

Reg. No. :

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Question Paper Code: U5616

M.E. DEGREE EXAMINATION, DEC 2025

First Semester

Structural Engineering

21PSE516 – PRECAST AND PREFABRICATED STRUCTURES

(Regulations 2021)

(Use of IS 15916:2011 & IS 11447: 1985 are permitted)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART - A (5 x 20 = 100 Marks)

1. (a) Discuss in detail about the need for prefabrication with merits and demerits. **CO2-App** (20)
Or
(b) Categorize the various stages in construction of prefabricating structures. **CO2-App** (20)
2. (a) Charting one way and two way prefabricated slabs with neat sketch. **CO3-App** (20)
Or
(b) Integrate the essential requirements of joints in precast construction? **CO3-App** (20)
3. (a) Illustrate the types of joints in precast construction. Also explain its behavior. **CO1-App** (20)
Or
(b) Bring the key recommendations for the requirements of insulation in roof slabs at G + 10 storeys at New Delhi. **CO1-App** (20)
4. (a) Formulate design requirements for progressive collapse design as per Indian standard guidelines. **CO1-App** (20)
Or
(b) Illustrate the procedure for calculating equivalent design loads when the structure is subjected to earthquake loading. **CO1-App** (20)

5. (a) Brief about the Barrel shells, Umbrella Shells, and Gabled Hypars with suitable applications. **CO5-Ana** (20)

Or

(b) Recommended the IS code provisions guidelines, for erection and jointing of Folded Plate Roof of tall structures. **CO5-Ana** (20)