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**Question Paper Code: 55U13**

M.E. DEGREE EXAMINATION, APRIL 2019

Elective

Structural Engineering

15PSE513 – DESIGN OF INDUSTRIAL STRUCTURES

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART - A (5 x 1= 5 Marks)

- IS Code for Industrial Ventilation. CO1- R  
(a) IS : 3103 - 1975    (b) IS : 3103 - 1975    (c) IS : 3103 - 1977    (d) IS : 1646-1962
- What is the allowable vertical deflection for electrically operated Crane up to 500 kN Capacity CO2 -R  
(a) Span/500            (b) Span/750            (c) Span/400            (d) Span/1000
- Which of the following is not a Power plant Organization in India CO3- R  
(a) NSCL                (b) NHPC                (c) NPCL                (d) NTPC
- Diameter of flared portion of a steel chimney is \_\_\_\_\_ CO4 -R  
(a) 4/5D                (b) 1.25D                (c) 3/4D                (d) 2.5D
- Find the Indian standards which refers to Foundation for rotary type machine CO5- R  
(a) IS 2973                (b) IS 2794                (c) IS 2974                (d) IS 2874

PART – B (5 x 3= 15 Marks)

- Define fire load. CO1-U
- What is a gantry girder? CO2-U
- List few power companies in India. CO3-U
- Write short notes on testing of towers. CO4-Ana
- What are the general requirements of machine foundations? CO5-U

PART – C (5 x 16= 80 Marks)

11. (a) Give the guidelines for industrial buildings from Factories Act. CO1- U (16)
- Or
- (b) Plan a layout for a cement industry which should satisfy all the requirements. CO1- U (16)
12. (a) Design a RCC corbel to carry a factored load of 500 kN at a distance 200 mm from the face of a 300 x 300 RCC Column. Use M35 concrete and Fe 415 steel. CO2- Ana (16)
- Or
- (b) Design a RCC corbel to carry a factored load of 450 kN at a distance 210 mm from the face of a 400 x 400 RCC Column. Assume M25 grade of concrete and Fe 415 steel. CO2- Ana (16)
13. (a) Explain in detail about Solar power plants. CO3-U (16)
- Or
- (b) Explain in detail about Nuclear power plants. CO3-U (16)
14. (a) Explain in detail about the design procedure of RC Chimney. CO4 -U (16)
- Or
- (b) Explain the detail the testing of power transmission line towers. CO4 -U (16)
15. (a) Explain in detail about machine foundation. CO5-U (16)
- Or
- (b) Explain in detail about Chimney foundation. CO5-U (16)