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Question Paper Code: 52708

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2024

Second Semester

Mechanical Engineering

15UME208 - BASIC CIVIL AND MECHANICAL ENGINEERING

(Common to Electrical and Electronics Engineering)

(Regulation 2015)

Duration: Three hours	Maximum: 100 Marks

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		Answer ALI	2 Questions					
PART A - $(10 \times 1 = 10 \text{ Marks})$								
1.	The major component	The major component of brick is						
	(a) Silica	(b) Magnesia	(c) Lime	(d) Alumina				
2.	Which of the below is not a preliminary consideration for building a foundation?							
	(a) Bearing capacity of soil		(b) Ground water condition					
	(c) Settlement control		(d) Soil organisms					
3.	In chain surveying fie	ld work is limited to		CO2-R				
	(a) Linear measurements only		(b) Angular measurements only					
	(c) Both linear and an	gular measurements	(d) None of these					
4.	A solid barrier constructed at a suitable location across a river valley to impound water is called							
	(a) Reservoir	(b) Dam	(c) Bridge	(d) Retaining wall				
5.	The following is not a component of Thermal power plant							
	(a) Condenser	(b) Cooling tower	(c) Turbine	(d) Fuel tank				
6.	The economiser is used in boilers to			CO3-R				
	(a) Increase thermal e	fficiency of boiler	(c) Extract heat from the	exhaust the gases				
	(b) Economise on fule	•	(d) Increase flue gas temperature					

7.		two stroke cycle engine gives the number of power strokes compared to the four stroke cycle engine, at the same engine speed				CO4-R
	(a) I	Half	(b) Same	(c) Double	(d) Four t	times
8.	Whi	Which of the following is not an internal combustion engine				CO4-R
(a) 2 stroke p		2 stroke petrol eng	ine	(b) 4 stroke petrol engine		
	(c) Diesel engine		(d) Steam turbine			
9.	One	One tonne of refrigeration is equal to				CO5-R
	(a) 2	21/kJ/min	(b) 210/kJ/min	(c) 420/kJ/min	(d) 620/k	J/min
10.	The	The refrigerator which does not require compressor is called				CO5-R
	(a) V	(a) Vapour absorption refrigerator		(b) Vapour compression re	efrigerator	
	(c) I	(c) Electrolux refrigerator		(d) Carnot refrigerator		
			PART – B (5	5 x 2= 10Marks)		
11.	Wha	at is surveying?				CO1-R
12.	. State the objectives and requirements of good foundation?					CO2-R
13.						CO3-R
14.						CO4-R
15.						CO5-R
			PART – C	(5 x 16= 80Marks)		
16.	(a)	Explain with nea		ompass and principles of	CO1-U	(16)
	(1.)	1 1:00	Or		G01 II	(1.0)
	(b)	what are the diffuses?	erent types of steel?	Explain the properties and	CO1-U	(16)
17.	(a)	(i) List the six ir site for construct	-	e considered while selecting a	CO2-U	(8)
		(ii) Explain diffe	rential leveling with	a neat sketch	CO2-U	(8)
	(b)	Evnlain with nee	Or t sketch the differen	t types of piles	CO2-U	(16)
	(b)	Lapiani willi nea	i skeich die anneien	ii types of phes.	CO2-U	(10)

18. (a) Explain working principle of Nuclear Power plant with neat CO3-U (16)sketch Or (b) Explain working principle of thermal Power plant with neat CO3-U (16)sketch 19. (a) Describe the principal parts and functions of a Two Stroke Petrol CO4-U (16)engine with neat Sketch Or (b) Describe the principal parts and functions of any one high CO4-U (16)pressure boiler with neat sketch Explain the operation of any one type of refrigeration system with CO5-U 20. (a) (16)the schematic line diagram. Or (b) With the neat sketch explain the layout of a window room air CO5-U (16)conditioning