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Reg. No. :

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**Question Paper Code: 55U15**

M.E. DEGREE EXAMINATION, NOV 2019

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)

- The prefabrication is used for CO1- R
  - Construction of multi storied building
  - Construction of industrial building
  - Construction of aircraft and space craft
  - All of the above
- Stiffen wall system used to resist \_\_\_\_\_** CO2 -R
  - Gravity loads
  - lateral loads
  - Both (a) and (b)
  - None of these
- Homogeneous floors may be** CO3- R
  - Solid Slab**
  - Cored Slab**
  - Ribbed Slab**
  - All of the above**
- Floor panel thickness is** CO4 -R
  - 50 mm**
  - 60 mm**
  - 65 mm**
  - 70 mm**
- The capacity of Gantry Cranes is CO5- R
  - 4T
  - 5T
  - 6T
  - T

PART – B (5 x 3= 15Marks)

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|-----|---|-------|
| 6.  | What is meant by Standardization?           | CO1-U |
| 7.  | What is one way prefabricated slabs?        | CO2-U |
| 8.  | Explain joint deformation.                  | CO3-U |
| 9.  | Write briefly about types of wall panels?   | CO4-U |
| 10. | Mention the design codes for precast units. | CO5-U |

PART – C (5 x 16= 80 Marks)

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|-----|---|--------|------|
| 11. | (a) Discuss with sketches the concept of disuniting of structures in prefabrication.  | CO1- U | (16) |
|     | Or  |        |      |
|     | (b) Explain in detail about IS codal provision for prefabricated structures.  | CO1- U | (16) |
| 12. | (a) Explain one way and two way prefabricated slabs   | CO2- U | (16) |
|     | Or  |        |      |
|     | (b) With a neat sketch, explain an expansion joint used in precast construction.  | CO2- U | (16) |
| 13. | (a) Explain in detail the manufacture of roof slabs. and also explain the precautions taken during the manufacturing process. | CO3-U  | (16) |
|     | Or  |        |      |
|     | (b) Explain the types of joints in precast construction. and also explain its behavior.                                       | CO3-U  | (16) |
| 14. | (a) Write the structural design of curtain wall.  | CO4 -U | (16) |
|     | Or  |        |      |
|     | (b) Explain about load transfer in wall panels.   | CO4 -U | (16) |
| 15. | (a) Write in detail about doubly curved shell units.  | CO5- U | (16) |
|     | Or  |        |      |
|     | (b) Write in detail about precast methods.  | CO5-U  | (16) |
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