



Government Polytechnic Lakhisarai

Department of Civil Engineering

(North of Vidyapeeth Chowk Lakhisarai- 811311)

CURRICULUM COMPLIANCE & DOMAIN-WISE CREDIT ANALYSIS FOR ATTAINMENT OF PROGRAM OUTCOMES (POs) AND PROGRAM SPECIFIC OUTCOMES (PSOs)

Program:- Diploma in Civil Engineering SBTE
Bihar Curriculum – 2020-21 Scheme

*Prepared from the six official SBTE Scheme of Teaching and Examinations documents
(Semesters I–VI)*


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This document establishes a transparent and auditable process for identifying the extent to which the SBTE Bihar curriculum supports attainment of the defined POs and PSOs of the Diploma in Mechanical Engineering. The six semester-wise SBTE Scheme of Teaching and Examinations documents are used as the primary documentary evidence. The analysis classifies curriculum components into Basic Science, Engineering Science, Humanities, Program Core, Program Elective, Open Elective, Internship and Project, and calculates their relative contribution using academic credits.

Important methodological note: the uploaded SBTE scheme lists subjects, codes, teaching/examination scheme and credits, but does not itself provide these eight domain labels. Therefore, the domain classification in this report is a department-level analytical classification based on the course title/nature and should be formally approved through a Departmental Curriculum/PO-PSO Review Committee/DAB/PCC.

1. SBTE Semester-wise Scheme

The following uploaded SBTE documents constitute the primary evidence. Each document is a one-page Scheme of Teaching and Examinations and contains the subjects, subject codes, teaching scheme, examination scheme and credits.

Semester	Source document identification	Representative subject-code range	Credits
Semester I	SBTE Bihar, I Semester, Effective from Session 2020-21	2001101–2001112	24 credits
Semester II	SBTE Bihar, II Semester, Effective from Session 2020-21	2002201–2002211	24 credits
Semester III	SBTE Bihar, III Semester, Effective from Session 2020-21 Batch	2025301–2025312	24 credits
Semester IV	SBTE Bihar, IV Semester, Effective from Session 2020-21 Batch (Rev 1.0)	2025401–2025411	24 credits
Semester V	SBTE Bihar, V Semester, Effective from Session 2020-21 Batch	2025501–2025511	24 credits
Semester VI	SBTE Bihar, VI Semester, Effective from Session 2020-21 Batch	2025601–2025610	24 credits

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Source verification examples: Semester I explicitly shows Mathematics-I, Applied Physics-I, Applied Chemistry, Communication Skills in English and Engineering Graphics with their credits, followed by practical and term-work components. Semester II shows the theory, practical and term-work structure including MOOCs/SWAYAM and Environmental Science. Semester III contains the core Mechanical Engineering subjects, laboratories and a four-week Summer Internship-I. Semester IV contains five core theory subjects, three core laboratories, Minor Project and a MOOC/SWAYAM course. Semester V explicitly lists Elective-I, Open Elective/COE, elective laboratories, Summer Internship-II and Major Project. Semester VI lists Entrepreneurship and Start-ups, core subjects, two open-elective/COE components, Seminar and Major Project.

2. Methodology for Domain-wise Curriculum Analysis

1. Collect the SBTE-approved Scheme of Teaching and Examinations for all six semesters.
2. Record every curriculum component with subject name, subject code and prescribed credits.
3. Classify each component into one of the eight analytical domains: Basic Science, Engineering Science, Humanities, Program Core, Program Elective, Open Elective, Internship and Project.
4. Use credits as the common quantitative denominator because every semester carries 24 credits; hence the six-semester programme contains 144 credits.
5. Aggregate the credits domain-wise and calculate percentage contribution using: $\text{Domain \%} = (\text{Domain Credits} / 144) \times 100$.
6. Use the resulting domain distribution as supporting evidence for CO-PO/PSO curriculum coverage analysis.
7. Identify POs/PSOs with low/no curriculum contribution through the approved CO-PO/PSO mapping matrix.
8. For identified gaps, document additional measures such as expert lectures, workshops, industrial visits, internships, projects, CoE activities, value-added courses and laboratory enrichment.
9. Review the analysis periodically through departmental meetings and external expert inputs and record the action taken.

3. Semester-wise Domain Classification

The following tables provide the complete credit-wise classification of the six uploaded semester schemes. The classification is an analytical departmental interpretation for NBA documentation; the official SBTE documents remain the primary proof.

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Semester-I

Course / Curriculum Component	Code	Credits	Analytical Domain
Mathematics-II	2001101	4	Basic Science
Applied Physics-II	2001102	3	Basic Science
Introduction to IT Systems	2001103	2	Engineering Science
Fundamental of Electrical & Electronics Engg.	2001104	3	Engineering Science
Engg. Mechanics	2001105	3	Engineering Science
Applied Physics Lab-II	2001106	1	Basic Science
Introduction to IT Systems Lab	2001107	2	Engineering Science
Fundamental of Electrical & Electronics Engg. Lab	2001108	1	Engineering Science
Engg. Mechanics Lab	2001109	2	Engineering Science
Sports and Yoga	2001110	2	Humanities
C/KYP/IT Essential/Python/Others	2001111	1	Humanities
Environmental Science	2002212	0	Basic Science
Domain	Credits	% of Semester Credits	
Basic Science	8	33.33%	
Engineering Science	13	54.17%	
Humanities	3	12.50%	

Semester-II

Course / Curriculum Component	Code	Credits	Analytical Domain
Mathematics-I	2002201	3	Basic Science
Applied Physics-I	2002202	3	Basic Science
Applied Chemistry	2002203	3	Basic Science
Communication Skills in English	2002204	2	Humanities
Engg. Graphics	2002205	2	Engineering Science
Applied Physics Lab-I	2002206	2	Basic Science
Applied Chemistry Lab	2002207	2	Basic Science
Communication Skills in English Lab	2002208	2	Humanities
Engg. Workshop Practice	2002209	2	Engineering Science
Sports and Yoga	2002210	2	Humanities
C/KYP/IT Essential / Python/ Others	2002211	1	Engineering Science
Domain	Credits	% of Semester Credits	
Basic Science	13	54.17%	
Engineering Science	5	20.83%	

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Humanities	6	25%
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Semester-III

Course / Curriculum Component	Code	Credits	Analytical Domain
Building Construction and Construction Materials	2025301	5	Program Core
Basic Surveying	2025302	3	Program Core
Mechanics of Materials	2025303	3	Program Core
Concrete Technology	2025304	3	Program Core
Geo Technical Engineering	2025305	3	Program Core
Basic Surveying Lab	2025306	1	Program Core
Building Construction and Construction materials Lab	2025307	1	Program Core
Web Technology Lab	2018308	1	Engineering Science
Mechanics of Materials Lab (TW)	2025309	1	Program Core
Concrete Technology Lab (TW)	2025310	1	Program Core
Python	2018311	1	Engineering Science
Geo Technical Eng. Lab (TW)	2025312	1	Program Core
Domain	Credits		% of Semester Credits
Engineering Science	2		8.33%
Program Core	22		91.67%


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Semester-IV

Course / Curriculum Component	Code	Credits	Analytical Domain
Hydraulics	2025401	3	Program Core
Advance Surveying	2025402	3	Program Core
Theory of structure	2025403	3	Program Core
Building Planning and Drawing	2025404	3	Program Core
Transportation Engineering	2025405	3	Program Core
Hydraulics Lab	2025406	1	Program Core

Advance Surveying Lab	2025407	1	Program Core
Theory of structure Lab(TW)	2025408	2	Program Core
Building Planning and Drawing(TW)	2025409	2	Program Core
Transportation Engineering Lab(TW)	2025410	1	Program Core
Course AutoCAD/STAAD. Pro/ Others(TW)	2025411	2	Open Elective
Domain	Credits		% of Semester Credits
Program Core	22		91.67%
Open Elective	2		8.33%


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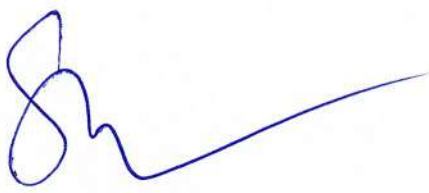
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Semester-V

Course / Curriculum Component	Code	Credits	Analytical Domain
Design of steel and R.C.C Structure	2025501	3	Program Core
Estimating and Costing	2025502	3	Program Core
Water Resources Engineering.	2025503	3	Program Core
Program Elective-I	2025504	3	Program Core
Open Elective /COE	2025505	2	Open Elective
Estimating & Costing Lab	2025506	2	Program Core
Elective Lab / COE Lab	2025507	2	Open Elective
In- Plant training	2025508	2	Program Core
Minor Project	2025509	2	Project
Electric Vehicles (Basics) (TW)	2025510	1	Open Elective
Course Primavera/3D Max / Others	2025511	1	Open Elective
Domain	Credits		% of Semester Credits
Program Core	18		75%
Open Elective	6		25%


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Semester-VI

Course / Curriculum Component	Code	Credits	Analytical Domain
Entrepreneurship and Start –ups	2000601	3	Humanities
Public Health Engineering	2025602	3	Program Core
Advanced Design of Structures	2025603	3	Program Core
Tendering and Accounts	2025604	3	Program Core
Electric Vehicles (Advance)	2025605	2	Open Elective
Elective Lab	2025608	2	Open Elective
Seminar	2025609	2	Humanities
Major Project	2025610	3	Project
Term Work	2025611	1	Open Elective
Program Elective (TW)	2025612	2	Program Core
Domain	Credits		% of Semester Credits
Humanities	5		20.83%
Program Core	14		58.33%
Open Elective	5		20.83%


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4. Consolidated Six-Semester Curriculum Distribution

Each semester carries 24 credits in the uploaded SBTE schemes, giving a total of 144 credits across six semesters. The consolidated distribution below is therefore based on a 144-credit denominator.

Curriculum Domain	Total Credits (I–VI)	Percentage of 144 Credits
Basic Science	21	14.58%
Engineering Science	18	12.50%
Humanities	14	9.72%
Program Core	76	52.78%
Open Elective	13	9.03%
TOTAL	144	100.00%

5. Domain-wise Credit Share – Summary

Basic Science	21 credits	14.58%	
Engineering Science	18 credits	12.50%	
Humanities	14 credits	9.72%	
Program Core	76 credits	52.78%	
Open Elective	13 credits	9.03%	


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6. Evidence Notes and Audit Trail

Semester I: The SBTE page shows total 24 credits and the listed Basic Science, MOOCs/SWAYAM/ETC/Others, KYP/IT Essential/Python/Others and Environmental Science.

Semester II: The SBTE page shows total 24 credits, including theory, practicals, Communication and term-work components.

Semester III: The SBTE page shows 24 total credits and includes a four-week Summer Internship-I carrying 2 credits.

Semester IV: The SBTE page shows 24 total credits and includes Minor Project (2 credits) and a MOOC/SWAYAM/Others course (2 credits).

Semester V: The SBTE page shows 24 total credits and explicitly includes Summer Internship-II (2 credits), Minor Project (2 credits) and Open Elective/COE and elective components.

Semester VI: The SBTE page shows 24 total credits and includes Seminar (2 credits), Major Project (3 credits), open-elective/COE components and MOOC/NPTEL/Others term work.

Special note: Semester I Environmental Science is shown in the SBTE scheme with marks but no credit value; therefore it is retained as curriculum evidence but does not alter the 144-credit percentage denominator.


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7. Process to Establish Compliance with POs and PSOs

Step	Activity	What is checked	Suggested evidence
1	Curriculum collection	SBTE approved semester-wise scheme	Approved syllabus copies
2	Course inventory	Subject name, code, credits, theory/practical/term work	Course inventory sheet
3	Domain classification	Eight-domain analytical classification	Departmental classification sheet
4	CO identification	COs prescribed/approved for each course	Course files / SBTE syllabus
5	CO-PO/PSO mapping	Contribution of each CO to each PO/PSO	CO-PO/PSO matrix
6	Coverage analysis	PO/PSO-wise curriculum contribution	PO/PSO coverage matrix
7	Gap identification	Low/no coverage areas	Curriculum Gap Analysis
8	Gap filling	Additional academic/industry	Activity reports, certificates, photos


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		activities	
9	Review	Faculty and external expert validation	Minutes, expert feedback
10	Continuous improvement	Action taken and subsequent review	ATR and revised action plan

9. PO/PSO-wise Curriculum Gap Analysis – Template for Department Approval

PO/PSO	Curriculum evidence/course(s)	Coverage level	Identified gap	Gap-filling activity	Evidence/Annexure
PO1					
PO2					
PO3					
PO4					
PO5					
PO6					
PO7					
PSO1					
PSO2					

This table should be completed only after the department-approved CO-PO/PSO mapping is finalized. The domain percentages in Section 5 do not, by themselves, prove PO/PSO attainment; they are supporting curriculum-structure evidence.

10. Departmental Validation and Approval

The domain-wise classification and the consolidated 144-credit analysis should be placed before the Departmental Curriculum/PO-PSO Review Committee for verification. Any changes in classification should be recorded in the minutes and the final approved version should be retained with the NBA evidence file.

Particular	Details
Meeting / Review Date	
Chairperson / HOD	
Faculty Members Present	
External Expert (if applicable)	
Resolution / Approval	H.O.D Department of Civil Engineering Govt. Polytechnic, Lakhisarai The domain-wise curriculum classification and credit analysis were reviewed and approved / revised.
Signature & Seal	



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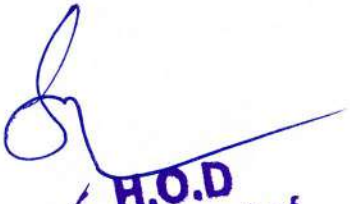
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11. Annexure Plan for Authentic Proof

Annexure	Document	Purpose
Annexure-I	SBTE Semester I Scheme	Uploaded official SBTE page – subjects, credits and structure
Annexure-II	SBTE Semester II Scheme	Uploaded official SBTE page – subjects, credits and structure
Annexure-III	SBTE Semester III Scheme	Uploaded official SBTE page – core subjects, labs and Internship-I
Annexure-IV	SBTE Semester IV Scheme	Uploaded official SBTE page – core subjects, labs, Minor Project and MOOC
Annexure-V	SBTE Semester V Scheme	Uploaded official SBTE page – elective/open elective, Internship-II and Major Project
Annexure-VI	SBTE Semester VI Scheme	Uploaded official SBTE page – open electives/COE, Seminar and Major Project
Annexure-VII	Consolidated Credit Analysis	This report's 144-credit domain-wise calculation
Annexure-VIII	Departmental Approval Minutes	Signed minutes approving classification and PO/PSO compliance process
Annexure-IX	CO–PO/PSO Mapping	Approved course-wise CO–PO and CO–PSO mapping
Annexure-X	Curriculum Gap & Action Taken Report	PO/PSO gaps, corrective activities and evidence

12. Annexure – Source Page Images (Authentic Syllabus Evidence)

The following are rendered copies of the six uploaded SBTE syllabus pages. They should be retained in the final evidence file along with the original PDF files. These images are not substitutes for the original SBTE PDFs; they are provided for easy audit reference.


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Annexure 1: SBTE Semester I

STATE BOARD OF TECHNICAL EDUCATION, BIHAR

Scheme of Teaching and Examinations for

1st Semester

(Effective from Session 2020-21)

THEORY

Sr. No.	SUBJECTS	SUBJECT CODE	TEACHING SCHEME			Hours of Exam.	Teacher's Assessment (TA) Marks (A)	EXAMINATION – SCHEME					Credits
			Periods per Week					Class Test(CT) Marks (B)	End Semester Exam. (ESE) Marks (C)	Total Marks (A+B+C)	Pass Marks ESE	Pass Marks in the Subject	
			L	T	L+T								
1.	Mathematics-II	2002201	03	01	04	03	10	20	70	100	28	40	04
2.	Applied Physics-II	2002202	02	01	03	03	10	20	70	100	28	40	03
3.	Introduction to IT Systems	2002203	02	01	03	03	10	20	70	100	28	40	02
4.	Fundamental of Electrical & Electronics Engg.	2002204	02	01	03	03	10	20	70	100	28	40	03
5.	Engg. Mechanics	2002205	02	01	03	03	10	20	70	100	28	40	03
	Total:-		11	05	16				350	500			15

PRACTICAL

Sr. No.	SUBJECTS	SUBJECT CODE	TEACHING SCHEME	EXAMINATION – SCHEME					Credits	
				Periods per Week	Hours of Exam.	Practical		Total Marks		Pass Marks in the Subject
						Internal(PA)	External(ESE)			
6.	Applied Physics Lab-II	2002206	02	03	15	35	50	20	01	
7.	Introduction to IT Systems Lab	2002207	04	03	15	35	50	20	02	
8.	Fundamental of Electrical & Electronics Engg. Lab	2002208	04	03	15	35	50	20	01	
9.	Engg. Mechanics Lab	2002209	03	03	15	35	50	20	02	
Total:-			13				200		06	

TERM WORK

Sr. No.	SUBJECTS	SUBJECT CODE	TEACHING SCHEME	EXAMINATION – SCHEME				Credits
			Periods per week	Marks of Internal (PA)	Marks of External (ESE)	Total Marks	Pass Marks in the Subject	
10.	Course under MOOCS / SWAYAM / ETC / Others	2002210	-	06	14	20	08	02
11.	KYP-IT Essential-Python/Others	2002211	-	06	14	20	08	01
12.	Environmental Science	2002212	02	10	-	10	04	-
Total:-			02	50			03	
Total Periods per week Each of duration One Hours						31	Total Marks = 750	24

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Annexure 2: SBTE Semester II

STATE BOARD OF TECHNICAL EDUCATION, BIHAR

Scheme of Teaching and Examinations for

IInd Semester

(Effective from Session 2020-21)

THEORY

Sr. No.	SUBJECTS	SUBJECT CODE	TEACHING SCHEME			EXAMINATION – SCHEME							Credits
			Periods per Week			Hours of Exam.	Teacher's Assessment (T.A) Marks (A)	Class Test(CT) Marks (B)	End Semester Exam. (ESE) Marks (C)	Total Marks (A+B+C)	Pass Marks ESE	Pass Marks in the Subject	
			L	T	L+T								
1.	Mathematics-I	2001101	02	01	03	03	10	20	70	100	28	40	03
2.	Applied Physics-I	2001102	02	01	03	03	10	20	70	100	28	40	03
3.	Applied Chemistry	2001103	02	01	03	03	10	20	70	100	28	40	03
4.	Communication Skills in English	2001104	02	-	02	03	10	20	70	100	28	40	02
5.	Engg. Graphics	2001105	03		03	03	10	20	70	100	28	40	02
	Total:-		11	03	14				350	500			13

PRACTICAL

Sr. No.	SUBJECTS	SUBJECT CODE	TEACHING SCHEME	EXAMINATION – SCHEME					Credits
				Periods per Week	Hours of Exam.	Practical		Total Marks	
			Internal(PA)			External(EM)			
6.	Applied Physics Lab-I	2001106	03	03	15	35	50	20	02
7.	Applied Chemistry Lab	2001107	03	03	15	35	50	20	02
8.	Communication Skills in English Lab	2001108	03	03	15	35	50	20	02
Total:-			09				150		06

TERMWORK

Sr. No.	SUBJECTS	SUBJECT CODE	TEACHING SCHEME	EXAMINATION - SCHEME				Credits
				Periods per week	Marks of Internal (P.A)	Marks of External (ESE)	Total Marks	
9.	Engg. Workshop Practice	2001109	06		07	18	25	02
10.	Sports and Yoga	2001110	02		07	18	25	02
11.	C/KYP/IT Essential / Python/ Others	2001111	-		15	35	50	01
Total:-			08				100	05
Total Periods per week Each of duration One Hour				31	Total Marks = 750			24

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Annexure 3: SBTE Semester II
Annexure 3 SBTE Semester III

STATE BOARD OF TECHNICAL EDUCATION, BIHAR

Scheme of Teaching and Examinations for
IIIrd SEMESTER DIPLOMA IN CIVIL ENGINEERING / CIVIL (RURAL) ENGINEERING
(Effective from Session 2020-21 Batch)

THEORY

Sr. No.	SUBJECT	SUBJECT CODE	TEACHING SCHEME	EXAMINATION SCHEME							
			Periods per Week	Hours of Exam.	Teacher's Assessment (TA) Marks A	Class Test (CT) Marks B	End Semester Exam. (ESE) Marks C	Total Marks (A+B+C)	Pass Marks ESE	Pass Marks in the Subject	Credits
1.	Building Construction and Construction Materials	2015301	05	03	10	20	70	100	28	40	05
2.	Basic Surveying	2015302	04	03	10	20	70	100	28	40	03
3.	Mechanics of Materials	2015303	04	03	10	20	70	100	28	40	03
4.	Concrete Technology	2015304	03	03	10	20	70	100	28	40	03
5.	Geo Technical Engineering	2015305	03	03	10	20	70	100	28	40	03
Total :-			19				350	500			17

PRACTICAL

Sr. No.	SUBJECT	SUBJECT CODE	TEACHING SCHEME	Hours of Exam.	Practical		Total Marks	Pass Marks in the Subject	Credits
			Periods per Week		Internal (PA)	External (ESE)			
6.	Basic Surveying Lab	2015306	02 50% Physical 50% Virtual	04	15	35	50	20	01
7.	Building Construction and Construction materials Lab	2015307	02 50% Physical 50% Virtual	04	15	35	50	20	01
8.	Web Technology Lab	2018308	02 50% Physical 50% Virtual	03	07	18	25	10	01
Total :-			06				125		03

TERM WORK

Sr. No.	SUBJECT	SUBJECT CODE	TEACHING SCHEME	EXAMINATION SCHEME				
			Periods per Week	Marks of Internal (PA)	Marks of External (ESE)	Total Marks	Pass Marks in the Subject	Credits
9.	Mechanics of Materials Lab (TW)	2015309	02	07	18	25	10	01
10.	Concrete Technology Lab (TW)	2015310	02	07	18	25	10	01
11.	Python	2018311	02	07	18	25	10	01
12.	Geo Technical Eng. Lab (TW)	2015312	02	15	35	50	20	01
Total :-			08			125		04
Total Periods per week Each of duration One Hour				33		Total Marks	24	

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Annexure 4 SBTE Semester IV

STATE BOARD OF TECHNICAL EDUCATION, BIHAR

Scheme of Teaching and Examination for

IVth Semester Diploma in Civil Engineering/Civil (Rural) Engineering
(Effective from Session 2020-21 Batch)

Rev 1.0 THEORY

Sr. No.	SUBJECT	SUBJECT CODE	TEACHING SCHEME	EXAMINATION-SCHEME							
			Periods per Week	Hours of Exam.	Teacher's Assessment (T A) Marks A	Class Test (CT) Marks B	End Semester Exam (ESE) Marks C	Total Marks (A+B+C)	Pass Marks ESE	Pass Marks in the Subject	Credits
1.	Hydraulics	2015401	03	03	10	20	70	100	28	40	03
2.	Advance Surveying	2015402	03	03	10	20	70	100	28	40	03
3.	Theory of structure	2015403	03	03	10	20	70	100	28	40	03
4.	Building Planning and Drawing	2015404	03	04	10	20	70	100	28	40	03
5.	Transportation Engineering	2015405	03	03	10	20	70	100	28	40	03
Total :-			15				350	500			15

PRACTICAL

Sr. No.	SUBJECT	SUBJECT CODE	TEACHING SCHEME	EXAMINATION-SCHEME					
			Periods per Week	Hours of Exam.	Practical (ESE)		Total Marks (A+B)	Pass Marks in the Subject	Credits
					Internal (PA) A	External (ESE) B			
6.	Hydraulics Lab	2015406	02 50% Physical 50% Virtual	03	15	35	50	20	01
7.	Advance Surveying Lab	2015407	02 50% Physical 50% Virtual	04	15	35	50	20	01
Total :-			04				100		02

TERMWORK

Sr. No.	SUBJECT	SUBJECT CODE	TEACHING SCHEME	EXAMINATION-SCHEME				
			Periods per Week	Marks of Internal Exam (PA) X	Marks of External Exam (ESE) Y	Total Marks (X+Y)	Pass Marks in the Subject	Credits
8.	Theory of structure Lab (TW)	2015408	04	07	18	25	10	02
9.	Building Planning and Drawing (TW)	2015409	04	15	35	50	20	02
10.	Transportation Engineering Lab (TW)	2015410	02	07	18	25	10	01
11.	Course: AutoCAD/STAAD/Prof/ Others (TW)	2015411	04	15	35	50	20	02
Total :-			14			150		07
Total Periods per week Each of duration One Hour				33	Total Marks =		750	24

H.O.D

Department of
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Govt. Polytechnic, Lakhisarai



Government Polytechnic Lakhisarai

Department of Civil Engineering

(North of Vidyapeeth Chowk Lakhisarai- 811311)

Annexure 5: SBTE Semester V

STATE BOARD OF TECHNICAL EDUCATION, BIHAR

Scheme of Teaching and Examinations for

Vth SEMESTER DIPLOMA IN CIVIL ENGINEERING / CIVIL (RURAL) ENGINEERING

(Effective from Session 2020-21 Batch)

THEORY

Sr. No.	SUBJECT	SUBJECT CODE	TEACHING SCHEME	EXAMINATION SCHEME							
			Periods per Week	Hours of Exam.	Teacher's Assessment (TA) Marks A	Class Test (CT) Marks B	End Semester Exam. (ESE) Marks C	Total Marks (A+B+C)	Pass Marks ESE	Pass Marks in the Subject	Credits
1.	Design of steel and R.C.C Structure	2015501	03	03	10	20	70	100	28	40	03
2.	Estimating and Costing	2015502	03	04	10	20	70	100	28	40	03
3.	Water Resources Engineering	2015503	03	03	10	20	70	100	28	40	03
4.	Program Elective-I	2015504	03	03	10	20	70	100	28	40	03
Precast and Prestressed Concrete (2015504A)			Construction Management (2015504B)			Rural Construction Technology (2015504C)					
5.	Open Elective / COE		02	03	10	20	70	100	28	40	02
Traffic Engineering (2015505A)			Solid Waste Management (2015505B)			Advanced Construction Technology (2015505C)					
Artificial Intelligence (Basics) (2000505B)			Internet of Things (Basics) (2000505C)			Drone Technology (Basics) (2000505D)					
3D Printing & Design (Basics) (2000505E)			Industrial Automation (Basics) (2000505F)			Electric Vehicles (Basics) (2000505G)			Robotics (Basics) (2000505H)		
Total :-			14				350	500			14

PRACTICAL

Sr. No.	SUBJECT	SUBJECT CODE	TEACHING SCHEME	EXAMINATION SCHEME					
			Periods per Week	Hours of Exam.	Practical (ESE)		Total Marks	Pass Marks in the Subject	Credits
					Internal (PA)	External (ESE)			
6.	Estimating & Costing Lab	2015506	04 50% Physical 50% Virtual	04	15	35	50	20	02
7.	Elective Lab / COE Lab		04 50% Physical 50% Virtual	03	20	30	50	20	02
Design of steel and RCC structure Lab (2015508 A)				Artificial Intelligence Lab (Basics) (2000508B)			Internet of Things Lab (Basics) (2000508C)		
Drone Technology Lab (Basics) (2000508D)				3D Printing & Design Lab (Basics) (2000508E)					
Industrial Automation Lab (Basics) (2000508F)				Electric Vehicles Lab (Basics) (2000508G)			Robotics Lab (Basics) (2000508H)		
Total :- 08							100		04

TERM WORK

Sr. No.	SUBJECT	SUBJECT CODE	TEACHING SCHEME	EXAMINATION SCHEME				
			Periods per Week	Marks of Internal (PA)	Marks of External (ESE)	Total Marks	Pass Marks in the Subject	Credits
8.	In- Plant training	2015509	Four Weeks	15	35	50	20	02
9.	Minor Project	2015510	04	07	18	25	10	02
10.	Term Work		02	20	30	50	20	01
Course under Moocs/ NPTEL / Others (2015511)			Artificial Intelligence (Basics) (TW) (2000511B)		Internet of Things (Basics) (TW) (2000511C)		Drone Technology (Basics) (TW) (2000511D)	
3D Printing (Basics) (TW) (2000511E)			Industrial Automation (Basics) (TW) (2000511F)		Electric Vehicles (Basics) (TW) (2000511G)		Robotics (Basics) (TW) (2000511H)	
11.	Course Primavera/3D Max / Others	2015512	02	07	18	25	10	01
Total :-			08			150		06
Total Periods Per week each of duration one hour = 30						Total Marks = 750		
						24		

Annexure 6: SBTE Semester VI

Department of Civil Engineering
Govt. Polytechnic, Lakhisarai



Government Polytechnic Lakhisarai

Department of Civil Engineering
(North of Vidyapeeth Chowk Lakhisarai- 811311)

STATE BOARD OF TECHNICAL EDUCATION, BIHAR

Scheme of Teaching and Examinations for
VIth SEMESTER DIPLOMA IN CIVIL ENGINEERING/ CIVIL (RURAL) ENGINEERING.
(Effective from Session 2020-21 Batch)

THEORY

THEORY

Sr. No.	SUBJECT	SUBJECT CODE	TEACHING SCHEME	EXAMINATION SCHEME							
			Periods per Week	Hours of Exam.	Teacher's Assessment (TA) Marks (A)	Class Test (CT) Marks (B)	End Semester Exam. (ESE) Marks (C)	Total Marks (A+B+C)	Pass Marks ESE	Pass Marks in the Subject	Credits
1.	Entrepreneurship and Start-ups	2000601	3	3	10	20	70	100	28	40	3
2.	Public Health Engineering	2015602	3	3	10	20	70	100	28	40	3
3.	Advanced Design of Structures	2015603	3	3	10	20	70	100	28	40	3
4.	Program Elective -III	2015604	3	3	10	20	70	100	28	40	3
	Tendering and Accounts (2015604A)				Disaster Management (2015604B)						
5.	Open Elective / COE		3	3	10	20	70	100	28	40	2
	Indian Constitution (2000605A)				Project Management (2015605B)						
	Artificial Intelligence (Advance) (2000605B)	Internet of Things (Advance) (2000605C)			Drone Technology (Advance) (2000605D)					3D Printing & Design (Advance) (2000605E)	
	Industrial Automation (Advance) (2000605F)				Electric Vehicles (Advance) (2000605G)			Robotics (Advance) (2000605H)			
	Total: -		15				350	500			14

PRACTICAL

Sr. No.	SUBJECT	SUBJECT CODE	TEACHING SCHEME	EXAMINATION SCHEME					
			Periods per Week	Hours of Exam.	Practical		Total Marks	Pass Marks in the Subject	Credits
					Internal (PA)	External (ESE)			
6.	Elective Lab / COE Lab		4 50% Physical 50% Virtual	3	20	30	50	20	2
	Public Health Engineering Lab (2015608A)			Artificial Intelligence (Advance) Lab (2000608B)		Internet of Things (Advance) Lab (2000608C)			
	Drone Technology (Advance) Lab (2000608D)			3D Printing & Design (Advance) Lab (2000608E)		Industrial Automation (Advance) Lab (2000608F)			
	Electric Vehicles (Advance) Lab (2000608G)			Robotics (Advance) (2000608H)					
	Total: -		04				50		02

TERM WORK

Sr. No.	SUBJECT	SUBJECT CODE	TEACHING SCHEME	EXAMINATION SCHEME				
			Periods per Week	Marks of Internal (PA)	Marks of External (ESE)	Total Marks (PA+ESE)	Pass Marks in the Subject	Credits
7.	Seminar	2015609	4	15	35	50	20	2
8.	Major Project	2015610	6	15	35	50	20	3
9.	Term Work		2	20	30	50	20	1
	Course Under Moocs /NPTEL/ Others TW (2015611)	Artificial Intelligence (Advance) TW (2000611B)		Internet of Things (Advance) TW (2000611C)		Drone Technology (Advance) TW (2000611D)		
	3D Printing & Design (Advance) TW (2000611E)	Industrial Automation TW (Advance) (2000611F)		Electric Vehicles (Advance) TW (2000611G)		Robotics (Advance) TW (2000611H)		
10.	Program Elective (TW)	2015612	4	15	35	50	10	2
	Tendering and Accounts (TW) (2015612A)			Advanced Design of Structures (TW) (2015612B)				
	Total: -		16			200		08
Total Periods per week (Each of duration One Hour) =35				Total Marks = 750		24		

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Department of
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Government Polytechnic Lakhisarai

Department of Civil Engineering
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Annexure 7:

Government Polytechnic Lakhisarai				
Department of Civil Engg.				
Semester	Course / Component	Subject Code	Credits	Analytical Domain
1	Mathematics-II	2001101	4	Basic Science
1	Applied Physics-II	2001102	3	Basic Science
1	Introduction to IT Systems	2001103	2	Engineering Science
1	Fundamental of Electrical & Electronics Engg.	2001104	3	Engineering Science
1	Engg. Mechanics	2001105	3	Engineering Science
1	Applied Physics Lab-II	2001106	1	Basic Science
1	Introduction to IT Systems Lab	2001107	2	Engineering Science
1	Fundamental of Electrical & Electronics Engg. Lab	2001108	1	Engineering Science
1	Engg. Mechanics Lab	2001109	2	Engineering Science
1	Sports and Yoga	2001110	2	Humanities
1	C/KYP/IT Essential/Python/Others	2001111	1	Humanities
1	Environmental Science	2002212	0	Basic Science
2	Mathematics-I	2002201	3	Basic Science
2	Applied Physics-I	2002202	3	Basic Science
2	Applied Chemistry	2002203	3	Basic Science
2	Communication Skills in English	2002204	2	Humanities
2	Engg. Graphics	2002205	2	Engineering Science
2	Applied Physics Lab	2002206	2	Basic Science
2	Applied Chemistry Lab	2002207	2	Basic Science
2	Communication Skills in English Lab	2002208	2	Humanities