



**Priyadarshini Bhagwati College of Engineering**  
An Autonomous Institute Affiliated to RTM Nagpur University, Nagpur  
**Proposed Scheme of Teaching & Examination**  
**Second Semester B. Tech Program**



Scheme: BTECHFY/2024-25

Second 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	8	SMAT201T/ CMAT201T	Engineering Mathematics II	2	0	0	2	20	30	50	---	8	23	2
2			SMAT201P/ CMAT201P	Engineering Mathematics II Lab	0	0	2	1	25	25	50	---		25	---
3			CH202T	Energy & Environment	2	0	0	2	20	30	50	---	8	23	2
4			CH202P	Energy & Environment Lab	0	0	2	1	25	25	50	---		25	---
5			PH203T	Materials Physics	2	0	0	2	20	30	50	---	8	23	2
6			PH203P	Materials Physics Lab	0	0	2	1	25	25	50	---		25	---
7	ESC	6	CSE204T	Programming for Problem Solving	2	0	0	2	20	30	50	---	8	23	2
8			CSE204P	Programming for Problem Solving Lab	0	0	2	1	25	25	50	---		25	---
9			ME205P	Workshop Lab	0	0	4	2	25	25	50	---		25	---
10	PCC	2	CSE/IT/EC/ ME/CE206T	Branchwise - (CSE/IT/EC/ME/CE)	2	0	0	2	20	30	50	---	8	23	2
11	VSEC	2	CSE/IT/EC/ ME/CE207P	Branchwise Lab Course (CSE/IT/EC/ME/CE)	0	0	4	2	50	50	100	---		50	---
12	AEC	2	HU208T	Indian Knowledge System	2	0	0	2	20	30	50	---	8	23	2
13	CC	2	LL209P	Liberal Learning Course Lab	0	0	4	2	25	25	50	---		25	---
Total =					12	0	20	22	320	380	700				

NOTE: (1) SMAT represents CSE and IT branches. (2) CMAT represents EC, ME and CE branches.

(3) Refer Annexure - II for Courses - CSE/IT/EC/ME/CE206T & CSE/IT/EC/ME/CE207P

Abbreviations:

BSC - Basic Science Course, ESC - Engineering Science Course, PCC - Programme Core Course,

VSEC - Vocational Skill Enhancement Course, AEC - Ability Enhancement Course, CC - Co-Curricular Course

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*Dr. G. Manjappa*

*Dr. A. N. Surtale*

*Dr. D. D. Patil  
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Pravara Education Society's  
**PRIVADARSHINI BHAGWATI COLLEGE OF ENGINEERING,  
 NAGPUR**

An Autonomous Institute Affiliated to RTM Nagpur University, Nagpur  
 Harpur Nagar, Umred Road, Nagpur - 24



**DEPARTMENT OF CIVIL ENGINEERING**  
**SYLLABUS OF FIRST YEAR BACHELOR OF TECHNOLOGY**  
**SEMESTER II**  
**BUILDING CONSTRUCTION**

**Total Credit: 2**  
**Teaching Scheme**  
**Lectures: 2 Hrs / Week,**  
**T: 0Hr/Week**

**Subject Code: CE206T**  
**Examination scheme**  
**Theory (ESE): 30 Marks and T(I): 20 marks**  
**Duration of end sem exam (ESE): 2Hrs**

**Course Objectives:**

1. To know different types of construction materials for different field applications, properties of cement, aggregates and water
2. To understand the basic properties of concrete.
3. To compare the types of bricks.
4. To discriminate various site works of civil construction.

**Course Outcomes:**

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

1. Tell logical selection and evaluation of the properties of ingredient of concrete.
2. Assess the properties of concrete which are required on construction field.
3. Select suitable brick and stone for a particular application.
4. Choose the suitable type of construction method as per their applications on actual site.

**SYLLABUS**

**Unit - I**

**(8 Hours) 10 Marks**

**INTRODUCTION OF BUILDING CONSTRUCTION MATERIALS**

Types of construction materials

**Cement** - different types of cement, grades of cement, testing of cement as per Indian standard - Fineness, Cube Test, Field Test on cement.

**Aggregates** - Utility in concrete, classification, sieve analysis of coarse and fine aggregate, types of mortar.

**Water** - General Requirements.

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Unit - II  
CONCRETE

(7 Hours) 10 Marks

Composition of concrete, Methods of batching and mixing, Workability – measurement tests on workability - Slump cone test, transporting and other equipment used in construction, curing of concrete, Grades of Concrete.

Unit - III

(7 Hours) 10 Marks

Bricks: Classification of Bricks- Clay bricks, Fly Ash Bricks, Qualities of Good Bricks, Test on Bricks- Absorption, Crushing strength of brick, various bonds used in brickwork.

Site work: Building layout by central line plan, Types of form work, Importance of Daily Progress report.

Text Books:

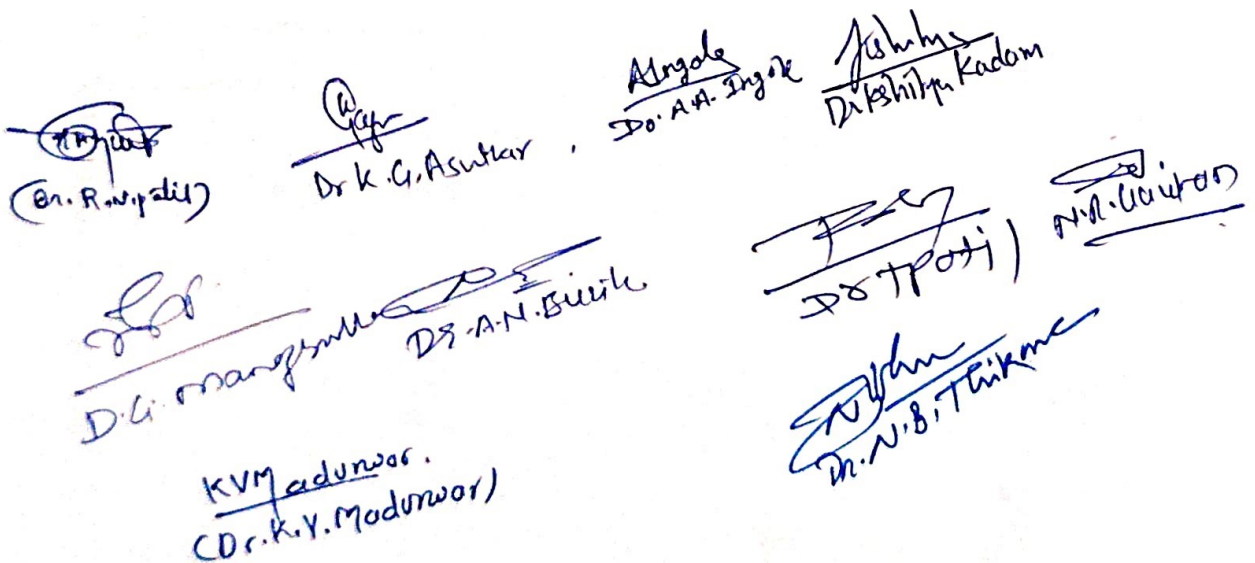
1. Concrete Technology by M S Shetty, 7th edition, S. Chand Publication, New Delhi.
2. Concrete Technology by M S Shetty and A K Jain, 8th edition, S. Chand Publication, New Delhi.
3. Properties of Concrete by A M Nivelles, 5th edition, Pearson Education.
4. Concrete Technology by A M Nivelles, 17th edition, Pearson Education.
5. Building Materials by S K Duggal, 4th edition, New Age International Publications.

Reference Book:

1. Concrete Technology by M. L. Gambhir, 5th edition, Tata McGrawHill.
2. Concrete Technology by P. Kumar Mehta, 4th edition, Tata McGrawHill.
3. Engineering Materials by S. C. Rangwala, 6th edition, Charotar Publication.
4. Building Materials, Testing and Sustainability by N. Subramaniam, Oxford University Press, New Delhi.
5. Concrete Technology by O. V. Sapate, 1st edition, Technoscan.

IS Codes:

1. IS 269:2013 (Specification for ordinary portland cement, 33 grade)
2. IS 2386 (Part 1):1963 (Method of test for aggregates of concrete)
3. IS 456:2000-Reaffirmed in 2021 (Code for practice for plain and reinforced concrete)
4. IS 1077:1992 (Common burnt clay building bricks: Specifications)

  
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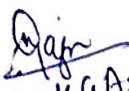


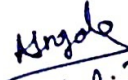
### List of Experiments:


Minimum 10 Practicals to be performed from following list-


- 1) Study and use of metric chain.
- 2) Determination of area of field using chain and cross staff.
- 3) Determination of area of field using Plane table survey.
- 4) Determination of elevation using auto level.
- 5) Determination of crushing strength of brick.
- 6) Determination of water absorption of brick.
- 7) Preparation of Concrete by weight / volume batching.
- 8) Workability of concrete using Slump cone test.
- 9) Determination of compressive strength of Concrete.
- 10) To execute volume batching and mixing for mortar.
- 11) Construction of various brick masonry bonds.
- 12) Demarcation of small building layout at field.
- 13) Study of various curing methods.
- 14) Preparation of DPR (Daily progress report)


  
(Dr. K. N. Patil)

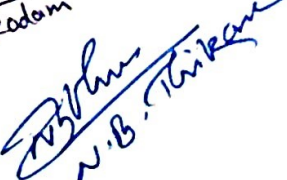
  
Dr. K. G. Asutkar

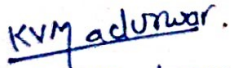
  
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