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**Question Paper Code: 22064**

M.E. DEGREE EXAMINATION, MAY 2014.

Second Semester

Structural Engineering

01PSE204 - PRECAST AND PREFABRICATED STRUCTURES

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

(Use of IS 1893 : 2002 (Part – I), IS 13920 : 1990 and IS 4326 : 1980 are permitted.)

Answer ALL Questions.

PART A - (10 x 2 = 20 Marks)

1. What is standardization?
2. Define the term off-site fabrication.
3. What is curtain wall?
4. What is long and cross walls?
5. What are panel type floors?
6. Name the different structural connections of floors.
7. What are sandwich wall panels?
8. Mention the function of joint sealants.
9. What is erection stress?
10. Define carbel.

PART - B (5 x 14 = 70 Marks)

11. (a) Explain the production, transportation and erection of prefabricated elements. (14)

Or

(b) Discuss the specific requirements for planning and layout of prefabrication plant. (14)

12. (a) Explain the various connections involved in prefabricated beam to column and column to column. (14)

Or

(b) Discuss about the long and cross wall large panel prefabricated construction method. (14)

13. (a) Explain the design procedure to calculate the ultimate strength in flexure and shear of a floor. (14)

Or

(b) Discuss in detail about the types of prefabricated roof slabs and its insulation requirements. (14)

14. (a) Write short note on:

(i) Types of walls (7)

(ii) Types of wall joints and its behaviour. (7)

Or

(b) Explain the procedure of approximate design of shear wall. (14)

15. (a) Explain the components of single storey industrial shed with neat sketch. Also give the erection procedure. (14)

Or

(b) Explain the design procedure of carbels. (14)

PART - C (1 x 10 = 10 Marks)

16. (a) Explain in detail about various stages involved in the construction of prefabricated industrial building with different connections and materials. (10)

Or

(b) Discuss the important points to be considered while casting curved and folded plates and erection of the same. (10)