Course Code: 23ES2T03

BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY & SCIENCE

(AUTONOMOUS)

I - B. Tech II-Semester Supplementary Examinations (BR23), Sep/Oct - 2024

BASIC CIVIL & MECHANICAL ENGINEERING (CE, EEE, ECE)

Time: 3 hours Max. Marks: 70

Question Paper consists of Part-A and Part-B
*Answer **ALL** the question in **Part-A and Part-B***

PART–A (1 X 5 = 5M)

		Marks	CO	BL
1. a)	What is the role of Civil Engineer?	(1M)	CO1	L1
b)	How do you classify aggregate?	(1M)	CO5	L1
c)	Define Surveying?	(1M)	CO2	L1
d)	Mention the various types of chains used in chain surveying?	(1M)	CO2	L1
e)	Extend a short note on the tunnel?	(1M)	CO3	L1

(10 X 3 = 30M)

2.a)	Explain the scope of various disciplines of civil engineering?	10(M)	CO1	L2
	(OR)			
b)	Explain the various applications and advantages of Prefabricated construction techniques?	10(M)	CO5	L2
3.a)	The following are the back bearings of the sides of closed traverse.Calculate the interior angles of the traverse.	10(M)	CO2	L3

Side	BB	FB
AB	$150^0 15'$	$330^0 15'$
BC	$20^0 30'$	$200^0 30'$
CD	$295^0 45'$	$115^0 45'$
DE	$218^0 00'$	$38^0 00'$
EA	$120^0 30'$	$300^0 30'$

(OR)

b)	Illustrate the three-phase system of soil?	10(M)	CO2	L2
4.a)	Describe types of pavements with neat sketches showing the structural components?	10(M)	CO3	L2
	(OR)			
b)	What is airport engineering? Explain its component parts?	10(M)	CO3	L2

PART–B (1 X 5 = 5M)

		Marks	CO	BL
1. a)	What is the primary difference between ferrous and non-ferrous metals?	(1M)	1	L1
b)	Give any four examples of non-metals.	(1M)	1	L1
c)	What is the purpose of Boilers?	(1M)	2	L1
d)	What is a kinematic chain?	(1M)	2	L2
e)	List the various mechanical power transmission systems	(1M)	3	L2

(10 X 3 = 30M)

2.a)	What are composite materials, and how do they differ from traditional materials?	10(M)	1	L2
	(OR)			
b)	What are smart materials, and how are they used in engineering applications?	10(M)	1	L3/L4
3.a)	State and explain any 4 Metal forming process.	10(M)	2	L3
	(OR)			
b)	What is casting? Explain the procedure involved in casting. State its advantages and disadvantages.	10(M)	2	L3/L4
4.a)	Explain different mechanical power transmission systems and state their advantages and disadvantages	10(M)	3	L4
	(OR)			
b)	Explain Robotic Configurations with neat sketches.	10(M)	4	L4

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