

Code: 23ES1101

I B.Tech - I Semester – Regular Examinations - JANUARY 2024

BASIC CIVIL & MECHANICAL ENGINEERING
(Common for EEE, ECE, CSE)

Duration: 3 hours

Max. Marks: 70

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- Note: 1. This question paper contains two Parts: Part-A and Part-B.
 2. Each Part contains:
- 5 short answer questions. Each Question carries 1 Mark and
 - 3 essay questions with an internal choice from each unit. Each question carries 10 marks.
3. All parts of Question paper must be answered in one place.

BL – Blooms Level

CO – Course Outcome

PART – A

		BL	CO
1.a)	What is the scope of transportation engineering?	L1	CO1
1.b)	List out advantages of prefabricated structures.	L1	CO5
1.c)	What is surveying?	L1	CO2
1.d)	Basic differences between flexible and rigid pavements.	L1	CO3
1.e)	What are the functions of DAMS?	L1	CO4

			BL	CO	Max. Marks
UNIT-I					
2	a)	Explain the necessity of civil engineering for society building.	L2	CO1	5 M
	b)	Discuss pre-fabricated construction techniques in detail.	L2	CO5	5 M
OR					
3	Elaborate the scope of any three civil engineering disciplines.		L2	CO1	10 M

UNIT-II					
4	a)	Define contour and discuss the characteristics of contours and give suitable sketches.	L2	CO2	5 M
	b)	Discuss briefly about prismatic compass.	L2	CO2	5 M
OR					
5	a)	The following staff readings were observed successively with a level. The instrument has been moved after 5 th and 11 th readings. 0.485, 1.210, 1.635, 3.395, 3.775, 0.650, 1.400, 1.795, 2.575, 3.375, 3.895, 1.735, 0.635, 1.605 m. Determine the R.L. of various points, if the first reading was taken with a leveling staff held on a bench mark of R.L of 100m using Raise and Fall method.	L2	CO2	6 M
	b)	Explain any two methods of leveling.	L2	CO2	4 M
UNIT-III					
6	a)	Explain the necessity of transportation for any country.	L2	CO3	5 M
	b)	What is mean by hydrology and state its importance?	L2	CO4	5 M
OR					
7	a)	Explain Tunnel and Airport engineering.	L2	CO3	5 M
	b)	Discuss quality and specifications of water.	L2	CO4	5 M

		brazing processes.			
	b)	Explain the working principle of Vapor Compression Refrigeration system with a neat sketch.	L2	CO2	5 M
UNIT-III					
12	a)	Discuss about the Hydro power plant with few advantages.	L2	CO3	5 M
	b)	Explain different types of Gear Drives and Chain Drives.	L2	CO3	5 M
OR					
13	a)	Explain different configurations of robot.	L2	CO3	5 M
	b)	Differentiate between Flat belt and V belt drives based on the applications.	L2	CO3	5 M