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Question Paper Code: 55U13

M.E. DEGREE EXAMINATION, NOV 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)

1. IS Code for Industrial Noise CO1- R
(a) IS : 3483 - 1965 (b) IS : 3443 - 1965 (c) IS : 3483 - 1975 (d) IS : 1646-1962
2. The Machine foundations are designed considering CO2 -R
(a) Dynamic Forces (b) Kinematic Forces (c) Static forces (d) Both b & c
3. In thermal power plants the consider used is of CO3- R
(a) Surface type (b) Jet type (c) Can both type and jet type (d) None of the above
4. Diameter of flared portion of a steel chimney is _____ CO4 -R
(a) 4/5D (b) 1.25D (c) 3/4D (d) 2.5D
5. The foundations are designed considering CO5- R
(a) Shocks and vibrations (b) Vibrations (c) Shocks (d) Neither a (or) b

PART – B (5 x 3= 15 Marks)

6. What are the different types of structural systems? CO1-U
7. What are the assumptions that are made in corbels according to Indian practice? CO2-U
8. Explain the types of power plants. CO3-U
9. Define the term: wind span. CO4-Ana
10. Name the methods used for dynamic investigation of soil at the site. CO5-U

PART – C (5 x 16= 80 Marks)

11. (a) Discuss briefly how the planning for layout requirement is done for an industrial building. Supplement your answer with sketches. CO1- U (16)
- Or
- (b) Explain in brief the planning, types and elements of an industrial building. CO1- U (16)
12. (a) Design a Gantry Girder for the following data CO2- Ana (16)
- Crane capacity- 100kN
Longitudinal Spacing of Columns - 8m
Gantry Girder spacing - 15m
Wheel spacing of Crane - 3.2m
Edge distance - 1m
Weight of Crab Car - 16kN
Weight of Crane Girder - 100kN
- Or
- (b) Explain in detail about design procedure for Gantry Girder. CO2- Ana (16)
13. (a) Explain the main factors to be allowed for design of turbo generator foundation. CO3-U (16)
- Or
- (b) Explain in detail about design of RC containment structures. CO3-U (16)
14. (a) Discuss briefly about Transmission line towers. CO4 -U (16)
- Or
- (b) What are the loads to be considered in the design of transmission line towers? CO4 -U (16)
15. (a) Explain in detail different types of tower foundation CO5-U (16)
- Or
- (b) Explain in detail about wind turbine foundation. CO5-U (16)