

Course Code: 23CM201T

**PRAGATI ENGINEERING COLLEGE: SURAMPALEM
(AUTONOMOUS)**

I B.Tech II Semester Regular Examinations, June-2024

**BASIC CIVIL AND MECHANICAL ENGINEERING
(Common to CSE, CSE(AI&ML), CSE(AI) and CSE(DS))**

Time: 3 hours

Max. Marks : 70

Part-A

(BASIC CIVIL ENGINEERING)

Note::

- i. Question 1 shall contain 5 compulsory short answer questions such that each question carry 1 Mark.
- ii. In each of the questions from 2 to the last question, there shall be either/or type questions of 10 marks each. Student shall answer any one of them.

Max. Marks : 35

Q. No.	Questions	BTL	CO	Marks
1.	a) What is the role of civil engineer in Transportation Engineering?	K2	CO1	1M
	b) Classify the types of cement.	K2	CO1	1M
	c) List the objectives of Surveying.	K1	CO2	1M
	d) State the basic requirements of a good foundation.	K2	CO2	1M
	e) Write the types of highway pavements.	K2	CO3	1M
UNIT-I				
2.	a) Describe in details the role of civil engineering for the development of the society.	K2	CO1	5 M
	b) List out the various disciplines of civil engineering and explain any two in detail.	K1	CO1	5M
OR				
3	c) Explain the prefabrication techniques used in construction fields in detail	K2	CO1	5 M
	d) Explain with neat sketch about manufacturing of Portland cement.	K2	CO1	5 M
UNIT-II				
4	a) Give in a tabular form, the differences between prismatic compass and surveyor's compass.	K2	CO2	5 M
	b) Briefly discuss various types of foundations with neat sketches.	K2	CO2	5 M
OR				
5.	c) The following readings were taken with a level and 4m staff having initial B.M=100 m. 0.578, 0.933, 1.768, 2.450, 2.005, 0.567, 1.888, 1.181, 3.679, 0.612, 0.705, 1.810 The instrument is shifted after the 5th and 9th reading. Determine the R.L. of various points, using the rise and fall method.	K2	CO2	10M
UNIT-III				
6.	a) Differentiate between the flexible and rigid pavements.	K2	CO3	5 M
	b) Elaborate on the significance of transportation in the economic development of a nation.	K2	CO3	5 M
OR				
7.	c) Discuss the different parameters that determine water quality and outline their standards according to the Indian Standards (IS).	K1	CO3	5 M
	d) Explain Rainwater harvesting in detail?	K2	CO3	5 M

Part-B
(BASIC MECHANICAL ENGINEERING)

Note:

- i. Question 1 shall contain 5 compulsory short answer questions such that each question carry 1 Mark
 ii. In each of the questions from 8 to the last question there shall be either/or type questions of 10 marks each. Student shall answer any one of them.

Max. Marks: 35

Q. No.	Questions	BTL	CO	Marks
1.	f) Classify engineering materials.	K2	CO1	1M
	g) List few sectors related to mechanical engineering.	K1	CO1	1M
	h) State the principle of forming.	K1	CO2	1M
	i) Summarize the limitations of nuclear power plant	K2	CO3	1M
	j) Distinguish between Joint and links.	K2	CO3	1M
UNIT-IV				
8.	Explain the various technologies used in Marine sector.	K2	CO1	10M
OR				
9.	Define composite materials and classify them in detail.	K2	CO1	10M
UNIT-V				
10.	Explain the role of smart manufacturing in Industry 4.0.	K2	CO2	10M
OR				
11.	Compare S.I and C.I engines and mention any five differences.	K3	CO2	10M
UNIT-VI				
12.	Explain the working of diesel power plant with a neat sketch.	K2	CO3	10M
OR				
13.	Write the differences between belt, chain and gear drives.	K3	CO3	10M