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**Question Paper Code: R2726**

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

Second Semester

Electrical and Electronics Engineering

R21UME226- BASIC CIVIL AND MECHANICAL ENGINEERING

(Regulations R2021)

Duration: Three hours

Maximum: 100 Marks

Answer All Questions

PART A - (5x 1 = 5 Marks)

1. In a mortar, the binding material is\_\_\_\_\_. CO1- U  
(a) Cement (b) Sand (c) Cinder (d) Surkhi
2. Failure of the stability of slopes, generally occurs along\_\_\_\_\_. CO2- U  
(a) Slip plane (b) a horizontal surface (c) a curved surface (d) all the surfaces
3. The most abundantly available fossil fuel in India is \_\_\_\_\_. CO3- U  
(a) Coal (b) Natural Gas (c) Petroleum (d) Oil
4. What is the combustion in spark ignition engine? CO4- U  
(a) Heterogeneous (b) Laminar (c) Homogeneous (d) None of the above
5. Function of the evaporator is \_\_\_\_\_. CO5- U  
(a) To absorb heat (b) To decrease the refrigeration effect  
(c) To reject heat (d) To improve C.O.P

PART – B (5 x 3= 15Marks)

6. Define the principles of Surveying CO1- U
7. Classify the types of bricks. CO2- App
8. Point out the function of Draft tube in hydroelectric power plant. CO3- App
9. Explain the function of spark plug and fuel plug CO4- U
10. Define Ton of Refrigeration. CO5- U

PART – C (5 x 16= 80 Marks)

11. (a) Explain the factors to be considered for the site preparation for CO1-U (16)

construction.

Or

- (b) Describe in details the different types of bond in brick wall. CO1-U (16)
12. (a) Explain with neat sketch of a reinforced cement concrete column. CO2-U (16)
- Or
- (b) List the six important points to be considered while selecting a site for construction of Dam. CO2-U (16)
13. (a) Describe the functions, advantages and disadvantages of a hydroelectric power plant with neat sketch. CO3-U (16)
- Or
- (b) Describe the functions, advantages and disadvantages of a Steam power plant with sketch. CO3-U (16)
14. (a) Describe the principle, parts and functions of a Two Stroke Petrol engine with neat sketch. CO4-U (16)
- Or
- (b) Describe the principle, parts and functions of a Four Stroke Compression ignition (CI) engine with neat sketch. CO4-U (16)
15. (a) Describe with neat sketch of vapour absorption refrigeration system. CO5-U (16)
- Or
- (b) Explain with neat sketch the working principle of window type room air conditioner. CO5-U (16)