C

Reg. No. :

Question Paper Code: 55U13

M.E. DEGREE EXAMINATION, NOV 2018

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 : 3283 - 1965

2. 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

3. Which of the following is not a Power plant Organization in India CO3- R

   (a) NSCL (b) NHPC (c) NPCL (d) NTPC

4. The type of coolong towers with maximum heat transfer from air to water is CO4 -R

   (a) Natural Draft (b) Mechanical Draft (c) Electrical Draft (d) Both a&b

5. 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)

6. Mention the sources of noise in Industries. CO1-U
7. State the functions of corbels. CO2-U
8. Differentiate between free vibration and forced vibration. CO3-U
9. Write short notes on testing of towers. CO4-Ana

10. Distinguish between bunker and silo. CO5-U

PART – C (5 x 16= 80Marks)

11.	(a)	Explain in brief the planning, types and elements of an industrial building.	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 corbel for a 250 mm square column to support a vertical ultimate load of 400 kN with its line of action 170 mm from the face of the column. Assume M20 grade of concrete and Fe 415 steel.	CO2- Ana	(16)
13.	(a)	Explain in detail about hydro power plant structures	CO3-U	(16)
		Or		
	(b)	Explain in detail about design of RC containment structures.	CO3-U	(16)
14.	(a)	Discuss briefly about testing of towers.	CO4 -U	(16)
		Or		
	(b)	Explain the detail the testing of power transmission line towers.	CO4 -U	(16)
15.	(a)	Explain the design procedure for turbo generator foundation.	CO5-U	(16)
		Or		
	(b)	Explain in detail different types of cooling tower foundation.	CO5-U	(16)