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Question Paper Code: 55U15

M.E. DEGREE EXAMINATION, MAY 2018

Elective

Structural Engineering

15PSE515 - PRECAST AND PREFABRICATED STRUCTURES

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART - A (5 x 1= 5 Marks)

1. Arched Structures are normally used for bridge in span more than CO1- R
(a) 15m to 25m (b) 10m to 20m (c) 20 m to 25m (d) 10m to 25m
2. The longitudinal wall system used to resist _____ CO2 -R
(a) Gravity loads (b) lateral loads (c) Both (a) and (b) (d) None of these
3. Pitched roofs have a slope of more than _____ to the horizontal CO3- R
Surface.
(a) 5 degrees (b) 10 degrees (c) 15 degrees (d) 20 degrees
4. Bearing walls are used to CO4 -R
(a) Floor (b) Roof (c) Beam (d) All of the above
5. The capacity of Gantry Cranes is CO5- R
(a) 4T (b) 5T (c) 6T (d) T

PART – B (5 x 3= 15Marks)

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| 6. Define shear wall. | CO1-U |
| 7. Sketch beam to column connection. | CO2-U |
| 8. Write short notes on hollow core floor slab. | CO3-U |
| 9. What are the types of precast floors? | CO4-U |
| 10. Define shear connectors. | CO5-U |

PART – C (5 x 16= 80 Marks)

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| 11. (a) Illustrate the concept of production techniques. | CO1- U | (16) |
| Or | | |
| (b) Summarize in detail about the need for prefabrication with merits and demerits. | CO1- U | (16) |
| 12. (a) Explain one way and two way prefabricated slabs. | CO2- U | (16) |
| Or | | |
| (b) Discuss in detail with sketches the different types of beam to column connections used in framed precast reinforced concrete building. | CO2- U | (16) |
| 13. (a) Explain about Roofing members in detail. | CO3-U | (16) |
| Or | | |
| (b) Explain the methods of construction of roof slabs. | CO3-U | (16) |
| 14. (a) Explain in detail about in manufacturing wall panels | CO4 -U | (16) |
| Or | | |
| (b) Explain the stability of wall panels. | CO4 -U | (16) |
| 15. (a) Write in detail about installation of prefabricated elements. | CO5- U | (16) |
| Or | | |
| (b) Write in detail about design principles of wind bracing. | CO5-U | (16) |