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Question Paper Code: 59117

B.E. / B.Tech. DEGREE EXAMINATION, JUNE 2022

Elective

Civil Engineering

15UCE917- Prefabricated Structures

(Regulations 2015)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. With some other materials, precast concrete will not reduce the exposure to the sun due to _____ CO1- U
(a) Environment Protection (b) UV Sensitivity
(c) Weather Flexibility (d) Chemical Resistance
2. Which part of prefabricated building structure aim to be constructed at site? CO1- U
(a) Roof slab (b) Foundation (c) Main beams (d) Fillers
3. _____ Walls could be composite or sandwich panels based on the structural functions of wall. CO2- U
(a) Homogeneous wall (b) Non-Homogeneous wall
(c) Partition wall (d) shear wall
4. The economy of cross section is measured by _____ CO2- U
(a) shape factor (b) form factor (c) material (d) section modulus
5. The joists are designed as a small beams loaded from planks and transmit loads to main beams through channels provided in main beam. CO3- U
(a) True (b) False (c) none of the above (d) may be
6. Which method is not adopted in precasting? CO3- U
(a) tilting mold method (b) long line method
(c) extraction method (d) static method

7. Load bearing walls & Beams are placed in both ways longitudinally & Transversely is _____ CO4- U
 (a) Long wall system (b) Cross wall system
 (c) Ring system (d) None of the above
8. What is the nature of erection stresses CO4- U
 (a) Dynamic (b) Static (c) Compatible (d) Rigid
9. Which of the below is the type of folded plate roof? CO5- U
 (a) Prismatic (b) Cylindrical (c) Corrugated shell (d) Ellipsoidal
10. As compared with flat slab constructions, the precast shell requires less concrete & steel by _____ CO5- U
 (a) 30 – 35 percent (b) 25 – 35 percent (c) 10 – 20 percent (d) 20 – 30 percent

PART – B (5 x 2= 10Marks)

11. What are the classifications of prefabrication? CO1- U
12. Define long wall system CO2- U
13. What is necessity of dimensional tolerances? CO3- U
14. What are the types of panels in prefabricated structures? CO4- U
15. What is meant by Folded Plate? CO5 U

PART – C (5 x 16= 80Marks)

16. (a) Discuss the need for prefabrication in construction industry. Also state merits and Demerits of Prefabricated structures. CO1- U (16)
 Or
 (b) Explain disuniting of structures. What are the precautions should be taken during disuniting of structures? At what points in the member disuniting should be done? CO1- U (16)
17. (a) Explain in detail about column to column connection with a clear sketch. CO2- U (16)
 Or
 (b) What are the points to be considered while designing the connection which might be relevant to standard specification codes/ special requirements? CO2- U (16)
18. (a) Explain the joint techniques and material used in detail and explain the design of expansion joint CO3- U (16)
 Or
 (b) List the types of Beam to Column Connection and explain any two of them CO3- U (16)

19. (a) Discuss the process of erection in prefabrication CO4- U (16)
Or
(b) Discuss about Installation of horizontal components CO4- U (16)
20. (a) Describe with neat sketches the organization of a prefabrication plant for manufacture of small element CO5- U (16)
Or
(b) Discuss about the problem in design due to flexibility of joint. CO5- U (16)

