

Mid-West University
Examinations Management Office
End-Semester Examinations -2080

Bachelor level/ B.E. Hydropower/4th Semester

Time: 3 hours

Subject: Concrete Technology and Masonry Structures (HE211/HE446)

Full Marks: 50

Pass Marks: 25

- Attempt all the questions
- Figures in the margin indicate full marks.
- Assume suitable values, with a stipulation, if necessary.
- Candidates are required to answer the questions in their own words as far as possible.
- IS Code 1905-1987 & NBC-109, All codes are allowed.

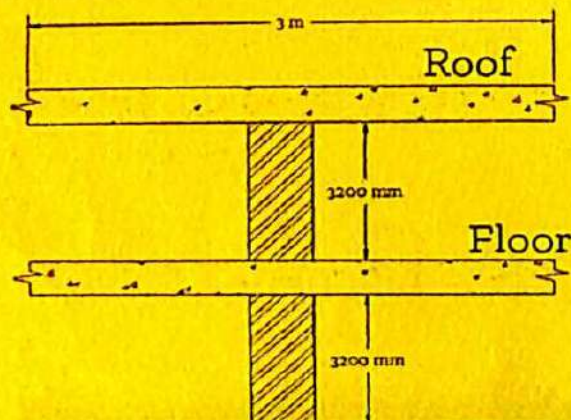
1. a) Define Admixture. What is the role of Admixtures in concrete? Explain the use of Super-Plasticizer in concrete. [4]
b) How do you assure the quality control of concrete at site? Explain the storage condition of materials at site answer your own views. [4]
c) Describe steps of Mixing Procedure of concrete [2]
2. a) The test results of a Compressive Strength test of 20 cubes are as follows; [5]
175, 155, 225, 185, 210, 265, 195, 250, 180, 230, 250, 195, 160, 175, 150, 165, 169, 173, 205 and 192 Kg/cm².
What will be the Characteristics strength of concrete? Make Necessary assumptions.
b) Explain the placing of Mass Dam concrete and precautions of Placing of Mass concrete. How honeycombed structure is formed in concrete? [5]
3. a) Draw the neat sketches, Describes different types of In-planes and Out-of-plane behavior of Masonry structures. [5]
b) Explain the chemical causes of concrete deterioration. What do you mean by grade of concrete? [5]
4. a) What are the effects of cold weather concreting and also explain the precautionary measures to take for concreting cold weather comments as per own views? [5]
b) Why importance curing in concrete structures and also brief the curing method of concrete in different environmental conditions. [5]
5. a) Design an interior cross wall of two Storeyed building to carry 100mm thick RCC Slab with 3.2 m ceiling height. The wall is unstiffened and supports 3 m wide slab on both sides. [6]

Live load on Roof = 2.5 KN/m²

Weight of 80mm thick terrace = 2 KN/m²

Live load on Floor = 3KN/m

Weight of Floor finish = 0.2KN/m²



- b) Explain the compressive strength test of bricks masonry walls. [4]

THE END