

Seat  
No.

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मुद्रा- 010

## Advance 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. 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. Answer **any five** questions.

1. a) Explain the following with examples. 10
  - i) Chemical admixtures.
  - ii) Mineral admixtures.
- b) State and explain any five factors affecting amount of air entrainment. 10
2. a) Explain the alkali aggregate reaction and its effect on strength and durability of concrete. 10
- b) Write a short note on. 10
  - i) Suitable attack
  - ii) Fire - resistance of concrete
3. a) What are different methods for proportioning mix design ? and explain the IS code method for the same. 10
- b) What is significance and objective of mix design. 5
- c) Define. 5
  - i) Characteristic strength of concrete
  - ii) Mean strength
  - iii) Variance
  - iv) Standard deviation
  - v) Coefficient of variance

4. a) What do you understand by special concrete ? Describe briefly their main characteristics compared to regular concrete and their application. 10
- b) Define. 10
- i) Polymer impregnated concrete.
- ii) Polymer cement concrete.
- iii) Polymer concrete.
- iv) Fibre reinforced concrete.
- v) Refractory concrete.
5. a) What is ready mix concrete ? And what are their types Explain discharging of ready mix concrete. 10
- b) Write a short note on. 10
- i) Underwater concrete.
- ii) Concrete for liquid retaining structures.
6. a) Briefly explain the basic principle of design of formwork. Explain different types of formwork. 10
- b) Write a note on precast concrete with respect to following. 10
- i) Method of compaction.
- ii) Mix design.
- iii) Formwork.
7. Explain the following. 20
- i) Self computing concrete.
- ii) Effect of superplasticizer on hardened concrete.
- iii) Light weight concrete.
- iv) Recycled concrete.

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