

Seat
No.

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मजल - 021

Concrete Technology (1040)

P. Pages : 2

Time : Three Hours

Max. Marks : 100

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Answersheet 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. Attempt **any two** question from each unit.
5. Neat diagrams must be drawn wherever necessary.
6. Figures to the right indicate full marks.

UNIT - I

1. a) What are the main stages in manufacture of portland cement by wet process. 5
b) What is grading of aggregate ? How grading is important with regard to properties of fresh and hardened concrete. 5
2. Write notes on : 10
i) Air entraining cement. ii) Fineness modulus.
3. a) Explain properties and applications of low heat cement. 5
b) Give requirement, it water which can be used for making and curing of concrete. 5

UNIT - II

4. a) Describe segregation and bleeding in fresh concrete. 5
b) Explain placing of concrete under different conditions with neat diagrams. 5
5. a) List the various methods of workability and explain slump test. 5
b) Explain shrinkage what are its types and define plastic shrinkage. 5
6. Write short notes on :
i) Placing of concrete under water. 5
ii) State the factors affecting strength of concrete. 5

UNIT - III

7. a) What is retarders ? Explain it's action and applications. 5
 b) Describe fibre reinforced concrete and its applications. 5
8. a) Write on ferrocement and its uses. 5
 b) What is self compacting concrete ? Give its requirements. 5
9. Write short notes on.
 i) Ready Mixed concrete. 5
 ii) Concreting in cold weather. 5

UNIT - IV

10. a) What is characteristic strength of concrete why should we aim for higher mean through then the specified mean strength in mix - design. 5
 b) Explain importance of rapid method of mix design. 5
11. Explain I.S. method of concrete mix design. 10
12. a) In concrete mix design. How the variations in compressive strength due to site conditions are accommodated by statistical quality control. 5
 b) What is purpose of trial mixes. 5

UNIT - V

13. a) Explain different techniques of measurements. If pulse velocity also state factors affecting pulse velocity. 5
 b) Write on carbonation of concrete. 5
14. a) What is the significance of N.D.T. list various methods of N.D.T. 5
 b) Discuss various methods of corrosion control. 5
15. a) Define permeability. What are the causes of permeability concrete. 5
 b) Explain deterioration of concrete due to chloride attack. 5
