

MECTM-22

M. E. (CTM) (Second Semester) EXAMINATION, Jan.-Feb., 2008 PREFABRICATION CONSTRUCTION AND ITS TECHNIQUES

(MECTM-22)

Time : Three Hours

Maximum Marks : 100

Minimum Pass Marks : 40

Note : Attempt any five questions. All questions carry equal marks. Assume suitable data if any.

1. (a) Describe the properties of the following materials :
5 each
(i) Cellular concrete
(ii) Fly ash
(b) Describe the various prefabricate components of snow cem. 10
2. (a) Discuss advantages and disadvantages of precast construction. 10
(b) Describe the necessity of standardisation in precast construction. 10
3. (a) Describe modular co-ordination and modular grid system. 10

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- (b) What are the preferred dimensions of prefabricates in precast construction ? 10
4. (a) Describe various prefabricates used in walling. 10
(b) Describe with neat sketches Erection and Assembly of walling components. 10
5. (a) What are the 'lift points' ? Discuss their design. 10
(b) What are the forces to be considered in the design of prefabricates ? 10
6. (a) Describe the design of joints to transfer axial forces, moments and shear forces in precast construction. 10
(b) Describe the plant lay-out for the manufacturing of precast components. 10
7. (a) Enlist the various equipments used in horizontal and vertical transportation. 10
(b) Describe lift slab system of precast construction. 10
8. Write short notes on any two of the following : 10 each
(i) Tolerances and permitted deviations
(ii) Basic modules
(iii) System of prefabrication
(iv) Large panel construction