Priyadarshini Bhagwati College of Engineering

An Autonomous Institute Affiliated to RTM Nagpur University, Nagpur

Proposed Scheme of Teaching & Examination

First Semester B. Tech Program

Scheme: BTECHFY/2024-25

First Semester

Sr. No.	Type of Course	Credits as per Category	Course Code	Course Title	Teaching Scheme (Clock Hours/Week)			Credits	Maximum Marks			Minimum Marks			End Semester Exam Duration (Hrs)
					L	T	P		Continuous Evaluation	End Semester Exam	Total Marks	Continuous Evaluation	End Semester Exam	Total Marks	
1	BSC	10	SMAT101T/ CMAT101T	Engineering Mathematics I	2	0	0	2	20	30	50	---	8	23	2
2			SMAT101P/ CMAT101P	Engineering Mathematics I Lab	0	0	2	1	25	25	50	---		25	---
3			CH102T	Applied Chemistry	3	0	0	3	20	30	50	---	8	23	2
4			CH102P	Applied Chemistry Lab	0	0	2	1	25	25	50	---		25	---
5			PH103T	Applied Physics	2	0	0	2	20	30	50	---	8	23	2
6			PH103P	Applied Physics Lab	0	0	2	1	25	25	50	---		25	---
7	ESC	6	ME104T	Engineering Graphics	2	0	0	2	20	30	50	---	8	23	3
8			ME104P	Engineering Graphics Lab	0	0	2	1	25	25	50	---		25	---
9			CSE/IT/EC/ ME/CE105T	(Branchwise - CSE/IT/EC/ME/CE)	3	0	0	3	20	30	50	---	8	23	2
10	VSEC	2	CSE/IT/EC/ ME/CE106P	Branchwise Lab Course (CSE/IT/EC/ME/CE)	0	0	4	2	50	50	100	---		50	---
11	AEC	2	HU107T	Communication Skills	2	0	0	2	20	30	50	---	8	23	2
12	CC	2	LL108P	Liberal Learning Course Lab	0	0	4	2	25	25	50	---		25	---
				Total =	14	0	16	**22**	295	355	**650**				

NOTE: (1) SMAT represents CSE and IT branches. (2) CMAT represents EC, ME and CE branches.
(3) Refer Annexure - I for Courses - CSE/IT/EC/ME/CE105T & CSE/IT/EC/ME/CE106P

Abbreviations:

BSC - Basic Science Course. ESC - Engineering Science Course. VSEC - Vocational Skill Enhancement Course. AEC - Ability Enhancement Course. CC - Co-Curricular Course

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DEPARTMENT OF CIVIL ENGINEERING

SYLLABUS OF FIRST YEAR BACHELOR OF TECHNOLOGY SEMESTER I

ENGINEERING MECHANICS

Total Credit: 3
Teaching Scheme
Lectures: 3 Hrs. / Week

Subject Code: CE105T
Examination scheme
Theory (E): 30 Marks &T(I): 20marks
Duration of End sem. Exam : 2Hrs

Course Objectives:

1. To make student aware about fundamental concept of statics and dynamics.
2. To introduce the concept of equilibrium and conditions of equilibrium.
3. To learn the concept of centroid and moment of inertia of plane area.
4. To introduce the concept of friction.

Course Outcomes:

After completion of the course, the student will be able to

CO1: Describe the fundamental concepts of statics and dynamics.

CO2: Apply the basic concept of equilibrium for solution of problems on plane and Generalspatial force system.

CO3: Determine the centroid, moment of inertia of plane area and Apply the concept offriction for solving the problems.

Unit - I Fundamental of Engineering Mechanics (11 Hours) 10 Marks

Fundamental concepts, Position vector, resultant of 2-dimensional and 3-dimensional general force system. moment of forces about a point and axis, couple moment as a free vector.

UNIT – II Equilibrium of Force System and Truss (11 Hours) 10 Marks

Equilibrium of Force System

Free body diagrams, equations of equilibrium for coplanar and non-coplanar force systems, General spatial force system, types of support, types of beam and types of loads,

Analysis of plane truss by method of joint and Introduction of Method of Section.

Unit – III Centroid, Moment of Inertia and Friction (11 Hours) 10 Marks

First moment of area, problem on centroid of composite areas, second moment and product of inertia of plane areas, moment of inertia of composite areas.

Friction

Definitions, types of friction, limiting friction, laws of friction, simple application, wedge friction and belt friction.

Text Books:

1. Engineering Mechanics: F. L. Singer, Harper & Row Publications.
2. Engineering Mechanics: Bear Johnston, Tata McGraw Hill Publication, New Delhi.
3. Engineering Mechanics: A. K. Tayal, Umesh Publication, New Delhi.
4. Engineering Mechanics: Prof. P.S. Lanjewar & Dr. A.M. Shende, Gayatri Prakashan.
5. Engineering Mechanics: Mohd. Gulfam Pathan & M. D. Pidurkar

Reference Book:

1. Engineering Mechanics: Timoshenko & Young, Tata McGraw Hill Publication, New Delhi.
2. Engineering Mechanics: Statics and Dynamics, R C Hibbeler, Pearson Education

Lokmanya Tilak Jankalyan Shikshan Sanstha's
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DEPARTMENT OF CIVIL ENGINEERING

SYLLABUS OF FIRST YEAR BACHELOR OF TECHNOLOGY SEMESTER I

CONSTRUCTION PRACTICES-I

Total Credit: 2
Teaching Scheme
Practical : 4 Hrs. / Week

Subject Code: CE106P
Examination scheme
Pr (E): 50 Marks & Pr (I): 50 marks

Objectives:

1. To Use tape for measurement.
2. To identify building components
3. To understand various steel sections
4. To understand construction tools

Course Outcome : After completion of practical the students will be able to

1. Measure length, area and volume using tape.
2. Recognize and sketch building components.
3. Differentiate between various steel sections.
4. Use various tools in construction.

List of Experiments:

Minimum 10 Practicals to be performed from following list-

1) Use of measurement tape to determine length, Area, Volume in different units (M/Ft.)
2) Identification of different type of building structures, components and draw their sketches (Column, beam, walls, door, window, chajja, staircase, lintel, sill etc.)
3) To read various drawings like submission drawings, working drawings, RCC drawings etc.
4) Measure and draw line plan showing various components of existing room/ structure etc.
5) Identification of quality of various materials at site (Cement, Sand, Course aggregate, Bricks, steel)
6) Identification of various sections used in steel structure (L-Section, I-Section, C-Section etc)
7) Calculation of weight of rebar of various diameters using density formula and verify there the actual weights.
8) Marking of level using water level and use of spirit level

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9) Introduction and use of various tools for construction practices
10) Demonstration of safety at site, safety equipment, sign boards, first aid.
11) Calculation of material quantity in truck or trolly etc.
12) Determination of quantity of tiles and bricks required in construction.
13) To perform different plumbing connections
14) Market survey of rates of different materials and labours.

1) **One compulsory field visit**

(Dr. R.N. Patil)   Dr K G Asutkar   Dr. A. A. Ingole   Dr Kshitija Kadam

Dr. A.N. Bulik.

K.Y. Madurwar. (Dr. K.Y. Madurwar)   Dr. N. B. Thikare