.

Feedback Compilation:

- Each department compiles the received feedback, calculates numerical ratings, and aggregates the data, forming a comprehensive view of faculty performance.

Basis of reward/ corrective measures, if any:**a. Rewards:****✓ Feedback for Faculty Performance Appraisal:**

- Feedback from students plays a pivotal role in faculty performance appraisal, contributing to a comprehensive evaluation.

✓ Recommended for the Best Faculty Award:

- Faculty members who consistently receive positive feedback may be recommended for the Best Faculty Award during official functions, recognizing their dedication and excellence.

b. Corrective Measures:**✓ Counseling for Underperforming Faculty:**

- Faculty members scoring below 75% out of 100% receive dedicated counseling sessions from the Head of the Department, Dean of Academics, and the Principal.
- These sessions aim to help faculty members improve their academic performance and enhance the learning experience for students.

✓ Documentation of Performance Improvements:

- The progress made through counseling is meticulously recorded in the faculty appraisal records, ensuring accountability and tracking improvements over time.

✓ Enhancing Teaching Methodologies:

- Feedback serves as a catalyst for appropriate changes in teaching methodologies, tailored to address the specific needs and preferences of students.

✓ Encouragement for Professional Development:

- Faculty members are actively encouraged to participate in and organize Faculty Development Programmes, workshops, seminars, and conferences.
- These opportunities help faculty members stay updated and continually improve their teaching skills.

Indices used for measuring quality of teaching & learning and summary of the index values for all courses/teachers:

Feedback is gathered through a set of questions employing a 4-point scale, including aspects as follows:

1. Teacher punctuality.
2. Coverage of relevant topics beyond the syllabus.
3. Effectiveness in delivering technical/course content.
4. Communication skills.
5. Use of teaching aids.
6. Motivation of students for learning.
7. Support for practical demonstrations.
8. Support for hands-on training.
9. Responsiveness to student feedback.
10. Willingness to offer help and advice to students.
11. Consistency in evaluating and returning assignments and test papers.
12. Syllabus coverage as prescribed by SBTE Board.

The average rating achieved in the feedback summary form is used as indices, and these indices are accessible for all faculty members at the department level.

B. Record of corrective measures taken (5)**Write Answer:**

At our institution, we place a strong emphasis on the continuous improvement of our teaching and learning processes. To ensure that corrective measures are effectively implemented in response to feedback from students, we have established a systematic and accountable approach.

Below are the key elements of our process for recording corrective measures:

Communication of Corrective Actions:

- When corrective measures are deemed necessary based on the feedback analysis, an official action letter is generated from the principal's office.
- This letter is then sent to the concerned faculty members.

Intermediary Involvement:

- The process of communicating corrective actions is facilitated through the involvement of key academic figures, including the Dean of Academics and the Head of the Department.
- These individuals play a pivotal role in ensuring that the feedback is appropriately addressed.

Timing of Corrective Actions:

- Corrective actions are initiated either once per semester or on a need-based basis, depending on the nature and urgency of the feedback.
- This flexible approach allows us to tailor our interventions to the specific requirements of each situation.

Meticulous Documentation:

- One of our guiding principles is transparency and accountability.
- To uphold these values, all corrective actions are meticulously documented.
- Separate files are maintained to record the details of each corrective measure, including the nature of the feedback, the action taken, the timeline for improvement, and any other relevant information.

By adhering to this structured approach, we not only demonstrate our commitment to addressing feedback effectively but also ensure that the process is transparent, accountable, and conducive to the continuous enhancement of the teaching and learning experience at our institution.

8.3 Feedback on facilities (5)

A. Student feedback on facilities, analysis and corrective action taken (5)

Write Answer:

At GEMS Polytechnic College, we are committed to providing a conducive and enriching environment for our students, parents, and staff. To ensure that our facilities meet their needs and expectations, we have established an effective feedback system.

Student Feedback on Facilities:

- To gather valuable insights from our students regarding the facilities and amenities, we employ several methods:

Suggestion Box:

- In both the Principal's office and hostels, we have placed suggestion boxes.
- Students can use these boxes to share their feedback concerning facilities and other issues anonymously.

Online Feedback Form:

- We also utilize digital platforms such as Google Forms and VMEDULIFE software to collect general feedback on facilities from students.
- This allows for efficient data collection and analysis.

Feedback Categories:

In the feedback forms, we inquire about various Facilities and Amenities available on the GEMS Polytechnic Campus. Students rate these aspects on a 5-point scale. The categories include Campus Atmosphere & Cleanliness, Measures Taken on Ragging and Women Harassment, Central and Digital Library Facility, Internet/Wi-Fi Facility, Canteen Facility, Laboratories & Workshop, Medical Facility, Hostel Facility, Sports Facility, Transport Facility, Training and Placement Facility, and Extra-Curricular Activity.

Other Stakeholder Feedback:

- In addition to student feedback, we actively seek input from other stakeholders:

Alumni Feedback:

- During Alumni Meet events, we collect feedback from our alumni, which is then analyzed to identify areas for improvement.

Parent Feedback:

- Parents' meetings provide an opportunity for parents to share their feedback on facilities. The respective Head of the Department reviews this feedback and proposes actions for improvement.

Reporting Issues:

- Any issues related to facilities can be reported through faculty coordinators, Heads of Departments, and the Dean of Academics.
- These reports are forwarded to the Principal and Director for necessary action.

Analysis and Corrective Action Taken:

To address the feedback received, we follow a systematic approach:

Feedback Analysis:

- The administrative team thoroughly analyzes the feedback, identifying areas that require attention.

Action Plan and Budget Proposal:

- Based on the analysis, an action plan is formulated, along with a budget proposal to rectify the identified issues.

Prioritization:

- Prioritization is done based on the urgency and necessity of each issue. This ensures that critical concerns are addressed promptly.

Major Issues Resolved:

As a result of our feedback-driven approach, we have successfully resolved several significant issues for the benefit of our students, including:

Improved Internet Speed:	<ul style="list-style-type: none"> • The internet speed has been enhanced to 90 Mbps to facilitate better connectivity for academic and research purposes.
Wi-Fi Connectivity:	<ul style="list-style-type: none"> • Wi-Fi connectivity has been extended to both the college and hostel areas, allowing students greater access to online resources.
Enhanced Library Resources:	<ul style="list-style-type: none"> • Additional books have been added to our library to expand the range of academic resources available to students.
Dedicated Computer Lab:	<ul style="list-style-type: none"> • A separate computer center has been established to ensure maximum student utilization and accessibility.
Transport Facilities:	<ul style="list-style-type: none"> • Bus facilities have been provided for students traveling to SBTE end-semester examination centers, making transportation more convenient
Improved Training and Placement Cell:	<ul style="list-style-type: none"> • Our Training and Placement Cell has been well-equipped and strengthened based on student feedback, enhancing career development opportunities.
Water Facility in Hostel:	<ul style="list-style-type: none"> • After receiving feedback from students regarding facilities, a new RO Water Purifier plant was installed in the Hostel block, and it's now operating efficiently.

At GEMS Polytechnic, we are committed to continually enhancing our facilities based on feedback from our valued stakeholders, ensuring a supportive and conducive learning environment for all.

8.4 Career Guidance, Training, Placement (20)

- A. Availability (05)
- B. Management (10)
- C. Effectiveness (05)

(The institution may specify the facility, its management and its effectiveness for career guidance including counseling for higher studies, campus placement support, industry interaction for training/internship/placement, etc.)

Write Answer:

A. Availability:

At our institution, we are committed to providing holistic support to our students' career aspirations. To achieve this, we have established two dedicated cells:

Career Guidance & Higher Education Cell:

This cell focuses on offering comprehensive career counseling and guidance services, helping students make informed decisions about their academic and professional paths. We also assist students in gaining admission to renowned higher education institutions.

Career Guidance & Higher Education Cell Constitution:

Sl.No	Role	Name of the Members	Designation
1	Convenor	Mr. Rama Gopal Challa	Principal
2	Co-Convenor	Mr. Ranjith Choudary	Dean of Academics
3	Co-ordinator	Ms. Jensika Rani	Sr.Lecturer/ CIVIL
4	Committee Chair	All HoDs	
5	Internship Coordinator:	All Department TPOs	
6	Department Counselor	Mrs. Chinthiya	Lecturer/ CIVIL
7		Mr. Sanjeeva	Lecturer/ EE
8		Mr. Ragunath	Lecturer/ EEE
9		Ms. Meena Kumari	Lecturer/ CSE
10		Mr. Himanshu Kumar Singh	Lecturer/ MECH

Training and Placement Cell:

Our exclusive Training and Placement Cell is designed to continuously enhance our students' skills and assist them in securing suitable employment opportunities while they are still pursuing their studies.

Training and Placement Cell Constitution:

Sl.No	Role	Name of the Members	Designation
1	Convenor	Mr. Rama Gopal Challa	Principal
2	Co-Convenor	Mr. Ranjith Choudary	Dean of Academics
3	Co-ordinator	Ms. Jensika Rani	Sr.Lecturer/ CIVIL
4	Committee Chair	All HoDs	
5	Industry Liaison Officer	Ms. Jensika Rani	Sr.Lecturer/ CIVIL
6	Training Coordinator	All Department TPO	
7	Department-wise data analyst	All Department TPOs	
8	Department Counselor	Mr. Sujin	Lecturer/ CIVIL
9		Mr. Anugrah Ashish	Lecturer/ EE
10		Mr. David	Lecturer/ EEE
11		Ms. Kumar	Lecturer/ CSE
12		Mr. Johan	Lecturer/ MECH

B. Management:**1. Career Guidance:****Career Counseling by Experts:**

- Our students benefit from guidance provided by senior academicians and industry experts who help them navigate the complex world of career choices.

Industry Interaction:

- To provide real-world insights, we regularly invite human resource personnel from various industries to interact with our students, ensuring they are well-prepared for the job market.

Higher Education Support:

- We guide and support students in their quest to secure admissions in esteemed higher education institutions, helping them advance their academic journeys.

2. Training and Placement Cell:**Training Facilities:**

- Our Training and Placement Cell is equipped with state-of-the-art facilities and offers a range of training programs.

- These include soft skills development, confidence-building, and personality development workshops, all conducted by professional experts.

Industry Exposure:

- We encourage students to directly engage with industry professionals to explore potential career opportunities.
- This exposure helps them understand industry expectations and requirements.

Skill Development:

- To enhance employability, we provide skill-based training in technical, analytical, and logical areas.
- Our students receive training from both internal trainers and industry experts.

Student Engagement:

- Beyond traditional training, we encourage students to participate in various events such as paper presentations, technical symposia, and project displays.
- These activities foster innovative thinking and enhance managerial skills.

Value-added Courses:

- Each department conducts value-added courses in its specialized areas to bridge any gaps in the curriculum, ensuring that our students are well-prepared for their chosen fields.

Placement Activities:

Department Coordinators:

- Each department appoints a coordinator responsible for addressing career guidance and training needs within that department.

Training and Placement Officer (TPO):

- Our TPO collaborates with department coordinators to formulate and execute placement strategies, ensuring that students are well-prepared for the job market.

Industry Databases:

- We provide students with access to industry databases, empowering them to make informed decisions about their careers.

List of Training Activities for Placements:

1. Self-Introduction - practical & training
2. Communication and Interactive skills
3. The art of survival in the workplace
4. Group Discussion – 1
5. Overview of Entrepreneurship, Start-up and Core company details and recruitment
6. Group Discussion – 2
7. Resume and CV preparation
8. Personality Development
9. Mock Interview – 1
10. Mock Interview – 2
11. Comments and Feedback, any lacking topic can be overviewed

C. Effectiveness:

- The effectiveness of our Career Guidance Cell & Training, Placement Cell is evident through the successful placement of our students in esteemed organizations.
- Our students consistently demonstrate enhanced skills, confidence, and readiness for the workforce.
- We measure our effectiveness through placement rates, feedback from both students and employers and the continued growth and success of our alumni in their chosen fields.
- We remain dedicated to continually improving our services to ensure the ongoing success of our students.

List of our Recruiters

 <p>WINDCARE INDIA Private Limited</p>	 <p>GLOBAL COMPOSITE UAE</p>	 <p>APOLLO TYRES LTD</p> <p>Apollo Tyres Pvt Ltd</p>	 <p>Dhoot Electrical Systems Pvt. Ltd. Increasing Safety Through Stress</p> <p>Dhoot Transmission Pvt Ltd</p>
 <p>Qcon - Qatar Engineering & Construction Company W.L.L</p>	 <p>ANAND GROUP</p>	 <p>SHREE CEMENT LIMITED</p>	 <p>UKB ENERGY LINK CONNECTIONS</p>
 <p>KP Reliable technique India Pvt Ltd</p>	 <p>JK RAVINDRA & TATA MOTORS</p>	 <p>Sagar Informatics Pvt. Ltd. We Cultivate your knowledge</p> <p>SHREE CEMENT</p>	 <p>shiv-om brass industries</p>
 <p>DHARMARAJ & ENGINEERING AND CON DHARMARAJ & SONS ENGINEERING & CONSTRUCTION</p>	 <p>Nobel Hygiene</p>	 <p>sgk INDIA www.sgkindia.com</p>	 <p>THE INFORMATION FACULTY LIMITED SPICE IT! INNOVATION RESEARCH, TRAINING AND DEVELOPMENT</p>
 <p>GABRIEL</p>	 <p>DANA</p>	 <p>AMEM AARMO MUMBAI INDIA</p>	 <p>BAJAJ MOTORS</p>
 <p>layam Layam Group</p>	 <p>FoodWorks</p>	 <p>MICRO TURNERS</p>	 <p>MICRO TURNERS</p>

Placement Details

Acedamic Year	Department	No. of Final Year Students	Total No. of Final Year Students	No. of students placed in companies or Government Sector	No. of students admitted to higher studies	No. of students turned entrepreneur	Total Number of Students	Over all %
2020 - 2023 (LYG)	CIVIL	42	137	41	1	0	130	95%
	CSE	26		24	2	0		
	EE	23		23	0	0		
	EEE	23		16	2	0		
	MECH	23		21	0	0		
2019 - 2022 (LYGm1)	CIVIL	48	166	33	8	0	145	87%
	CSE	28		17	5	0		
	EE	34		27	3	0		
	EEE	26		20	6	0		
	MECH	30		16	10	0		
2018 - 2021 (LYG m2)	CIVIL	20	65	4	12	0	53	82%
	CSE	15		1	8	0		
	EE	14		11	2	0		
	EEE	6		3	3	0		
	MECH	10		4	5	0		
2017 - 2020 (LYG m3)	CIVIL	16	65	7	4	0	48	74%
	CSE	14		6	3	0		
	EE	15		7	5	1		
	EEE	5		2	1	0		
	MECH	15		9	3	0		

8.5 Entrepreneurship Cell/Technology Business Incubator (5)

A. Availability (01)

B. Management (02)

C. Effectiveness (02)

(The institution may describe the facility, its management and its effectiveness in encouraging entrepreneurship and incubation) (Success stories for each of the assessment years are to be mentioned)

Write Answer:

A. Availability

- Entrepreneurship Cell initiatives at GEMS Polytechnic College are conducted within the framework of the Institutions Innovation Council (IIC).
- The Institutions Innovation Council (IIC) at GEMS Polytechnic College is a dynamic and proactive initiative designed to empower students in their entrepreneurial journey.
- Established in accordance with the guidelines provided by the Ministry of Educations Innovation Cell, it is a resource-rich hub for nurturing innovation and entrepreneurial spirit among students.
- The IIC offers a plethora of resources and facilities to students, making it readily accessible to those with a drive to innovate and create startups.
- These resources include dedicated spaces for ideation and innovation, a state-of-the-art technology lab, a well-stocked library of entrepreneurship and innovation-related literature, and access to leading-edge equipment and prototyping and experimentation.
- Moreover, the council maintains strong networks with industry experts, mentors, and venture capitalists to provide students with expert guidance.

B. Management

- The management of the IIC is characterized by a commitment to fostering innovation and entrepreneurship at Gems Polytechnic College.
- A team of experienced faculty members, innovation experts, and business professionals oversee the council's activities.
- This diverse team ensures that students receive well-rounded guidance, from the technical aspects of innovation to the intricacies of business development.
- Furthermore, the IIC holds regular meetings and workshops to evaluate the needs of students and create tailored support plans for budding entrepreneurs.
- This proactive management approach ensures that every student's entrepreneurial journey is adequately supported.
- The council also maintains an open-door policy, encouraging students to reach out for guidance and mentorship whenever they require it.

The Composition of Institution's Innovation Council (IIC):

Sl.No	Name of the Member & Designation	IIC Role
1	Mr. Ragunath A, Lecturer, EEE Dept	President
2	Mr. Robin S, Lecturer, EEE Dept	Vice-President
3	Mr. Johan Deva Raj, Lecturer, Mech Dept	Convener
4	Mr. Prabhu Nath, Lecturer, Mechanical Dept	Innovation Activity Coordinator
5	Mr. Jenisha, Lecturer, Civil Dept	Startup Activity Coordinator
6	Mr. Bhaskar Ranjan, Lecturer, EE Dept	Internship activity Coordinator
7	Mr. P. Kumaraswamy, Sr. Lecturer, Mech Dept	IPR Activity Coordinator
8	Mrs. Catharine C, Lecturer, EE Dept	NIRF Coordinator
9	Mr. Kumar S, Lecturer, CSE Dept	Member
Student Members:		
10	Ms. Rumana Akhtar-CSE 1st year	Member
11	Ms. Sambhavna Bajpai-CSE 3rd year	Innovation Coordinator
12	Mr. Nikhil Singh-CSE 3rd year	IPR Coordinator
13	Mr. Ayush Raj-CSE 2nd year	Member
14	Ms. Megha Raj-CSE 2nd year	Internship Coordinator
15	Mr. Vivek Ranjan- Mech 3rd year	Member
16	Mr. Kishlay Kumar- Mech 1st year	Member
17	Mr. Shashank Pandey- Mech 2nd year	Startup Coordinator
18	Ms. Priyanka Kumari Singh- Mech 2nd year	Innovation Coordinator
19	Mr. Mahtab Alam- Mech 2nd Year	Member
20	Mr. Pratyam Prakash- Civil 3rd Year	Startup Coordinator
21	Ms. Manisha Kumari-Civil 3rd Year	Internship Coordinator
22	Ms. Komal Kumari-Civil 2nd Year	Member
23	Mr. Amir Subhani-Civil 2nd Year	Member
24	Mr. Shivam kumar- Civil 1st Year	Member
25	Mr. Abhijit Thakur- EEE 3rd Year	Social Media Coordinator
26	Mr. Ravi Shankar Kumar- EEE 3rd Year	Member
27	Ms. Awantika Singh-EEE 3rd Year	Member
28	Mr. Deepraj Kumar-EEE 2nd Year	Member

29	Mr. Raushan Kumar-EEE 2nd Year	Member
30	Ms. Kirti kumari verma-EEE 2nd Year	Member
31	Mr. Raj Kumar- EE 3rd Year	Startup Coordinator
32	Ms. Sneha Kumari- EE 3rd Year	Internship Coordinator
33	Mr. Suryamani Kumar- EE 2nd Year	Innovation Coordinator
34	Mr. Sumit Kumar- EE 2nd Year	Member
35	Mr. Omprakash Singh-EE 1st Year	Member
External Member:		
36	Mr. Vishal Nair, Co-Founder, Light Salt Pvt. Ltd.	Member

C. Effectiveness

The effectiveness of Gems Polytechnic College's IIC in encouraging entrepreneurship and incubation is evident through the myriad activities and initiatives it undertakes. The IIC fosters an environment of creativity, innovation, and problem-solving among students through various means:

IIC Activities Semester Wise Plan:

S.No	Activity	Duration	Participation	Focus on	Incharges
A.1	Workshop on "Entrepreneurship and Innovation" as Career Opportunity	one/half day	min 40 students, max faculty	Interpersonal skill, critical thinking, creative thinking, practical entrepreneurial skills	Mr.Robin Mr.Raghunath
A.2	Session on Problem Solving and Ideation Workshop	one/half day	min 40 students, max faculty	Innovation methodology, Build on skills, Tools ,Brainstorming, ideation	Mr. Johan Deva Raj Mr.Prabhunath
A.3	My Story - Motivational Session by Successful Entrepreneur/Start-up founder	one/half day	min 40 students, max faculty	Risk taking, critical think, team building, rise capital, learn from failure	Mr.Robin Mrs. Catharine
A.4	Exposure and field visit for problem identification	one day	Min 40 students, max faculty	village/ society/industry visit, interaction with key stake holders	Mr. Bhaskar Ranjan Mr. Johan Deva Raj

C.1	National Entrepreneurship Day- celebration	one/half day	min 40 students, max faculty	Awareness on entrepreneurship & innovation, highlight the value of entrepreneurship, the role of innovation within society and role of younger generations for making India as an Innovation hub, expert talk, literary event, awards, demo of innovations	Ms.Jenisha Mr. Robin
A.5	Workshop on Design Thinking, Critical thinking and Innovation Design	one/half day	min 40 students, max faculty	Design thinking, critical thinking, innovative design, Q&A	Ms.Jenisha Mr.Prabhunath
A.6	Workshop on Entrepreneurship Skill, Attitude and Behaviour Development	one day	min 40 students, max faculty	Presentation entrepreneur skill, attitude, behavior	Mr.Kumar S Mr. Bhaskar Ranjan
A.7	Organise an Inter/Intra Institutional Innovation Competition/Challenge/Hackathon and Reward Best Innovations - Manage through YUKTI-NIR	one day	max students possible, max faculty	innovation competition, brochure with start date and end date, registration, evaluation, results, award ceremony	Mr.Raghunath Mr Johan Deva Raj
A.8	Organise an Expert talk on Process of Innovation Development, Technology Readiness Level (TRL); Commercialisation of Lab Technologies & Tech-Transfer	one day	min 40 students, max faculty	Innovation Development, Technology Readiness Level (TRL); Commercialisation of Lab Technologies & Tech-Transfer	Mr.Kumar S Mrs. Catherine
C.2	National Energy Conservation Day (India)-celebration	one/half day	min 50 students, max faculty	india's contribution towards energy efficient nation, global warming & climate chage awareness, encourage innovative solutions, motivate save energy, visual art, inviting expert, reward innovative ideas	Mr.Prabhunath Mr. Bhaskar Ranjan
C.3	National startup day-celebration	one/half day	min50 students, max faculty	indian startup ecosystem, encourage people who create environment for startup, startup founder interaction, startup exhibition	Mr.Raghunath Ms.Jenisha

IMPACT LECTURE SESSION on Innovation and Entrepreneurship:

GEMS Polytechnic College, Aurangabad, Bihar, organized an impactful lecture series on Innovation and Entrepreneurship as part of the MoE's IIC, AICTE Sponsored program. The event, held on July 19, 2022, featured distinguished speakers. Joseph Paul Arackalan, Manager of Incubation Centre IIT Patna, presented on "Innovation and Entrepreneurship," followed by Mahendra Kumar Gupta, Founder of Udyamita Sanskar Foundation, who discussed "Entrepreneurship Ecosystem and Journey to Start-up." The lectures aimed to inspire faculty members, students, and anyone interested in innovation. E-certificates was provided to participants.

Innovation Ambassador Training at GEMS Polytechnic College, Bihar

Foundation Level Training (June 30 - July 30, 2021):

Bhaskar Ranjan from GEMS Polytechnic College, Bihar, successfully completed the Innovation Ambassador training at the Foundation Level. The training, consisting of 16 sessions with a total of 30 contact hours, was conducted online by MoE's Innovation Cell & AICTE. Ranjan's participation reflects a commitment to fostering innovation within the academic community.

Advanced Level Training (IIC Calendar Year 2021-2022):

Bhaskar Ranjan, a dedicated member of GEMS Polytechnic College, Bihar, furthered his expertise by completing the Innovation Ambassador training at the Advanced Level. This advanced training comprised 15 sessions totalling 30 contact hours and was conducted online by MoE's Innovation Cell & AICTE during the IIC Calendar year 2021-2022. Ranjan's proactive engagement underscores his dedication to advancing innovation within the educational landscape.

The Institution's Innovation Council at GEMS Polytechnic College is a beacon of innovation, entrepreneurship, and creativity. It empowers students to not only pursue their dreams but also create transformative solutions for societal challenges. With its well-managed resources and a range of effective initiatives, the IIC plays a pivotal role in encouraging students to embark on the entrepreneurial journey, making a meaningful impact in the world of innovation and startups.



Criterion 9

Governance, Institutional Support and Financial Resources

9 Governance, Institutional Support and Financial Resources

9.1 Organization, Governance and Transparency (25):

9.1.1 State the Vision and Mission of the Institute (5) Institute Marks 5.00

Vision :

Empowering the young minds with holistic education and futuristic skills to be a valuable resource for the State and Nation.

Mission :

To provide professional education thereby producing technically competent engineers with moral and ethical values. To train students and provide them with leading resources to address problems faced by industry and society. To encourage doers to embrace learning and achieve their personal best in building their emotional, social and physical well-being.

9.1.2 Governing body, administrative setup, functions of various bodies, define rules procedures, recruitment and promotional policies (5)

- A. List the Governing Body Composition; their memberships, functions, and responsibilities (02)
- B. Minutes of the meetings and action-taken reports (01)
- C. The published service rules, policies and procedures with year of publication (01)
- D. Extent of awareness among the employees/students (01)

Write Answer:

A. List the Governing Body Composition; their memberships, functions, and responsibilities (02)

Governing Council:

Governance is the key activity that acts as a bridge between the management and stakeholders. The institution has a strong council made up of different luminaries from various walks of life that devices all policies and decisions related to both academic and administration.

- To ensure the efficiency and effectiveness of the governing council, a number of academic and administrative bodies have been formed with duties and responsibilities.
- The governing council of the college meets in a year, to discuss various issues and aspects contributing to the development of the college.
- During the meeting the suggestions from the planning and monitoring board are resolved. It chalks out a roadmap in order to achieve the goals of the institution.

Functions of Governing Council:

- Amend and approve policies from time to time.
- To Uphold the legal stature of the college in line with the policies of AICTE, State Government and affiliating board (SBTE, Bihar) or any other board SBTE, Bihar.
- Construction and maintenance of infrastructure and amenities for the institution.

- Review of academic performance of the institution and suggest remedial measures, if required.
- Mobilizes funds and utilizes the resources maximum, towards the development of the institution.
- Introduction of new programs and/or increasing intake/closure of programs/reduction in intake.
- Implement the recommendations of the planning and monitoring board.
- Review of highlighted feedback summary of stakeholders and planning for corrective actions towards the satisfaction of stakeholders.

Composition of Governing Council:

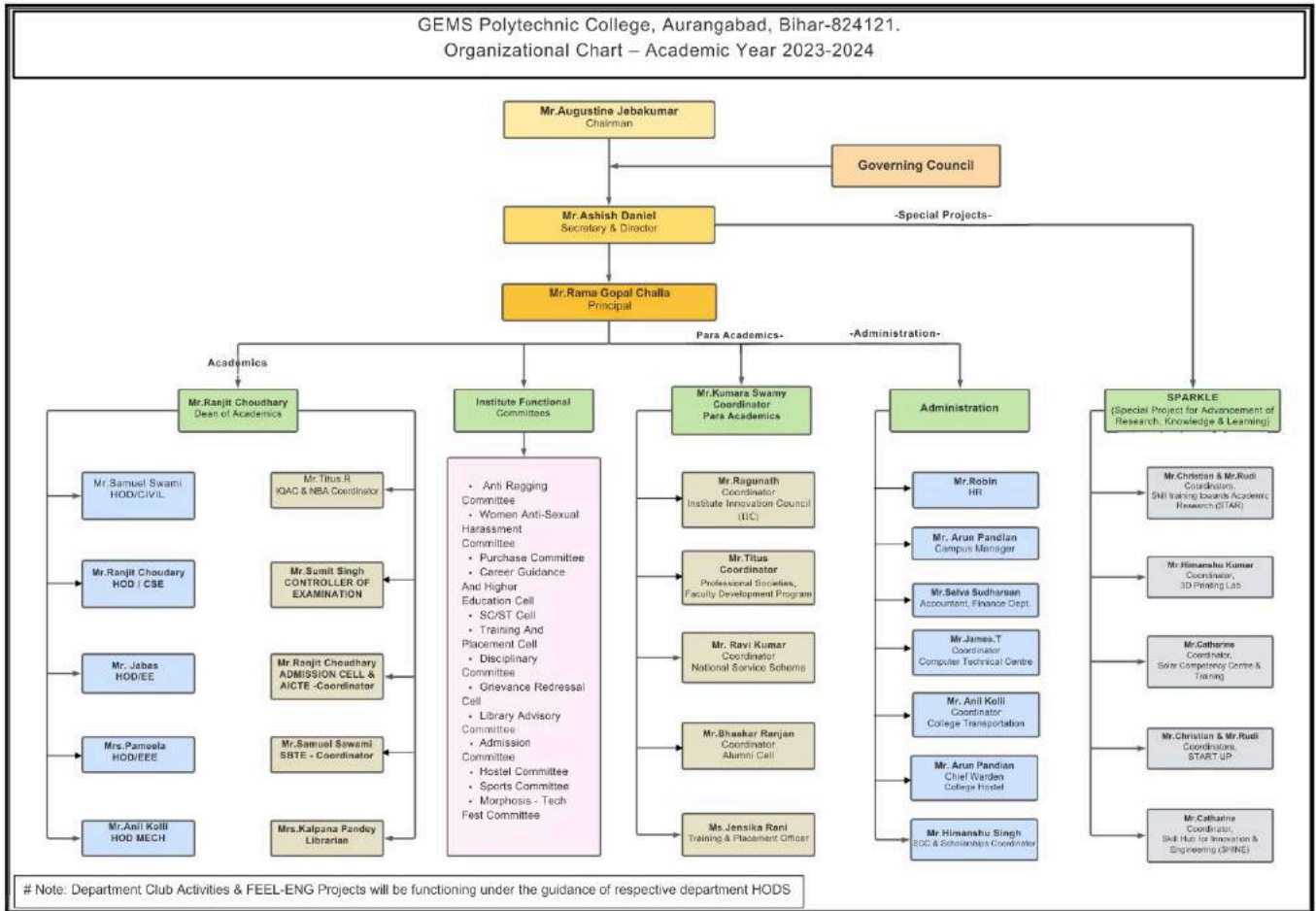
Sl.No	Name	Affiliation	Position
Members nominated by the Trust/Management :			
1.	Mr.Augustine Jebakumar	General Secretary, GEMS	Chairman
2.	Mr.Ashish Daniel	Secretary, GPC	Member
Educationist / Industrialist to be nominated by the Management :			
3.	Dr. B. Priestly Shan	Pro Vice Chancellor, Academic Affairs at Alliance University, Karnataka	Member
4.	Dr.G.Bansal Rajkumar	Principal, Sri Krishna Polytechnic College, Coimbatore, Tamil Nadu.	Member
5.	Dr.Samrajesh Devakadacham	Professor, Department of Computer Science and Engineering, Kuwait College of Science and Technology, Kuwait	Member
6.	Dr.Vijayalaxmi biradar	Director IQAC Kalinga University Raipur, Chhattisgarh	Member
7.	Mr.Kirupakaran Samuel Asir	Reliability Engineer - Planning & Reliability, Qatar Aluminum (Qatalum)	Member

Principal of the College:			
8.	Mr.Ramagopal Challa	Principal	Ex - officio Member Secretary
Members nominated by the Director/ Principal :			
9.	Mr. Ranjit Choudhary	Dean of Academics	Member
10.	Mr.Titus	NBA Coordinator	Member
Affiliating Board nominee (nominated by the Board):			
11.	Dr.Sanjay Kumar	Assistant Secretary, SBTE, Bihar	Ex - officer member

Administrative Body:**Organizational Setup:**

The organizational setup of GEMS Polytechnic College is designed to ensure efficient governance and leadership. At the helm is the Principal, overseeing daily operations, guided by the Director and Chairman. The pivotal decisions are shaped collectively by the experienced Governing Council, as depicted in the organizational chart. This collaborative structure fosters effective management and strategic direction for the institute.

Administrative chart shows the hierarchy setup in the college:



Internal Quality Assurance Cell (IQAC):

The Internal Quality Assurance Cell (IQAC) is a cornerstone of GEMS Polytechnic College's commitment to academic excellence and continuous improvement. IQAC plays a pivotal role in enhancing the teaching-learning process and ensuring that the institution adheres to high-quality benchmarks and parameters. Here, we delve into the functions and composition of the IQAC at GEMS Polytechnic College.

Functions of IQAC:**Creating a Quality Culture:**

- One of the primary functions of the IQAC is to instill a culture of quality throughout the institution.
- This involves setting standards, monitoring adherence to these standards, and fostering a commitment to excellence among all stakeholders.

Assessment of Teaching-Learning Processes:

- The IQAC conducts a thorough assessment of the effectiveness of teaching and learning methods.
- This ensures that students receive a high-quality education that aligns with the institution's mission and vision.

Review and Assessment of Action Taken Reports:

- The IQAC reviews and assesses Action Taken Reports related to course and program outcomes.
- This process helps in identifying areas that require improvement and tracking the progress of corrective measures.

Assessment of Feedback Responses:

- Gathering feedback from students, parents, alumni, and other stakeholders is integral to maintaining quality.
- The IQAC analyzes this feedback to identify areas for enhancement and to ensure that the concerns and suggestions of all constituents are addressed.

Coordination of Quality-Related Activities:

- The IQAC acts as a central agency within the institution for coordinating quality-related activities.
- This includes the adoption and dissemination of best practices in education and administration, promoting a culture of innovation and excellence.

Composition of the IQAC:

The IQAC at GEMS Polytechnic College is a diverse body composed of individuals who bring varied perspectives and expertise to the quality assurance process. The composition of the IQAC includes:

- Senior Leaders of the Institution: To provide strategic guidance and leadership.
- Senior Faculty Members from Each Department: To ensure representation from all academic areas.
- Students: To incorporate the perspectives of the primary beneficiaries of education.
- Alumni: To bring insights from graduates who have experienced the institution's offerings.
- Society and Industry Representatives: To bridge the gap between academia and real-world requirements, fostering relevance and alignment with industry needs.

Composition of the IQAC:

S. No	Role	Designation	Name
1.	Chairman	Director	Mr. Ashish Daniel
2.	Senior Administrative Officers	Principal	Mr. Rama Gopal Challa
		Dean of Academics	Mr. Ranjit Choudhary
		NBA Coordinator	Mr. Titus.R
4.	Members	Head of the Departments	Mr. Anil Kolli, HoD/ MECH
			Mr. Jabas Edwin Raj, HoD/EE
			Ms. Pameela, HoD/ EEE
			Mr. Samuel Prakash Swami, HOD/CE
			Mr Ravi Kumar Saksena HOD(I/c) / CSE.
		Faculties to represent all levels	Mr. Sumit Kumar Singh, COE
			Mr. Robin, HR & Sr. Lecturer, EEE
5.	Nominee from	Local Society	Grama Panchayat, Sarpanch
		Students	Rimjhim Kumari, CSE
		Alumni	Ms Nargis Parween, JE, DoR & LR, Govt. of Bihar.
6.	Nominee from	Employers	Mr.P Jebastian, HR, Manager, Windcare Pvt Ltd-Chennai
		Industrialists/ Stakeholders	Mr.Arunjay Kumar, JK Ravindra-TATA, Aurangabad,Bihar
7.	Member Secretary	Coordinator	Mr Arun Pandian, Sr. Lecturer, MECH.

In conclusion, the IQAC at GEMS Polytechnic College is a pivotal institution within the college, dedicated to fostering a culture of quality, ensuring the effectiveness of educational processes, and facilitating the continuous improvement of the institution's academic and administrative activities. Through its diverse composition and rigorous functions, the IQAC plays a vital role in maintaining the institution's commitment to excellence.

Program Advisory Council (PAC):**Objective:**

- To create the quality culture and adapt best practices in academics to keep the pace with changing educational environment and expectations and support the departments to achieve the vision by remaining up to date with the latest requirements of the industry and incorporating necessary components in the curriculum to the furthest extent.

- The PAC consists of the HoD, Senior faculty members, The Dean (Academics), and the NBA coordinator Department's faculty members, Student Representatives, Alumni Members, and Industry Experts to periodically monitor departmental activities and evaluate parameters related to teaching-learning process and offer suggestions for the continuous improvement.

Functions of Program Advisory Committee (PAC):

The PAC gives guidelines to the department related to the following areas:

- Formation/Revision of the Vision and Mission of the Department
- Formation of Program Educational Objectives.
- Redefine existing PEOs, aligning of PEO's to the mission statements and defining program-specific outcomes.
- Formulation of workable solutions for improvement in the following areas
- Quality of Teaching Learning Process
- Industry Institution Interaction.
- Increase the employability of students.
- Inclusion of topics beyond the syllabus to meet the PEO and PO and bridge the existing gap by encouraging students to do additional experiments in labs and through expert talks in areas beyond the scope of the syllabus.
- Suggest improvement in academic plans and recommend standard practices/systems for attainment of PEOs.
- Encourage for industry-institute interactions to bridge up curriculum/industry gap and suggest quality improvement initiatives to enhance employability.
- To propose necessary action plans for Student projects, value-added training courses, internships, and skill development of students, required for entrepreneurship development and quality improvement to meet PEOs. Monitoring the attainments of Program Outcomes (POs), Program Specific Outcomes (PSOs) and Program Educational Objectives (PEOs).
- Evaluating program effectiveness and proposing necessary changes.
- Measuring the extent of adherence to planned activities and calendar of events.
- Suggesting ways and means to reduce the curriculum gaps in achieving POs and PSOs.
- Preparing periodic reports on program activities, progress, status or other special reports for management.
- **Faculty motivation:** Attend / organize workshop / seminar / FDP, paper publication, development of models / lab.
- **Student motivation:** Attend/participate in technical competitions, paper presentation, mini projects/models, social / cultural events, skill development programs.
- Interacting with students facilitating the attainment of POs, PSOs and PEOs.
- Interact with stakeholders and PAC to facilitate the attainment of POs, PSOs, and PEOs.

PAC Composition:

The PAC consists of members hailing from prestigious institutions and industry experts. It includes representation from alumni, departmental Heads, Senior faculty, and student representatives across all academic years. Additionally, the composition comprises the dean of academics and the NBA coordinator. The present composition of the PAC is as follows:

Sl.No	Name	Affiliation	Position	Email Id & Mobile Number
1.	Head of the Department	Convenor	Mr.Samuel Prakash Swami	samuel@gemspolytechnic.edu.in & 9801709881
2.	Dean of Academics	Member	Mr.Ranjit Choudhary	academicdean@gemspolytechnic.edu.in & 8124517713
3.	NBA Coordinator	Member	Mr.Titus R	nba@gemspolytechnic.edu.in & 9304706901
4.	Dept. Senior Faculty Representative	Member	Mrs.Chinthiya	chinthiya@gemspolytechnic.edu.in & 8525999487
5.	Dept. Senior Faculty Representative	Member	Mr.Daniel Swami	daniel@gemspolytechnic.edu.in & 7488395113
6.	Industry Representative (External)	Member	Ms.Nargis Parween , Junior Engineer,PRD Govt.of Bihar	nargisparween57@gmail.com & 8676926696
7.	Academia Representative (External)	Member	Mr.Ranajeet Kumar	kumarranajeet@gmail.com & 8730852571 Assistant Professor, Civil Engineering Department
8.	Alumni Representative (External)	Member	Vivek Kumar - Highway and Structural Engineer, B.R Goyal Infrastructure Private Ltd. (NH102 - Location (Impal to Mizoram)	vivekkumargems@gmail.com & 8757855521
9.	2nd Year Student Representative	Member	Abheejeet kumar Abhishek	abheejeet22ce08@gemspolytechnic.edu.in & 6207235188

10.	3rd Year Student Representative	Member	Vicky Bhatiya	vickey21047ce@gemspolytechnic.edu.in & 9334272736
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B. Minutes of the meetings and action-taken reports (01)

Write Answer:

At GEMS Polytechnic College, meticulous records of the minutes of meetings and action-taken reports are diligently maintained. This includes records from the governing body, the administrative setup, and the functions of various bodies. Furthermore, it encompasses the documentation of defined rules and procedures, recruitment and promotional policies. These records are preserved under the supervision of the respective faculty incharges, ensuring transparency, accountability, and effective decision-making throughout the institution's operations.

C. The published service rules, recruitment and promotional policies and procedures with year of publication (01)

Write Answer:

Service Rules:

Staff Leave Policies (Version 3.1):

Leave-Policy Term:

The following Leave Policy is applicable for the period from July 1, 2023, to June 30, 2024.

Eligibility:

- All regular full-time teaching faculties of our Institution are eligible to apply for leaves as outlined in this policy. This will be subject to the condition that leave can't be claimed as a matter of right and leave sanctioning authority may refuse or revoke leave of any kind except on medical grounds.

Request & Approval:

- The teaching faculties must submit a leave application through the designated leave management system (VMEDULIFE Software) to their Head of the Department well in advance, with reasonable notice.
- The leave application should be submitted in advance, except in cases of unforeseen circumstances or emergencies.
- Approval is subject to the operational needs of the institution and may be granted at the discretion of the management.
- The teaching faculties are expected to return to work promptly upon the completion of their approved leave. Any leaves taken with permission beyond the allotted or approved leave would be considered a Loss Of Pay (LOP).

- Kindly refrain from requesting "Loss of Pay (LOP)" as there is no category or provision for it.
- Failure to complete the biometric attendance entry will result in faculty being considered to be leave, such failures can be corrected on vmedulife upto twice a month.

Employees in their notice period cannot request or take any leave.

Reimbursement:

- Round-trip Travel Allowance (TA) will be provided to all individuals whose hometown is located more than 500 km away.

Policy Category:

The leave policy is structured into the following categories:

- Teaching Faculty
- Librarian, Accountant, Clinical Staff
- Non-Teaching Faculty & Office Assistant

Leave Policy - Teaching Faculty:

Types of Leave	Allotted days	Approval Authority	Remarks
Casual Leave (CL)	12	HoD & Dean of Academics	1 CL will be credited every month that can be accumulated and up to 3 days availed at a time. 2 CL will be approved by HOD More than 2 CL will be approved by the Dean of Academics.
Medical Leave (ML)	6	HoD & Dean of Academics	Less than 3 days can be approved by HOD CL and 3ML can be clubbed during emergencies and needs Dean's Approval.
On Duty (OD)	-	Dean & Principal	The institution will grant on-duty leave for tasks associated with purchasing, promotions, and official meetings (<i>SBTE, AICTE, DRCC etc.</i>)
Bereavement Leave (BL)	3- 6	Principal/ Director	In the case of a death in the immediate family. 3 days for travel less than 500km and 6 days for more than 1500km
Special Leave (SL)	8	Dean & Principal	Special leave may be granted when a teaching faculty member wishes to attend or contribute to conferences/ seminars / symposia / practical training/workshops. In or out of India shall be entitled to special leave for up to 8 days in a calendar year.

			<i>(Please support such applications with the invitation and your contribution to such events)</i>
Maternity Leave (MTL)	90/120	Principal & Director	<p>Maternity leave is up to three months(90 days) and can be taken anytime during the pregnancy or after delivery as per the choice of the particular worker.</p> <p>Anyone who wants to avail leaves before delivery will have a plan within the routine grant of four months only.</p> <p>For Post Delivery Complications, C-section delivery and instrumental delivery, an additional 1 month can be availed.</p> <p>This leave will be paid only if the employee has completed 11 months at GEMS.</p>
Paternity Leave (PL)	3 - 6	Principal & Director	<p>Paternity Leaves may be granted for 3 days before or up to 30 days from the date of delivery of the child.</p> <p>3 days are granted for staff with travel distances less than 500 km and 6 days for distances greater than 1500 km.</p>
Annual Leave (AL)	30	Principal & Director	<p>The employees who have completed 11 months of service as of the first day of their vacation will be eligible for annual leave.</p> <p>The employee has to be present on the closing date of college and on the opening date of college failing to be present, the number of holidays falling in between will be considered as a Loss of Pay (LOP).</p>
Marriage Leave (MRL)	3 - 6	Principal & Director	<p>Leave allocation is determined by the distance. If the distance exceeds 1500 km, an allotment of 6 days will be provided.</p> <p>Conversely, for distances less than 500 km, a total of 3 days will be allocated.</p>
Late Coming / Early Going	2 per month	HOD	<p>A maximum of two instances of arriving late or leaving early is permitted within a month.</p> <p>Late arrivals up to 50 minutes past 8:45 am will be considered permissible as an instance of late coming.</p> <p>Similarly, early departures between 3:50 pm and 4:40 pm will be considered as an instance of early going.</p>

			Every third occurrence of Late Coming (LC) or Early Going (EG) will be considered as 1 Casual Leave (CL). (Ex. 3-5 LC/EG = 1CL, 6-8 LC/EG = 2CL, 9-11 LC/EG = 3CL)
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Leave Policy - Librarian, Accountant, Clinical Staff:

Types of Leave	Allotted days	Approval Authority	Remarks
Casual Leave (CL)	10	HoD & Dean of Academics	1 CL will be credited every month that can be accumulated and up to 3 days availed at a time. 2 CL will be approved by HOD More than 2 CL will be approved by the Dean of Academics.
Medical Leave (ML)	4	HoD & Dean of Academics	Less than 3 days can be approved by HOD CL and 3ML can be clubbed and needs Dean's Approval.
On Duty (OD)	-	Dean & Principal	The institution will grant on-duty leave for tasks associated with purchasing, promotions, and official meetings (<i>SBTE, AICTE, DRCC etc.</i>)
Bereavement Leave (BL)	3- 6	Principal/ Director	In the case of a death in the immediate family. 3 days for travel less than 500km and 6 days for more than 1500km.
Maternity Leave (MTL)	90/120	Principal & Director	Maternity leave is up to three months(90 days) and can be taken anytime during the pregnancy or after delivery as per the choice of the particular worker. Anyone who wants to avail leaves before delivery will have a plan within the routine grant of four months only. For Post Delivery Complications, C-section delivery and instrumental delivery, an additional 1 month can be availed.

			This leave will be paid only if the employee has completed 11 months at GEMS Polytechnic.
Paternity Leave (PL)	3 - 6	Principal & Director	Paternity Leaves may be granted for 3 days before or up to 30 days from the date of delivery of the child. 3 days are granted for staff with travel distances less than 500 km and 6 days for distances greater than 1800 km.
Annual Leave (AL)	25	Principal	The employee who has completed 11 months of service as of the first day of their vacation will be eligible for annual leave. The employee has to be present on the closing date of college and on the opening date of college failing to be present, the number of holidays falling in between will be considered as a Loss of Pay (LOP).
Marriage Leave (MRL)	3 - 6	Principal & Director	Leave allocation is determined by the distance. If the distance exceeds 1500 km, an allotment of 6 days will be provided. Conversely, for distances less than 500 km, a total of 3 days will be allocated.
Late Coming /Early Going	2 per month	HOD	A maximum of two instances of arriving late or leaving early is permitted within a month. Late arrivals up to 50 minutes past 8:45 am will be considered permissible as an instance of late coming. Similarly, early departures between 3:50 pm and 4:40 pm will be considered as an instance of early going. Every third occurrence of Late Coming (LC) or Early Going (EG) will be considered as 1 Casual Leave (CL). (Ex. 3-5 LC/EG = 1CL, 6-8 LC/EG = 2CL, 9-11 LC/EG = 3CL)

Leave Policy - Non-Teaching Staff, Office Assistant:

Types of Leave	Allotted days	Approval Authority	Remarks
Casual Leave (CL)	9	HoD & Dean of Academics	1 CL will be credited every month that can be accumulated and up to 3 days availed at a time. 2 CL will be approved by HOD More than 2 CL will be approved by the Dean of Academics.
Medical Leave (ML)	3	HoD & Dean of Academics	Less than 3 days can be approved by HOD CL and 3ML can be clubbed and needs Dean's Approval.
On Duty (OD)	-	Dean & Principal	The institution will grant on-duty leave for tasks associated with purchasing, promotions, and official meetings (<i>SBTE, AICTE, DRCC etc.</i>)
Bereavement Leave (BL)	3- 6	Principal/ Director	In the case of a death in the immediate family. 3 days for travel less than 500km and 6 days for more than 1500km.
Maternity Leave (MTL)	90/120	Principal & Director	Maternity leave is up to three months(90 days) and can be taken anytime during the pregnancy or after delivery as per the choice of the particular worker. Anyone who wants to avail leaves before delivery will have a plan within the routine grant of four months only. For Post Delivery Complications, C-section delivery and instrumental delivery, an additional 1 month can be availed. This leave will be paid only if the employee has completed 11 months at GEMS Polytechnic.
Paternity Leave (PL)	3 - 6	Principal & Director	Paternity Leaves may be granted for 3 days before or up to 30 days from the date of delivery of the child. 3 days are granted for staff with travel distances less than 500 km and 6 days for distances greater than 1800 km.

Annual Leave (AL)	15	Principal	The employee who has completed 11 months of service as of the first day of their vacation will be eligible for annual leave. The employee has to be present on the closing date of college and on the opening date of college failing to be present, the number of holidays falling in between will be considered as a Loss of Pay (LOP).
Marriage Leave (MRL)	3 - 6	Principal & Director	Leave allocation is determined by the distance. If the distance exceeds 1500 km, an allotment of 6 days will be provided. Conversely, for distances less than 500 km, a total of 3 days will be allocated.
Late Coming / Early Going	2 per Month	HOD	A maximum of two instances of arriving late or leaving early is permitted within a month. Late arrivals up to 50 minutes past 8:45 am will be considered permissible as an instance of late coming. Similarly, early departures between 3:50 pm and 4:40 pm will be considered as an instance of early going. Every third occurrence of Late Coming (LC) or Early Going (EG) will be considered as 1 Casual Leave (CL). (Ex. 3-5 LC/EG = 1CL, 6-8 LC/EG = 2CL, 9-11 LC/EG = 3CL)

Recruitment Procedure in GEMS Polytechnic College:

At GEMS Polytechnic College, the recruitment of faculty and staff is conducted in strict adherence to the guidelines and norms set forth by the State Board of Technical Education, Bihar (SBTE) and the All India Council for Technical Education (AICTE). Our comprehensive recruitment procedure ensures that we identify and onboard talented individuals who align with our institution's values and goals. Here is an overview of our recruitment process:

Manpower Requirement Estimation:

The Head of the Departments (HODs) plays a pivotal role in estimating the manpower requirements, both for teaching and non-teaching positions. HODs are required to submit a detailed report outlining the anticipated staffing needs at least three months before the start of each semester. This report is forwarded to the Human Resource Officer (HRO).

HRO Review and Vacancy Sorting:

The HRO meticulously reviews the submitted reports from HODs, which outline the staffing requirements.

Based on the inputs provided, the HRO collaborates with department heads to sort and identify the specific vacancies that need to be filled.

Formal Announcement:

A formal announcement is made through various means of advertisement to communicate the availability of positions to prospective candidates.

These advertisements help attract suitable candidates to apply for the open positions.

GEMS POLYTECHNIC COLLEGE
WE'RE LOOKING FOR IMMEDIATE RECRUITMENT

Department	Position	Eligibility	Vacancies
Electrical	Lecturer	B. Tech/B.E/M.Tech/M.E in EE/EEE with First Class	1
Mechanical	Lecturer	B. Tech/B.E/M.Tech/M.E in Mechanical with First Class	1
CSE	Lecturer	B. Tech/B.E/M.Tech/M.E in CSE with First Class	1
English	Lecturer	MA in English with First Class	1
Physics	Lecturer	M. Sc in Physics with First Class	1
CSE	HOD	M.Tech/M.E in CSE with minimum 2 years Experience	1

Apply on or before 12th August 2023

Accommodation and food facility available on campus
 Play Scale: As Per 6th Pay Commission

Call or whatsapp: +91 7091198385
 Website: www.gemspolytechnic.edu.in
 Email: polytechnic@gemsbihar.org

NH - 2, Jogyia More, Ratanpura, Aurangabad, Bihar - 824121
 www.gemspolytechnic.edu.in, polytechnic@gemsbihar.org
 +91 7091198385

GEMS POLYTECHNIC COLLEGE
 (Approved by AICTE, Govt. of India, F. No Northern/2015/1 - 2474317051)
 NH - 2, Jogyia More, Ratanpura, Bhanthaul (P.O) Aurangabad, Bihar - 824 121

INTERVIEW EVALUATION

Name of the Candidate:
 Qualification:
 Date of Interview:
 Position:
 Department:

Please use the following numbers to indicate the rating:
 5 - Exceptional, 4 - Better than average, 3 - Capable / Average, 2 - Poor, 1 - Not acceptable, N/A - Not observed

CANDIDATE EVALUATION BY THE INTERVIEWER

S.No.	SKILL	RATING
1	Relevant educational background	
2	Related work experience	
3	Technical Knowledge	
4	Communication / Listening Skills	
5	Attitude / Confidence level	
6	Presentation / Appearance	
7	Stress tolerance	
8	Professional Demeanour	
9	Interpersonal Skills	
10	Integrity	

Overall Impression Rating:
 Hiring recommendation after completion of interview: Hire Not Hire

NAME OF THE INTERVIEWER: DESIGNATION: SIGNATURE:

Faculty Recruitment Poster

Interview Evaluation sheet

Profile Screening:

The HRO takes on the responsibility of screening the profiles of candidates who respond to the job postings.

Candidates are selected based on criteria such as educational qualifications, relevant industry or academic experience, age, location of residence, and other job specifications.

Interview Selection:

Shortlisted candidates are invited for interviews, which may be conducted in either online or offline mode.

The interview panel comprises key stakeholders, including the Director, Principal, Dean of Academics, HR representatives, and the respective HODs. Senior lecturers may also be part of the interview panel.

Performance Evaluation:

The Management carefully reviews the performance of candidates during the interview process.

In addition to assessing qualifications, the panel evaluates the candidate's suitability in terms of attitude, cultural alignment with the organizational values, and stability.

Appointment and Terms of Employment:

Candidates who successfully pass the interview stage are offered faculty positions. The details of employment, including monetary and non-monetary benefits, are discussed with the selected candidate.

A mutually agreed-upon date of joining is scheduled.

Issuance of Appointment Letter:

If the candidate satisfies the expectations of both the Management and the respective HOD, an Appointment Letter is issued.

The Appointment Letter, including the date of joining, is duly signed by the Director and issued through the Principal and the HR department.

The recruitment procedure at GEMS Polytechnic College ensures that we bring in qualified and capable individuals who contribute to the institution's academic excellence and adhere to our organizational culture. Our commitment to following established norms and guidelines underscores our dedication to maintaining high standards in education.

Promotion Policies in GEMS Polytechnic College

At GEMS Polytechnic College, we place significant importance on the professional growth and development of our staff members. Our promotion policies are designed to recognize and reward employees for their dedication, educational qualifications, experience, and performance. We believe that promoting our staff is not just about recognizing their past achievements but also about encouraging their potential to assume higher responsibilities and continue contributing to our institution's growth. Here are the key aspects of our promotion policies:

Holistic Evaluation Criteria:

Promotions in our institution are based on a holistic evaluation of staff members. We take into account not only their educational qualifications and experience but also their performance, dedication, and potential to assume higher responsibilities.

Experience and Performance-Based:

Promotion and increment decisions are made by considering a staff member's experience and overall performance.

Those who consistently demonstrate excellence in their roles and show the potential for growth are recognized and rewarded accordingly.

Annual Increments and Promotions:

The management at GEMS Polytechnic College regularly reviews and implements annual increments and promotions in various grades.

These increments are based on an assessment of each staff member's contributions to the institution.

Transparent Decision-Making:

Our management takes effective and transparent decisions regarding promotions. The details of these decisions are shared with the concerned staff members and are incorporated into the proceedings of the meetings of the managing committee.

This transparency ensures that staff members are aware of the institution's appraisal and action plans, promoting a culture of openness and shared goals.

Reimbursement of Professional Society Membership Fee:

We encourage staff members to engage with professional societies by reimbursing 50% of their annual or life membership fee for one national or international professional society.

This not only promotes professional networking but also supports continuous learning and development.

Sl.No	Name of the faculty & Designation	ISTE Life Membership Number	Total paid Amount	Reimbursement Amount
1.	Mr.Rama Gopal Challa, Principal	LM - 138376	₹3,540.00	₹1,770.00
2.	Mr.Ranjit Choudhary, Dean of Academics	LM - 138415	₹3,540.00	₹1,770.00
3.	Mr.Titus R, Sr.Lecturer / Mech	LM - 138357	₹3,540.00	₹1,770.00
4.	Mrs.Jenitha, Sr.Lecturer / CSE	LM - 138414	₹3,540.00	₹1,770.00
5.	Mr.Samuel Prakash Swami, HoD / Civil	LM - 138380	₹3,540.00	₹1,770.00
6.	Ms .Jensika rani J, Sr.Lecturer / Civil	LM - 138375	₹3,540.00	₹1,770.00
7.	Mr .R .Jabas Edwin Raj, HoD / EE	LM - 138362	₹3,540.00	₹1,770.00
8.	Mr. Ganeshbabu M, Lecturer / EE	LM - 138394	₹3,540.00	₹1,770.00
9.	Mrs. Pameela M, HoD / EEE	LM - 138384	₹3,540.00	₹1,770.00
10.	Mr. Ragunath A, Sr.Lecturer /	LM - 138385	₹3,540.00	₹1,770.00

	EEE			
11.	Mr.Anil kolli,HoD / Mech	LM - 138363	₹3,540.00	₹1,770.00
12.	Mr.Arun Pandian P, Sr.Lecturer / Mech	LM - 138364	₹3,540.00	₹1,770.00
Total Amount Reimbursed to the Faculties				₹21,240.00

Financial Support for Novice Faculties:

Recognizing that early-career faculty members may need additional support, we provide financial assistance for registration in the National Initiative for Technical Teachers Training to faculty members with less than five years of experience.

This support helps them access resources and training that aid in their professional development. Our promotion policies at GEMS Polytechnic College are rooted in the belief that recognizing and nurturing the potential of our staff members benefits both the individuals and the institution as a whole. We are committed to fostering an environment of growth, learning, and continuous improvement, ensuring that our staff members are motivated and well-equipped to meet the evolving needs of our students and the education sector.

S.NO	Academic Year	No.of Faculties	Reimbursement Amount Per Head	One time Registration Fee
1	2020 - 2021	24	₹2,000.00	₹ 48,000.00
2	2021 - 2022	3	₹2,000.00	₹ 6,000.00
3	2022 - 2023	4	₹2,000.00	₹ 8,000.00
4	2023-2024	6	₹2,000.00	₹ 12,000.00
Total Amount Reimbursed		37	₹2,000.00	₹ 74,000.00

D. Extent of awareness among the employees/students (01)

Write Answer:

In GEMS Polytechnic College, a robust system is in place to ensure that crucial information concerning the governing body, administrative structure, functions of various bodies, defined rules and procedures, as well as recruitment and promotional policies, is effectively disseminated. The college leverages its website as a central hub for this information, making it easily accessible to all. Additionally, various meetings are held to keep employees and students informed, promoting transparency and understanding throughout the institution. This proactive approach to communication ensures that

everyone within the college community remains well-informed and engaged with the institution's policies and procedures.

9.1.3 Decentralization in working and grievance redressal mechanism (5)

A. List the names of the faculty members who have been delegated powers for taking administrative decisions (02)

B. Specify the mechanism and composition of grievance redressal cell including Anti Ragging Committee & Sexual Harassment Committee (03)

Write Answer:

In an academic institution, the efficient management of administrative decisions and the establishment of effective grievance redressal mechanisms are paramount to fostering a conducive and secure environment for both faculty and students. Decentralization in working and grievance redressal mechanisms play a vital role in ensuring the well-being of all stakeholders. Here, we elaborate on the key aspects of this decentralized approach:

A. Delegation of Administrative Powers

This institution strongly believes in recognizing the unique skills and passion possessed by its faculty members. As part of this belief, faculty members are provided with opportunities and empowerment to take on additional roles beyond their designated responsibilities. This delegation of administrative power not only acknowledges their specialized skills but also enables them to showcase their capabilities. It leads to a more dynamic and responsive administrative structure.

List of Faculty members who have been delegated powers for taking Administrative Decisions:

The details of committees along with the names of coordinators as well as the responsibilities of each committee are given below:

S.no	Name of the Committee / Cell	Coordinators / Person In-charge	Functions and Responsibilities
1	Anti Ragging Committee	Mr.Anil Kolli, HoD/Mech	a. Prevent and address incidents of ragging within the institution. b. Create awareness and educate students about the consequences of ragging and the anti-ragging measures in place.
2	Women Anti-Sexual Harassment Committee	Mrs.Chinthiya, Sr.Lecturer/Civil	a. Ensure a safe and harassment-free environment for women within the institution. b. Investigate and address complaints

			related to sexual harassment and take appropriate actions against the offenders.
3	Purchase Committee	Mr.Arun Pandian, Sr.Lecturer/Mech	a. Manage and oversee the procurement and purchasing processes of the institution. b. Ensure transparency, fairness, and compliance with procurement policies and regulations.
4	Career Guidance And Higher Education Cell	Ms.Jensika Rani, Sr.Lecturer/Civil	a. Provide students with information and guidance on career opportunities and higher education options. b. Organize workshops, seminars, and counseling sessions to help students make informed career and education choices.
5	SC/ST Cell	Mr. David Naik, Lecturer/EEE	a. Promote the welfare and upliftment of students from Scheduled Castes (SC) and Scheduled Tribes (ST). b. Address issues related to the discrimination, harassment, and challenges faced by SC/ST students.
6	Training And Placement Cell	Ms.Jensika Rani, Sr.Lecturer/Civil Mr.Bhaskar Ranjan, Sr.Lecturer/EE	a. Facilitate job placement and internships for students. b. Collaborate with companies and industries to organize campus recruitment drives and provide career development support.
7	Institution Innovation Council (IIC)	Mr. Rangunath, Sr.Lecturer/EEE	a. Foster an entrepreneurial spirit among students. b. Provide resources, training, and mentorship to students interested in starting their own businesses.
8	Disciplinary Committee	Mr.Anil Kolli, HoD/Mech	a. Maintain discipline and order within the institution. b. Investigate and address cases of student misconduct and violations of the institution's code of conduct.
9	Grievance Redressal Cell	Mr.Anil Kolli, HoD/Mech	a. Receive and resolve grievances and complaints from students and staff. b. Ensure that concerns and issues raised by members of the institution are addressed in a fair and timely manner.

10	Examination Cell	Mr.Sumit Kumar, COE	a. Organize and manage the examination and assessment processes. b. Ensure the integrity, security, and fairness of the examination system.
11	Library Advisory Committee	Mr.Titus, Sr.Lecturer/Mech	a. Advise on the development and improvement of library resources and services. b. Recommend acquisitions, subscriptions, and policies related to the library.
12	Alumni Association Cell	Mr.Bhaskar Ranjan, Sr.Lecturer/EE	a. Maintain connections with alumni and engage them in the institution's activities. b. Organize alumni events, networking opportunities, and fundraising initiatives.
13	Admission Committee	Mr.Ranjit Choudhary, Dean of Academics	a. Oversee the admission process for new students. b. Establish admission criteria and ensure a fair and transparent admission system.
14	Hostel Committee	Mr.Arun Pandian, Sr.Lecturer/Mech	a. Manage and maintain the hostel facilities for students. b. Address issues related to hostel accommodation, safety, and amenities.
15	Sports Committee	MrAnugrah Ashish, Lecturer/ EE Mrs.Kalpana Pandey, Librarian	a. Promote sports and physical activities within the institution. b. Organize sports events, competitions, and support student athletes.
16	Morphosis - Tech Fest Committee	Mr.Ganesh Babu M Lecturer/EE Mr.Sudhir Kumar, Lecturer/MECH	a. Plan and organize the institution's tech fest or similar events. b. Coordinate activities, competitions, and workshops related to technology and innovation during the fest.

B. Grievance Redressal Mechanisms

Grievance Redressal Committee:

Composition:

The Grievance Redressal Committee is composed of the Principal, Head of Departments, and staff members, creating a diverse group to address various concerns.

Grievance Redressal Committee in the Institute and Appointment of OMBUDSMAN by the Committee. As per All India Council for Technical Education (Establishment of Mechanism for Grievance redressal) Regulations, 2012, F. No. 37-3/Lega112012, dated 25.05.2012).

Composition of Grievance Redressal Committee:

Sl.No	Name	Designation	Position
1	Mr.Rama Gopal Challa	Principal	Chairman
2	Mr.Sandy William	Advocate Ms. 1325/2014	OMBUDSMAN
3	Mr.Anil Kolli	HOD / Mech	Convener
4	Mr.Ranjit Choudhary	Dean of Academics	Member
5	Mr.Sumit Kumar Singh	Sr.Lecturer / EEE	Member
6	Mr. Robin	HR	Member

Mechanism:

The committee analyzes all grievances and suggestions submitted through the suggestion box. It strictly adheres to the guidelines provided by AICTE (All India Council for Technical Education). Regular meetings are conducted to ensure that grievances raised are addressed in a timely and effective manner, fostering an environment of continuous improvement.

Anti-Ragging Committee:

Composition:

The Anti-Ragging Committee is headed by the Principal and consists of dedicated members.

Anti-Ragging Committee as per All India Council for Technical Education notified regulation for prevention and prohibition of ragging in AICTE approved technical institutions vide No. 37-3/Legal/AICTE/2009 dated 01.07.2009.

Composition of Anti-ragging Committee:

s.no	Name	Designation	Position
1	Mr. Rama Gopal Challa	Principal	Chairman
2	Mr. Anil Kolli	HOD - Mech	Coordinator
3	Mr. Ranjit Choudhary	Dean of Academics	Member
4	Mr. Arun Pandian	Sr.Lecturer/Mech	Member
5	Mrs. Pameela	HOD - EEE	Member

Mechanism:

The institution collects undertaking forms from all students and parents/guardians at the time of admission. The contact details of committee members are readily available in various places, including the Handbook, Display Boards, and the institution's website. To ensure a safe and ragging-free environment, an Anti-Ragging squad will form, which conducts regular inspections in different areas like food courts, bus stops, restrooms, hostels, and vehicle stands. The presence of CCTV cameras in strategic locations adds an extra layer of security by monitoring and deterring ragging activities.

Women Anti-Sexual Harassment Cell:**Composition:**

This cell is led by senior women faculty members who serve as presiding members and mentors.

Composition of Women Anti-sexual Harassment Cell:

S.No.	Name	Designation	Position	Mobile Number
1	Mr. Rama Gopal Challa	Principal	Chairman	8340231074
2	Mrs. Chinthiya	Sr.Lecturer/Civil	Coordinator	8525999487
3	Mr. Ranjit Choudhary	Dean of Academics	Member	8124517713
4	Mrs. Kalpana Pandey	Librarian	Member	9304240631
5	Mrs. Catharine	Lecturer / EE	Member	7010065904

Mechanism:

The Women Anti-Sexual Harassment Cell plays a pivotal role in ensuring a safe and inclusive environment. It actively promotes awareness and follows the guidelines prescribed by AICTE. Any student or staff member who experiences harassment can approach this committee at any time. Immediate and strict corrective measures are undertaken to address the issue. The cell also conducts awareness campaigns through meetings to encourage reporting against any form of suppression, thereby empowering individuals to stand up against harassment.

In conclusion, decentralization in administrative decision-making and the existence of robust grievance redressal mechanisms, including Anti-Ragging and Anti-Sexual Harassment Committees, ensure that the institution operates smoothly, promoting a safe and inclusive environment for all its members. This approach empowers faculty members to contribute their unique skills and capabilities, while also providing a responsive system for grievance redressal and safety.

9.1.4 Delegation of Financial Powers (5):

At our college, we uphold the principles of democratic and decentralized administration, fostering a culture of shared responsibility and active participation in decision-making. To achieve this, we have established various committees aimed at ensuring effective governance and nurturing leadership qualities among our esteemed staff members.

These committees play a pivotal role in our institution, as they are entrusted with the authority to make financial decisions within their respective domains. This delegation of financial powers is not merely an administrative choice but a strategic move that has yielded significant benefits for our college community:

Enhanced Involvement:

Delegating financial powers to various committees has created a sense of ownership and involvement among our faculty members.

They have a direct say in how resources are allocated and utilized, which strengthens their connection to the institution.

Speed and Efficiency:

By distributing financial authority, we have streamlined our administrative processes. This decentralization ensures quicker responses to financial matters, leading to more agile and efficient administration.

Effective Governance:

Our committees, equipped with delegated financial powers, are better equipped to address the unique needs and challenges within their domains.

This tailored approach to decision-making contributes to the effective governance of our college.

S.No.	Designation	Particulars Limit to Sanction	Limit to Sanction upto
1	Principal	Procurement of Equipments, Service Maintenance and promotion of academics Development activities.	Below Rs.1 Lakh
2	HoDs	Procurement of laboratory Consumables, Stationeries, Service and Maintenance	Below Rs.10,000/-
3	Coordinators	To spend for their committee activities	Rs.5,000/-

In essence, our commitment to delegation of financial powers aligns with our broader vision of fostering a collaborative and accountable community. It empowers our faculty members to shape the future of our institution while ensuring that financial decisions are made swiftly and effectively.

We believe that this democratic and decentralized approach not only serves our college's interests but also enriches the professional development of our staff members, creating a stronger and more resilient educational environment.

9.1.5 Transparency and availability of correct/unambiguous information in public domain (5):

At GEMS Polytechnic College, we are dedicated to ensuring transparency, clarity, and accuracy of information provided to our stakeholders. To achieve this, we employ various channels to disseminate important information and maintain an open line of communication:

College Website: We utilize our college website to share information related to institutional policies, rules, and various processes.

This platform serves as a central hub for accessing essential information, promoting transparency in our operations.

Notice Boards: Our notice boards, strategically located at the main entrance, department corridors, and classrooms, serve as physical sources of information.

We use these boards to communicate proposed activities to both staff and students, ensuring that everyone is informed.

Orientation Programs: During orientation programs, we provide detailed information about various institutional and departmental activities.

This comprehensive overview helps newcomers become familiar with our institution's offerings.

SBTE Board Circulars: We maintain an official WhatsApp group and utilize official email IDs to share SBTE Board Circulars with our students.

This ensures that critical updates and announcements reach students promptly.

Academic Calendar: Our academic calendar includes essential dates such as examination schedules, holidays, and events.

It is circulated to all students and staff members, facilitating effective planning and utilization of facilities.

Transparency in Assessment: After each internal assessment test, we return corrected answer scripts to students.

This practice promotes transparency and allows students to seek clarification in the evaluation process.

Department Newsletters: Our department newsletters, published once per semester, provide insights into departmental activities.

This information is also available on the department's dedicated page on the college's official website.

AICTE Approval and SBTE Affiliation: As a college approved by AICTE, New Delhi, and affiliated with SBTE, Bihar, we make all relevant information and approval letters accessible on our website.

This ensures that our stakeholders have easy access to the details of our affiliations and approvals.

We believe that by maintaining transparency and making information readily available, we empower our stakeholders to make informed decisions, participate actively in our institution's activities, and contribute to our collective growth and success.

9.2 Budget Allocation, Utilization, and Public Accounting at Institute level

Summary of current financial year's budget and actual expenditure incurred (for the institution exclusively) in the three previous financial years:

Table 1 - CFYm1 2022-23			
INCOME		Actual expenditure	
Fee	₹61,329,583.00	Recurring including salaries	₹37,301,451.00
Govt.	₹0.00	Non Recurring	₹5,324,015.00
Grants	₹0.00	Special Projects/Any other, specify	₹0.00
Other Sources	₹0.00		
Total Income	₹61,329,583.00	Total Expenditure	₹42,625,466.00
Total No. of Students			489

Table 2 - CFYm2 2021-22			
INCOME		Actual expenditure	
Fee	₹28,146,510.00	Recurring including salaries	₹30,899,976.00
Govt.	₹0.00	Non Recurring	₹4,658,132.00
Grants	₹0.00	Special Projects/Any other, specify	₹0.00
Other Sources	₹0.00		
Total Income	₹28,146,510.00	Total Expenditure	₹35,558,108.00
Total No. of Students			507

Table 3 - CFYm3 2020-21			
INCOME		Actual expenditure	
Fee	₹19,270,917.00	Recurring including salaries	₹17,262,183.00
Govt.	₹0.00	Non Recurring	₹1,968,603.00
Grants	₹0.00	Special Projects/Any other, specify	₹0.00
Other Sources	₹0.00		
Total Income	₹19,270,917.00	Total Expenditure	₹19,230,786.00
Total No. of Students			438

Table 4 - CFYm4 2019-20			
INCOME		Actual expenditure	
Fee	₹29,780,944.00	Recurring including salaries	₹19,295,842.00
Govt.	₹382,418.00	Non Recurring	₹4,104,805.00
Grants	₹0.00	Special Projects/Any other, specify	₹0.00
Other Sources	₹0.00		
Total Income	₹30,163,362.00	Total Expenditure	₹23,400,647.00
Total No. of Students			348

9.2.1 Adequacy of Budget Allocation (4):

At our institution, the allocation of funds is a meticulous process that aligns with the availability of financial resources. These funds are disbursed in accordance with the approved budget, and their utilization is closely monitored by our dedicated accounts section. We take pride in ensuring that our budget allocations meet the needs of both individual departments and the institution as a whole.

Our institution's budget allocation procedure follows a well-defined framework:**Annual Budget Preparation:**

The process begins in February/March each year, in anticipation of the upcoming academic year starting in June.

Heads of departments, in collaboration with various offices, work under the guidance of the Principal to formulate budgets that cater to the specific requirements of each department.

Comprehensive Coverage:

The budget encompasses all functional departments within the institution, including academic departments, placement services, accounts, library, purchase, hostel management, physical education, IT system administration, transportation, and maintenance.

This comprehensive approach ensures that no critical area is overlooked.

Scrutiny and Consideration:

The projections provided by individual departments are subjected to rigorous scrutiny and assessment, forming the basis for the institution-level budget.

This thorough evaluation process guarantees that each department's essential needs are addressed.

Governing Council Approval:

The consolidated budget, reflecting the needs and priorities of the entire institution, is presented to our Governing Council for approval.

This step ensures transparency and accountability in the budgeting process.

Release of Budget:

Upon approval by the Governing Council, the budget is officially released for utilization through our main finance office.

This allows departments to access the allocated funds as needed.

In addition to the annual budget, we have mechanisms in place to accommodate additional allocations in special cases that may arise during the year. Our institution places a strong emphasis on responsible financial management to ensure that essential requirements are met without disruption to the smooth operation of the institution.

From the very inception of our college, the management has consistently demonstrated its commitment to providing an adequate budget that supports our educational mission and enables us to offer a high-quality learning environment. We take pride in the transparency, diligence, and responsibility with which we handle our budget allocation process.

9.2.2 Utilization of allocated funds (4):

Our institution places great importance on the responsible and efficient utilization of allocated funds to ensure that resources are effectively managed to support our academic and operational needs.

Here's how we manage the utilization of allocated funds:

Empowered Department Heads:

Each department head is granted the authority to utilize the approved budget as projected by their respective departments, as and when required within the academic year.

This decentralization of financial responsibility allows for greater flexibility in addressing department-specific needs.

Administrative Oversight:

The allocation of funds is overseen by the administrative team, led by the Principal.

These funds are disbursed and managed by the Principal and the Heads of the Departments in accordance with the approved allocation.

In cases where additional funds are needed beyond the budgeted amount, such requests are subject to approval by the Chairman as necessary.

Initiating Procurement:

Actions related to procurement of laboratory equipment, the enhancement of existing lab facilities, and the purchase of consumables are initiated by the respective department heads.

Upon approval by the Principal, funds are released from the central finance office to facilitate these essential activities.

Diverse Expense Categories:

Over the past three years, our budget has been thoughtfully utilized to cover various expenses, including staff salaries, infrastructure development, equipment purchases, consumables, contingencies, and travel, among others.

This diverse allocation ensures that all aspects of our institution's functioning are adequately funded.

Financial Oversight:

To maintain transparency and adherence to financial delegation guidelines, the utilization of the budget is closely monitored by the Purchase and Accounts Departments.

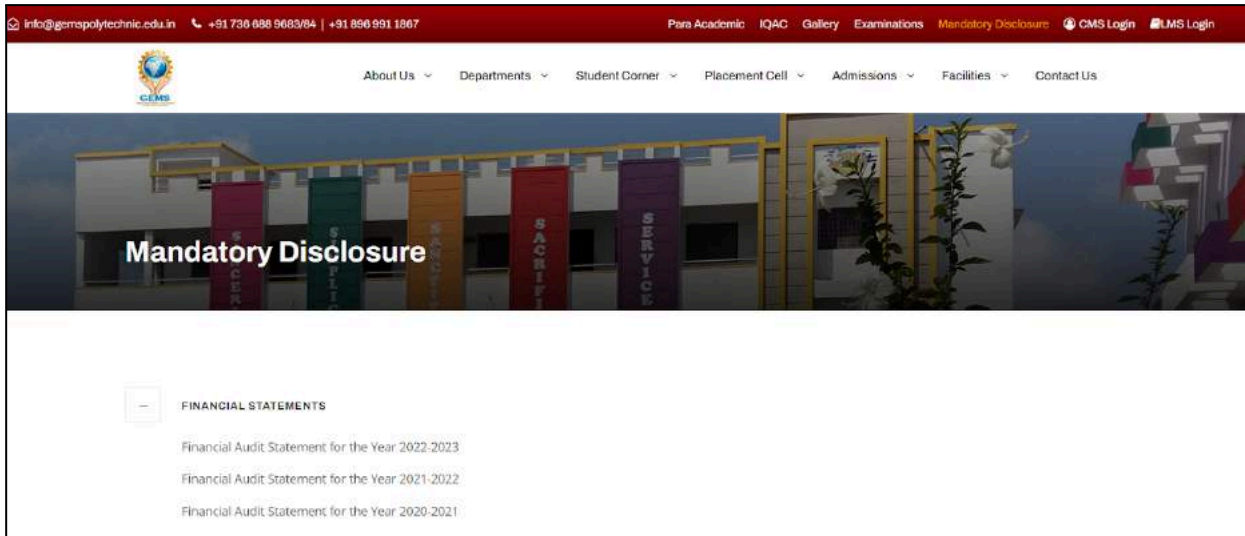
These departments verify the proper allocation of funds during procurement and payment processes, ensuring compliance with established financial protocols.

By implementing these comprehensive measures, we strive to ensure that allocated funds are utilized efficiently and effectively, aligning with the institution's goals and objectives. Our commitment to responsible financial management and accountability is unwavering, as we continuously work to enhance the educational experience and infrastructure at our institution.

9.2.3 Availability of the audited statements on the institute's website (2):

At GEMS Polytechnic College, transparency and accountability are of utmost importance to us. As part of our commitment to open and honest financial practices, we make the audited statements of accounts for our institution readily accessible on the College website.

This initiative ensures that our stakeholders, including students, faculty, parents, and the broader community, have easy access to crucial financial information, promoting trust and transparency in our operations.



9.3 Department Specific Budget Allocation, Utilization:

Budget		Actual expenditure	
Non Recurring	₹11,125.00	Non Recurring	₹11,041.20
Recurring	₹34,155.00	Recurring	₹27,872.00
Total Budget	₹45,280.00	Total Expenditure	₹38,913.20

Budget		Actual expenditure	
Non Recurring	₹3,750.00	Non Recurring	₹3,716.70
Recurring	₹28,455.15	Recurring	₹13,440.15
Total Budget	₹32,205.15	Total Expenditure	₹17,156.85

Table 3 - CFYm2 2021-22			
Budget		Actual expenditure	
Non Recurring	₹22,700.00	Non Recurring	₹15,295.09
Recurring	₹65,206.00	Recurring	₹33,958.00
Total Budget	₹87,906.00	Total Expenditure	₹49,253.09

Table 4 - CFYm3 2020-21			
Budget		Actual expenditure	
Non Recurring	₹127,255.00	Non Recurring	₹119,890.36
Recurring	₹32,297.00	Recurring	₹10,799.00
Total Budget	₹159,552.00	Total Expenditure	₹130,689.36

Table 5 - CFYm3 2019-20			
Budget		Actual expenditure	
Non Recurring	₹1,872,500.00	Non Recurring	₹1,740,949.96
Recurring	₹15,800.00	Recurring	₹4,300.00
Total Budget	₹1,888,300.00	Total Expenditure	₹1,745,249.96

9.3.1 Adequacy of Budget Allocation (2)

(In this section, the institution needs to justify that the budget allocated over the assessment years was adequate)

The allocation of funds for the Department of Civil Engineering is a critical aspect of ensuring the smooth operation of academic activities and the enhancement of the learning environment. The institution justifies the adequacy of budget allocation through a well-structured process:

Budget Proposal Alignment:

The budget allocation aligns with the Department Proposed Budget. The allocated funds are judiciously spent to cover various expenses, and this spending is meticulously monitored by the Budget Incharge of the department.

Incorporating Stakeholder Input:

The department collects projections from individuals, laboratory in-charges, and faculty members. These inputs are thoroughly scrutinized and considered when formulating the department's budget.

Curriculum-Driven Equipment Allocation:

Additional equipment and consumables required for laboratory facilities are considered based on curriculum revisions. The appropriate budget is allocated to ensure that students have access to up-to-date equipment and resources.

Planning for Academic Year:

Programs and events for the entire academic year are meticulously planned, and detailed budgets are forecasted to support their successful execution.

Flexibility for Additional Expenditure:

The budget also accounts for unforeseen additional expenses that may arise during the year. This ensures that the department has the necessary resources to address unexpected needs.

Approval Process:

The finalized budget is submitted to the principal through the Overall Budget Coordinator for final approval. This process ensures transparency and accountability in budget allocation.

Supplemental Allocations:

In cases where the allocated budget may prove insufficient, additional allocations are made to address special requirements, thereby ensuring that the department can effectively meet its goals.

9.3.2 Utilization of allocated funds (3)

(In this section, the institution needs to state how the budget was utilized during the last three assessment years)

The efficient utilization of allocated funds is of paramount importance to deliver quality education and maintain high standards in the Department of Computer Science & Engineering. The institution demonstrates how funds were utilized during the last three assessment years:

Lab Equipment Procurement:

A significant portion of the allocated funds is utilized for the procurement of laboratory equipment. This ensures that students have access to state-of-the-art tools and technology for their practical education.

Upgradation of Lab Facilities:

Funds are allocated for the upgradation of existing lab facilities to ensure that the infrastructure remains modern and conducive to effective learning.

Consumables Purchase:

The budget is used to purchase consumables necessary for the day-to-day functioning of laboratories, guaranteeing that students have access to the materials they need.

Academic Events:

Funds are utilized for conducting various academic events such as seminars, workshops, conferences, symposiums, and other educational programs. The utilization of funds for these events requires prior approval by the Principal to maintain financial transparency.

Variance Monitoring:

As the budgets are derived from individual laboratory levels and consolidated to form the department's budget, the variance between the budget and utilization is kept to a minimum. Any increase in expenditure is closely monitored, and control measures are taken to stay within budget limits.

Prior Approval for Unbudgeted Expenses:

Any unbudgeted expenses require prior approval from the management before spending, ensuring that funds are used judiciously and in alignment with the department's goals.

Detailed Utilization Reports:

The department maintains detailed utilization reports to track the expenditure of allocated funds. These reports provide transparency and accountability in the utilization of funds.

In conclusion, the Department of Computer Science & Engineering at GEMS Polytechnic College follows a meticulous process for budget allocation and utilization, ensuring that funds are allocated based on needs, transparently spent, and effectively utilized to provide quality education and support academic endeavors. This commitment to financial accountability and excellence contributes to the department's continued success.

Utilization reports for the current year and previous years are maintained and are available for reference.

Table: Utilization of budget				
Financial Year	Budget Proposed in Rs.	Budget Sanctioned In Rs.	Actual Expenditure in Rs.	Percentage of Utilization
2023-2024	₹45,280.00	₹40,000.00	₹38,913.20	97.28%
2022-2023	₹32,205.15	₹25,000.00	₹17,156.85	68.63%
2021-2022	₹87,906.00	₹75,000.00	₹49,253.09	65.67%
2020-2021	₹159,552.00	₹150,000.00	₹130,689.36	87.13%
2019-2020	₹1,888,300.00	₹1,775,550.00	₹1,745,249.96	98.29%

9.4 Library and Internet (20):

Details of zero deficiency report:

9.4.1 Quality of learning resources (hard/soft) (10):

- A. Availability of relevant learning resources including e-resources and Digital Library(7)
- B. Accessibility to students (3)

Library Network & Automation:

At GEMS Polytechnic College, our commitment to enhancing the learning experience extends to our library facilities. We are proud to announce that our central library is fully automated, thanks to the integration of Cloud-based Campus Management software known as VMEDULIFE.

Here's how this automation benefits our students and faculty:

Effortless Access:

With VMEDULIFE, both students and faculty members gain convenient access to their library-related information.

This includes details such as book issuance, returns, due dates, and fine information.

You can access these details effortlessly through the VMEDULIFE mobile app or the computer system, using your personal login credentials.

Online Public Access Catalog (OPAC):

We provide an Online Public Access Catalog (OPAC) service that allows easy searching and retrieval of library resources.

This service is accessible to both faculty and students through the VMEDULIFE platform.

Additionally, you can access the OPAC service directly via this link: <https://portal.vmedulife.com/public/library/#/gems-polytechnic-Pitampura>

We believe that this automation not only simplifies library management but also empowers our academic community with efficient and user-friendly tools for academic success. Explore the world of knowledge at GEMS Polytechnic College through our automated library network powered by VMEDULIFE.

Availability of relevant learning resources including e-resources and Digital Library:

At GEMS Polytechnic College, we take pride in offering a comprehensive array of learning resources in our central library, catering to the diverse needs of our students and faculty. Here's a glimpse of what you can find:

1	Text Books for Circulation:	Our collection of textbooks covers a wide range of subjects, available for borrowing by students. These books provide the core material needed for academic coursework.
2	Reference Books (Not for Circulation):	In addition to textbooks, we have an extensive collection of reference materials that include encyclopedias, dictionaries, and specialized reference books. These resources are for in-library use and provide valuable insights for research and reference.
3	Student Project Reports (Not for Circulation):	Past student project reports are available for reference, providing a valuable resource for those seeking inspiration or guidance in their own projects.
4	International / National Journals:	Our library subscribes to a variety of international and national journals, offering the latest research and insights in various fields. These journals are essential for staying updated in your area of study.
5	Competitive Exam Books:	We have a dedicated section with books and study materials to help students prepare for competitive exams, enabling them to excel in various entrance tests and competitive assessments.
6	Non-Fiction Storybooks:	Our collection includes non-fiction books that cover a wide range of subjects, providing an opportunity for leisure reading and broadening your knowledge horizons.
7	Dictionary and Encyclopedia:	Access to dictionaries and encyclopedias to aid in research, reference, and language improvement.

8	Daily Newspapers	Stay informed about current events, trends, and developments with daily newspapers available in the library.
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Digital Library:	
Availability of digital library content :	Yes
Availability of an exclusive server :	Yes
Availability over Intranet/Internet :	Yes
Availability of exclusive space/room :	Yes
Number of users per day :	25
E-books Availability:	Yes
NPTEL resources.	Available

Accessibility to students:

At GEMS Polytechnic College, we prioritize students' accessibility to knowledge and resources. We are dedicated to fostering an environment where students can access the resources they need to excel in their academic pursuits and personal development. Here's how our central library ensures a conducive environment for learning:

Library Hours:

Monday to Friday: 9:00 a.m. to 4:40 p.m.

Saturday: 9:00 a.m. to 3:30 p.m.

Sunday and Government Holidays: Closed

Stay Informed:

Keep abreast of current events with our daily newspaper subscriptions, available in both Hindi and English.

Academic Resources:

Our library subscribes to academic journals at regular intervals, providing students with access to the latest research and scholarly publications. Efficiently locate books and resources using our user-friendly Library Online Public Access Catalog (OPAC).

Exam Preparation:

We offer a comprehensive collection of books specifically tailored to assist students in their program-wise competitive examinations and civil service exam preparation.

Empowering Initiatives:

As part of the GPC-NDLI Club, we organize a range of events and competitions to empower and enrich the student community.

Reprography Facility:

To further support your academic endeavors, we provide a reprography facility within the library.

Students can easily obtain photocopies of non-copyrighted materials at a minimal cost.

NDLI Club Initiatives:

- GEMS Polytechnic College's NDLI Club (Registration Number: INBRNC3K4TTETNZ) organizes diverse student-centric events, including reading sessions, essay competitions, spell bees, poster and model presentations, and engaging quizzes, aimed at fostering holistic student development.
- As part of the GPC-NDLI Club, we organize a range of events and competitions to empower and enrich the student community.
- GEMS Polytechnic College earns recognition as one of Bihar, India's top-performing NDLI Clubs. Exceptional achievement in educational endeavors acknowledged.



9.4.2 Internet (10):

Name of the Internet provider	<ul style="list-style-type: none"> ● ISHAN (Primary), ● BIG-DATA (Secondary)
Available bandwidth	<ul style="list-style-type: none"> ● 50Mbps (Primary), ● 40Mbps (Secondary)
WiFi availability	<ul style="list-style-type: none"> ● Main Block Ground Floor Lobby and ● 2nd Floor Lobby with Indoor Access Points. ● Hostel Block with an Outdoor Access Point.
Internet access in labs, classrooms, library and offices of all Departments	<ul style="list-style-type: none"> ● Smart boards in classrooms, ● Labs with computers, ● Department libraries ● Central Library, and ● Office. ● They are connected with a wired network through managed and unmanaged network switches.
Security arrangements	<ul style="list-style-type: none"> ● Wijungle - Unified Network Security Gateway with an active subscription till October 2026

9.5 Institutional Contribution to the Community Development (5):

At GEMS Polytechnic College, we are deeply committed to fostering community development and giving back to society. Our institutional efforts in this regard are coordinated through the GPC Community Development Cell, which plays a pivotal role in

organizing various programs and initiatives aimed at enhancing the well-being of the community. Some of our significant contributions include:

1. Medical Camps:

- Our students and staff members actively participate in organizing medical camps to provide essential healthcare services to the underprivileged and marginalized sections of the community.

2. Tree Plantation:

- We believe in the significance of environmental sustainability and undertake tree plantation drives to contribute to a greener and healthier environment.

3. Basic Education for Village School Students:

- We take pride in extending our educational resources to nearby village school students, offering them basic education and opportunities for personal growth.

4. Teaching Moral and Ethical Values:

- Our commitment to holistic development extends to teaching moral and ethical values to the students of nearby village schools, instilling important life lessons.

5. Computer Systems Awareness and Training:

- In today's digital age, computer literacy is crucial. We provide awareness and basic training on computer systems to students in neighboring village schools to empower them with technological skills.

6. Road Safety Awareness:

- Promoting road safety is a priority. Our road safety awareness programs aim to educate the community on safe and responsible road practices.

National Service Scheme (NSS):

The National Service Scheme is an integral part of our commitment to community development. It serves as a platform for students to actively contribute their services for the betterment of the community and the nation while nurturing a sense of social responsibility. Some of the notable NSS programs organized and implemented include:

1. Basic Technical Training for Rural Youths:

- We empower rural youths with essential technical skills through specialized training programs, equipping them for better employment opportunities.

2. Road Safety Awareness Programs:

- Our efforts to promote road safety extend to NSS initiatives, aiming to create awareness and reduce road accidents.

3. Medical Camps:

- In line with our overall mission, medical camps are organized by NSS to provide healthcare services and support to those in need.

4. Tree Plantation:

- Our commitment to environmental sustainability is further exemplified by tree plantation activities conducted under the NSS banner.

NSS PROGRAM SUMMARY DETAILS					
S.No	Name of the Activity	Date	Place	No.of GPC Students/Volunteers Participated	Beneficiaries (No.of People benefitted & Place)
1	NSS Inaugural	22/4/22	GPC Auditorium	Mr. Piyush Pranjape, Regional Director, Ministry of Youth & Sports Affairs, Government of India,	100
2	AWARENESS PROGRAM ON NSS DAY AND ENVIRONMENT DAY.	09 -09 -2022	Jogiya High School Aurangabad Bihar	Mr. Arun Mukhiya Tengra Panhayat Aurangabad Bihar	JOGIYA
3	Girl's Protection Nation's Pride	13/2/23	Government Middle Middle School Jogiya	Ms . Kanti Verma Lecturer CSE GEMS Polytechnic College	50
4	Free Health Awareness & Medical Camp	5/4/23	Pirtampur Aurangabad Bihar	Mrs. Roja, Senior Nurse, GEMS Polytechnic College,	75
5	MERI LIFE- ONE STUDENT ONE TREE	8/8/2023	GPC Campus	Principal, GEMS Polytechnic College and All Dept. HODs.	55
6	Free Health Awareness & Medical Camp	11/8/2023	Tiwari Bigha	Mrs. Roja, Senior Nurse, GEMS Polytechnic College,	127

7	Free Health Awareness & Medical Camp	8/9/2023	Deohara	Mrs. Roja, Senior Nurse, GEMS Polytechnic College,	61
8	Free Health Awareness & Medical Camp	26 -10- 2023	JAGDISH PUR	Students - 5 members Staff- 17 members	140

NATIONAL SERVICE SCHEME (NSS) - ACTIVITIES

In the past years, GEMS Polytechnic College has been bustling with impactful NSS activities. From environmental clean-up drives to health awareness campaigns, our students have been actively engaged. With a spirit of service and dedication, we've left a positive mark on our community. Join us as we continue to make a difference in the years to come!



NSS Inauguration on 22th April 2022



NSS Rally at Jogiya on 9th Sep 2022



Girl's Protection Nation's Pride at Jogiya School on 13th Feb 2023



Free Health Awareness & Medical Camp at Pritampur on 5th April 2023



Meri Life : One Student one Plant on 8th August 2023

www.gemspolytechnic.edu.in

NATIONAL SERVICE SCHEME (NSS) - ACTIVITIES

In the past years, GEMS Polytechnic College has been bustling with impactful NSS activities. From environmental clean-up drives to health awareness campaigns, our students have been actively engaged. With a spirit of service and dedication, we've left a positive mark on our community. Join us as we continue to make a difference in the years to come!



NSS Volunteers are conducting Nukkad Drama in Village to raise awareness about environmental conservation.



Mr. Arun, the Panchayat Mulhiya of Tengra, is addressing villagers during an NSS program.



Celebrating Republic Day 2024





2 students from GPC Participated 10 Days Adventure Camp at Hatkoti Himachal Pradesh 30th Dec 2023 to 8th Jan 2024



Free General Medical Camp at Pritampur on 22nd February 2024

www.gemspolytechnic.edu.in

<p>भारत सरकार युवा कार्यक्रम एवं खेल मंत्रालय राष्ट्रीय सेवा योजना, क्षेत्रीय निदेशालय C विंग, 7वां मंज, कार्पोरी थकुर सदन, सी.जी.ओ. कॉम्प्लेक्स आशियाना - दिगा रोड, पटना - 800 025 फोन : 0612-2952934 ई-मेल : nssrcpatna@gmail.com patna-nss@nic.in</p>		<p>Government of India Ministry of Youth Affairs & Sports Regional Directorate of NSS "C" Wing, 7th Floor, Karpoori Thakur Sadan, CGO Complex Ashiyana - Digha Road, Patna - 800 025 Phone.: 0612-2952934 E-mail : nssrcpatna@gmail.com patna-nss@nic.in</p>
F.No. 52/ NSS/RD/PAT/2020/ 3399 - 3402		Date - 17-11-2021
To,		
The Principal GEMS Polytechnic College, Ratanpura, Aurangabad, Bihar		
Subject: Opening of new NSS Unit - reg.		
Sir,		
<p>With reference to the email dated 12th and 15th September- 2021, it is hereby to inform you that initially this office may provide approval to open Self Finance Unit of NSS for your college. With the passage of time, this office may approve your NSS unit as Govt. Funded Unit after reviewing the level of progress of NSS in your college. A short note regarding the NSS has been attached with this letter along with the form which is to be submitted to this office, duly filling up all details.</p>		
<p>Thus, it is requested to you to submit duly filled up form so that this office may provide approval for opening the NSS Unit in your college.</p>		
<p>Yours Faithfully,  (Peeyush Paranjape) Regional Director</p>		
Copy to:		
<ol style="list-style-type: none"> 1. The Director, Directorate of NSS, Govt. of India, Ministry of Youth Affairs & Sports, New Delhi-110011 2. The Under Secretary (NSS), Govt. of India, Ministry of Youth Affairs & Sports, Shastri Bhavan, New Delhi-110001 3. The SNO cum Director, Department of Art, Culture & Youth Development, Govt. of Bihar, Patna, Bihar 		

At GEMS Polytechnic College, we believe that our institutional contributions to community development are not just a duty but a heartfelt commitment to creating a more equitable and responsible society. Through these programs, we aim to enhance the standard of living, promote dignity, and nurture responsible citizens who actively participate in the betterment of our nation.

9.6 Alumni Performance and Connect (10):

At GEMS Polytechnic College, we value the continued association and contributions of our alumni. Here's how we foster a strong bond with our alumni and leverage their experiences for the betterment of our institution and students:

Alumni Association:

- The GEMS Polytechnic College Alumni Association has been established, and all former students are members of this association.

- The Alumni Association of GEMS Polytechnic College was officially registered with the government, bearing registration number **T-3532/24**.
- This association serves as a platform to cultivate a sense of belonging and unity among our alumni, encouraging them to excel in their respective fields.

Alumni Association Constitution:

Sl.No	Role	Name of the Members	Designation
1.	President	Mr. Rama Gopal Challa	Principal
2.	Vice President	Mr. Ranjith Choudary	Dean of Academics
3.	Secretary	Ms. Jensika Rani	Sr.Lecturer/ CIVIL
4.	Treasurer	Mr. Robin	Sr.Lecturer/ EEE
5.	Committee Chair	All Dept. HoDs	
6.	Event Coordinator	Mr. Ganesh / Mrs. Catharine	Lecturer/ EE
7.	Membership Coordinator	Mr. Bhaskar Ranjan	Lecturer/ EE
	Communication Coordinators	All Department Incharges	
8.	Department Incharge	Mr. Daniel Swami	Lecturer/ CIVIL
9.		Mrs. Catharine	Lecturer/ EE
10.		Mr. Ketu kumar	Lecturer/ EEE
11.		Ms. Priyanka	Lecturer/ CSE
12.		Mr. Sudhir Kumar	Sr.Lecturer/ MECH

GEMS POLYTECHNIC COLLEGE



DEPARTMENT OF CIVIL ENGINEERING

NOTABLE ALUMNI



NARGIS PARWEEN
Batch: 2015-2018
Designation: Special Survey Amin
Company Name: Govt. of Bihar



BASANT KUMAR MEHTA
Batch: 2015-2018
Designation: Project Engineer
Company Name: Dasai Construction Pvt.LTD



VIVEK KUMAR
Batch: 2015-2018
Designation: Highway Engineer
Company Name: BRGIL LLP



ADITYA RANJAN
Batch: 2015-2018
Designation : Technical Supervisor
Company Name: BLOOM Companies, LLC(NHAI)



RAHUL RAJ
Batch: 2016-2019
Designation: Special Survey Amin
Company Name: Govt. of Bihar



PAPPU KUMAR
Batch: 2016-2019
Designation: Special Survey Amin
Company Name: Govt. of Bihar



NEHA KUMARI
Batch: 2016-2019
Designation: Special Survey Amin
Company Name: Govt. of Bihar



RAVI RANJAN KUMAR
Batch: 2017-2020
Designation: Technical Assistant
Company Name: GEMS Polytechnic College



AATHISH KUMAR
Batch: 2017-2020
Designation: Site Engineer
Company Name: JICA 3rd Party under L&T Construction



SHIVA NISHANT
Batch: 2017-2020
Designation: Special Survey Amin
Company Name: Govt. of Bihar



UPKAR CHANDRA
Batch: 2018-2021
Designation: Special Survey Amin
Company Name: Govt. of Bihar



SAKSHI SINGH
Batch: 2018-2021
Designation: Special Survey Amin
Company Name: Govt. of Bihar



ANJALI KUMARI
Batch: 2018-2021
Designation: Special Survey Amin
Company Name: Govt. of Bihar



HIMANSHU KUMAR
Batch: 2019-2022
Designation: Special Survey Amin
Company Name: Govt. of Bihar



ANISH KUMAR SINGH
Batch: 2019-2022
Designation: Special Survey Amin
Company Name: Govt. of Bihar



KANAK PRIYA
Batch: 2019-2022
Designation: Special Survey Amin
Company Name: Govt. of Bihar

Annual Alumni Meetings:

- Each academic year, we organize meetings to engage with our alumni.
- This forum allows them to share their valuable insights and perspectives, contributing to the institution's growth and development.





Alumni Meet 2022

Infrastructure Enhancement:

- We take alumni feedback seriously, using it to guide our efforts in improving the infrastructure of our institution.
- Their input helps us create a better learning environment for current and future students.

Guest Lectures:

- Our commitment to holistic education extends to involving alumni in giving lectures to our students.
- These sessions aim to improve students' attitudes, provide real-world insights, and inspire them through alumni success stories.

The strong connection between our institution and our alumni network is a testament to the lasting impact of a GEMS Polytechnic College education. We cherish our alumni's accomplishments and continue to draw upon their expertise to shape the future of our students and our institution.



Guest Lecture: Awareness & Importance of Water Proofing - Er.Samson Suresh

Annexure 1

Program Outcomes and Program-Specific Outcomes

PROGRAM OUTCOMES (POs)

PO1. Basic and Discipline-specific knowledge:

Apply knowledge of basic mathematics, science and engineering fundamentals and engineering specialization to solve the engineering problems.

PO2. Problem analysis:

Identify and analyze well-defined engineering problems using codified standard methods.

PO3. Design/ development of solutions:

Design solutions for well-defined technical problems and assist with the design of systems components or processes to meet specified needs.

PO4. Engineering Tools, Experimentation and Testing:

Apply modern engineering tools and appropriate techniques to conduct standard tests and measurements.

PO5. Engineering Practices for society, sustainability and the environment:

Apply appropriate technology in the context of society, sustainability, environment and ethical practices.

PO6. Project Management:

Use engineering management principles individually, as a team member or a leader to manage projects and effectively communicate about well-defined engineering activities.

PO7. Life-long learning:

Ability to analyze individual needs and engage in updating in the context of technological changes.

PROGRAM SPECIFIC OUTCOMES

PSO1: The graduates will proficiency in mathematics, basic science and engineering fundamentals to excel in core areas of civil engineering.

PSO2: The graduates will plan, analyze, design, write specifications and prepare cost estimates for Civil Engineering structures.

PSO3: The graduates will able to apply technical and management skills for the execution of work.

Part C

Declaration by the Institution



GEMS POLYTECHNIC COLLEGE

(Approved by AICTE, Govt. of India, F. No. Northern/2015/1-2474317051)

Affiliated to SBTE, Bihar
ISO Certified 9001:2015

S. Ashish Daniel
Secretary & Director

C. Rama Gopal
Principal

Declaration

I undertake that, the institution is well aware about the provisions in the NBA's accreditation manual concerned for this application, rules, regulations, notifications and NBA expert visit guidelines in force as on date and the institutes shall fully abide by them.

It is submitted that the information provided in this Self Assessment Report is factually correct.

I understand and agree that an appropriate disciplinary action against the Institute will be initiated by the NBA. In case, any false statement/information is observed during pre-visit, visit, postvisit and subsequent to grant of accreditation.

Date : 19/04/2024
Place : Aurangabad, Bihar

Head of the Institute
Name : Rama Gopal Challa
Designation: Principal

Signature : *Ramgopal* 19/04/2024

PRINCIPAL
GEMS Polytechnic College
Ratanpura, Aurangabad
Bihar-824121

Seal of the Institution :



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Empowering to excel

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