



**Advanced Concrete Technology
(1080)**

P. Pages : 2

Time : Three Hours

Max. Marks : 100

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Answer sheet should be written with blue ink only. Graph or diagram should be drawn with the same pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Answer **any five** questions.

1. a) Define admixture. 2
b) Write a short note on following. 8
 - i) Plasticizers.
 - ii) Superplasticizers.
 - iii) Air - entraining Admixture.
 - iv) Damp - proofing and water proofing Admixtures.
- c) Explain the effect of air - entrainment on workability and strength of concrete. 10
2. a) Discuss durability and it's significance. State factors affecting durability of concrete. 10
b) Explain various methods to control sulphate attack on concrete. 10
3. a) Explain ACI method of mix design for concrete. 10
b) Discuss Indian standard Recommended method for concrete mix design. 10
4. a) What do you understand by aerated concrete ? 10
Explain the methods of manufacturing aerated concrete.
b) Write a note on **any two**. 10
 - i) No - fines concrete
 - ii) Refractory concrete
 - iii) High strength concrete.

5. a) Discuss underwater concrete, mass concrete and concrete for liquid retaining structures. **10**
- b) Explain advantages and disadvantages of Ready mix concrete. **10**
6. a) Explain design of form work with respect any civil engineering structure. **10**
- b) What are the applications of precast concrete. Give practical examples. **10**
7. Explain the following. **20**
- i) Effect of cold weather on concrete.
- ii) Vacuum Dewatered concrete.
- iii) Sprayed concrete.
- iv) Polymer concrete.
