

Question Bank (Chapter wise)

Semester: 6th

Subject: Concrete Technology (Th.4a)

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Chapter: 1 (Concrete as a construction material)

Short Type Questions: (2 Mark)

1. Define the grade of concrete.
2. Explain letter 'M' and number in grade "M25".

Long Type Questions: (5 Mark)

1. Discuss the advantages of concrete.
2. Describe the disadvantages of concrete.

Long Type Questions: (10 Mark)

1. Discuss the advantages and disadvantages of concrete.

Chapter: 2 (Cement)

Short Type Questions: (2 Mark)

1. Define the cement.
2. Explain the composition of cement.
3. Explain the functions of lime and silica in cement.
4. Define Hydrophobic cement.
5. Define White cement.
6. Explain the expanding cement.
7. Define the low heat cement.
8. Explain the water-cement ratio.
9. Differentiate between Natural and Artificial cement.
10. Define the setting time of cement.

Long Type Questions: (5 Mark)

1. Discuss the hydration of cement.
2. Explain the water-cement ratio.

3. Discuss the compressive strength of cement.
4. Explain the fineness of cement.
5. Discuss the setting time of cement.

Long Type Questions: (10 Mark)

1. Explain the fineness of cement with sketch.
2. Discuss the soundness of cement.

Chapter: 3 (Aggregate, Water and Admixtures)

Short Type Questions: (2 Mark)

1. Define the natural aggregates.
2. Explain the Artificial aggregates.
3. Classify aggregates based on sizes.
4. Define fine aggregates.
5. Explain the bulking of fine aggregates.
6. Define grading of aggregates.
7. Explain the quality of mixing water.
8. Define admixture.
9. Explain the accelerating admixtures.
10. Define the retarding admixtures.
11. Explain the water reducing admixtures.
12. Define the air entraining admixtures.

Long Type Questions: (5 Mark)

1. Classify aggregates based on shapes.
2. Explain the fineness modulus of aggregates.
3. Describe curing water.
4. Classify the admixtures.

Long Type Questions: (10 Mark)

1. Discuss the characteristics of aggregates.
2. Describe the functions of admixtures.
3. Classify the admixtures with their examples.

Chapter: 4 (Properties of fresh concrete)

Short Type Questions: (2 Mark)

1. Define the workability.
2. Explain the consistency of concrete.

3. Explain the homogeneity of concrete.
4. Define the measurements of workability.

Long Type Questions: (5 Mark)

1. Discuss the vee-bee consistency test of fresh concrete.
2. Explain the flow test of fresh concrete.

Long Type Questions: (10 Mark)

1. Discuss the slump test of fresh concrete.
2. Describe the compacting factor test of fresh concrete.
3. Discuss the requirements of workability.

Chapter: 5 (Properties of hardened concrete)

Short Type Questions: (2 Mark)

1. Explain the compressive strength of concrete.
2. Define the shrinkage of concrete.
3. Explain the drying shrinkage.
4. Define the creep of concrete.
5. Explain the permeability of concrete.
6. Define the efflorescence of concrete.

Long Type Questions: (5 Mark)

1. Discuss the compressive strength of concrete.
2. Explain the flexural strength of concrete.
3. Discuss the modulus of elasticity of concrete.
4. Describe the durability of concrete.
5. Explain the acid attack of concrete.

Long Type Questions: (10 Mark)

1. Discuss the sulphate and chloride attack of concrete.
2. Describe the efflorescence of concrete.

Chapter: 6 (Concrete mix Design)

Short Type Questions: (2 Mark)

1. Explain the concrete mix design.
2. Define nominal mix of concrete.
3. Explain the standard mix of concrete.

Long Type Questions: (5 Mark)

1. Discuss the basic considerations for concrete mix design.

Long Type Questions: (10 Mark)

1. Describe the concrete mix proportioning as per IS guidelines.

Chapter: 7 (Production of concrete)

Short Type Questions: (2 Mark)

1. Define the manual batching.
2. Explain the automatic batching.
3. Define the curing of concrete.
4. Explain the formwork.
5. Explain the steel formwork.

Long Type Questions: (5 Mark)

1. Explain the batching of materials.
2. Discuss the placing of concrete.
3. Explain the compaction of concrete.
4. Discuss the methods of compaction of concrete.
5. Explain the requirements of formwork.
6. Explain the timber formwork.
7. Discuss the stripping of form.

Long Type Questions: (10 Mark)

1. Discuss the mixing of concrete materials.
2. Explain the transportation of concrete.
3. Describe the curing of concrete and its methods.
4. Discuss the different types of formwork.

Chapter: 8 (Inspection and Quality Control of Concrete)

Short Type Questions: (2 Mark)

1. Explain the quality control of concrete.
2. Define the mixing of concrete.
3. Explain the curing of concrete.
4. Explain the importance of concrete testing.
5. Define the durability of concrete.

Long Type Questions: (5 Mark)

1. Explain the mixing of concrete.
2. Discuss the transportation of concrete.
3. Describe the curing of concrete.
4. Explain the different methods of curing concrete.

Long Type Questions: (10 Mark)

1. Discuss the factors causing the variations in the quality of concrete.
2. Describe the placing of concrete.
3. Explain the inspection and testing of concrete.

Chapter: 9 (Special Concrete)

Short Type Questions: (2 Mark)

1. Define the special concrete.
2. Explain the high performance concrete.
3. Define the silica fume concrete.
4. Explain the advantages of dry process shotcreting.
5. Explain the advantages of wet process shotcreting.
6. Define the benefits of shotcrete technology.
7. Explain the shotcrete machine.

Long Type Questions: (5 Mark)

1. Discuss the high performance concrete.
2. Explain the physical characteristics of silica fume concrete.
3. Discuss the purposes for use of silica fume concrete.
4. Explain the details of shotcrete.
5. Discuss the dry process shotcreting.
6. Explain the wet process shotcreting.

Long Type Questions: (10 Mark)

1. Describe the high performance concrete and its advantages and disadvantages.
2. Discuss the shotcrete and types of shotcreting.
3. Discuss the gunning with neat sketch.

Chapter: 10 (Deterioration of concrete and its prevention)

Short Type Questions: (2 Mark)

1. Define the deterioration of concrete.

2. Explain the alkali-silica reaction.
3. Explain the effects of corrosion of concrete.
4. Explain the any two prevention of corrosion of concrete.

Long Type Questions: (5 Mark)

1. Discuss the leaching type of deterioration of concrete.
2. Explain the chemical interaction type of deterioration of concrete.
3. Discuss the prevention of deterioration of concrete.
4. Explain the corrosion of reinforcement.
5. Discuss the effects of corrosion of concrete.
6. Discuss the prevention of corrosion of concrete.

Long Type Questions: (10 Mark)

1. Describe the types of deterioration of concrete.
2. Discuss the effects and prevention of corrosion of concrete.

Chapter: 11 (Repair technology for concrete structures)

Short Type Questions: (2 Mark)

1. Explain the polymer impregnation repair.
2. Define the drilling and plugging repair.

Long Type Questions: (5 Mark)

1. Discuss the cracking of concrete due to different reasons.
2. Explain the repair techniques of concrete.
3. Discuss the polymer based repairs of concrete.

Long Type Questions: (10 Mark)

1. Describe the common types of repairs of concrete.