Question Bank (Chapter wise)

Semester: 3rd

Subject: Building materials & Construction Technology (Th.3)

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PART: A (BUILDING MATERIALS)

Chapter: 1 (Stone)

Short Type Questions: (2 Mark)

1. Explain building materials.
2. Define Classification or rocks.
3. Define natural bed of stones.
4. Explain the seasoning of stone.
5. Short Note: Igneous rocks, Sedimentary rocks, Metamorphic rocks, Stratified rocks, Unstratified rocks, Foliated rocks, Siliceous rocks, Argillaceous rocks, Calcareous rocks, Dragged or combed finish, Reticulated finish and Vermiculated finish.

Long Type Questions: (5 Mark)

1. Define Sedimentary rocks and its types with examples.
2. Explain physical classification of rocks and its types.
3. Explain chemical classification of rocks and its types.
4. Define Dressing of stones and its purposes.

Long Type Questions: (10 Mark)

1. Describe the uses of stones.
2. Define the qualities of a good building stone.

Chapter: 2 (Bricks)

Short Type Questions: (2 Mark)

1. Define Alumina and silica properties with its functions.
2. Explain the frog of brick and its purposes.
3. Classify the different classes of bricks.
4. Explain the sizes of bricks.

Long Type Questions: (5 Mark)

1. Discuss Pug mill and its operation.
2. Define hand moulding operation in the manufacture of bricks.
3. Enumerate the classification of bricks.
4. Explain the tunnel kiln of burning of bricks.

Long Type Questions: (10 Mark)

1. What are the constituents of good brick earth?
2. Discuss the operation of preparation of clay for the manufacture of bricks.
3. Discuss the process of burning bricks in clamps.
4. Describe the process of burning bricks in intermittent kiln.
5. Briefly describe the working of Bull's trench kiln for the burning of brick.
6. Compare clamp-burning with kiln-burning.
7. Enumerate the qualities of good bricks.
8. Enlist characteristics of first class bricks.

Chapter: 3 (Cement, Mortar and Concrete)

Short Type Questions: (2 Mark)

1. Explain the functions of lime and silica in cement.
2. Define Hydrophobic cement.
3. Define White cement.
4. Differentiate between Natural and Artificial cement.
5. Define mortar.
6. Classify the mortar based on bulk density.
7. Define special types of mortar.
8. Explain sand.
9. Classify the sand based on sizes.
10. Define concrete.
11. Explain the grading of aggregates.
12. Define water-cement ratio.
13. What is meant by curing of concrete? What are its purposes?

Long Type Questions: (5 Mark)

1. What is rapid hardening cement? What are its advantages?
2. Describe the properties of a good mortar.
3. Discuss the uses of mortar.
4. Explain the chemical properties of cement.
5. Explain ball mills and tube mills.
6. Classify the special types of mortars.

7. Explain the natural sources of sand.
8. Mention the properties of good sand.
9. What is meant by bulking of sand? Explain it.
10. Discuss the hand mixing of concrete.
11. Discuss the compaction of concrete.
12. Explain the purposes of curing.

Long Type Questions: (10 Mark)

1. What is cement? What are its ingredients? State the function of each ingredient.
2. Enlist different types of Cement.
3. Draw the flow diagrams for mixing of raw materials by dry process and wet process for the manufacture of ordinary cement.
4. Draw the flow diagram of burning and grinding operations involved in the manufacture of ordinary cement.
5. Mention the properties of good sand.
6. What is workability? Describe the slump test.
7. Discuss the curing and its methods.

Chapter: 4 (Other Construction Materials)

Short Type Questions: (2 Mark)

1. Define the tiles and its classification.
2. Explain what is meant by earthenware, stoneware and porcelain.
3. Classify the metals as per carbon % .
4. Explain the Uses of Wrought-iron.
5. Explain the classification of trees.
6. Define the Endogenous trees.
7. Define the heartwood and its function in a tree.
8. Define the medullary rays and its function in a tree.
9. Explain the seasoning of timber.

Long Type Questions: (5 Mark)

1. Discuss the encaustic tiles.
2. Explain the disadvantages of terra-cotta.
3. Discuss the porcelain.
4. Mention the glazing, its purposes.
5. Enumerate opaque glazing.
6. Discuss the uses of cast-iron.
7. Explain the Uses of steel.
8. Explain the microstructure.
9. Explain the objects of seasoning.
10. Discuss the reasons the artificial seasoning.

Long Type Questions: (10 Mark)

1. Describe the Characteristics of a good tile:
2. State advantages, disadvantages and uses of terra-cotta
3. Explain the Uses of terra-cotta.
4. Mention the glazing, its purposes and methods.
5. Discuss the structure of a tree.
6. Explain the process of natural seasoning. Mention its advantages and disadvantages.
7. Why is artificial seasoning adopted? Describe its various methods.
8. Compare natural seasoning with kiln seasoning.
9. Mention the qualities of a good timber.

Chapter: 5 (Surface Protective Materials)

Short Type Questions: (2 Mark)

1. What is painting.
2. Write short notes on the following:
    - Colouring pigments for an oil paint
    - Aluminium paint
    - Enamel paint
    - Synthetic rubber paint
    - Cellulose paint
    - Cement paint
    - Emulsion paint
    - Anticorrosive paint
    - Vehicles for paints
    - Plastic paint

Long Type Questions: (5 Mark)

1. Discuss the Characteristics of an ideal paint.
2. Discuss the Characteristics of an ideal varnish.
3. Explain the ingredients of a varnish.
4. Define the process of distempering.

Long Type Questions: (10 Mark)

1. Discuss the Characteristics of an ideal paint.
2. What are the ingredients of an oil borne paint? Describe briefly each of them.
3. Mention the different types of varnishes and describe the process of varnishing on woodwork.
4. Enumerate the properties of distempers.

PART: B (CONSTRUCTIONS TECHNOLOGY)

Chapter: 1 (Introduction)

Short Type Questions: (2 Mark)

1. How are the buildings classified as per National Building Code of India?
2. Which buildings are included in institutional building?
3. Which buildings are considered as hazardous buildings?
4. Define foundation.
5. Explain plinth of building.
6. Mention the factors which govern the choice of ground examination method.
7. Short note on : Auger boring
8. Discuss about Wash boring.

Long Type Questions: (5 Mark)

1. Discuss three main parts of a building.
2. Explain in detail the two most commonly used geophysical methods.
3. Describe in detail the method of loading for determining the bearing capacity of a soil.

Long Type Questions: (10 Mark)

1. Define building components with sketch.
2. Explain the various methods of ground examination.

Chapter: 2 (Foundations)

Short Type Questions: (2 Mark)

1. Define foundations and its types.
2. Explain the shallow foundations.
3. Explain the deep foundations.
4. Define piles and its types.

Long Type Questions: (5 Mark)

1. Discuss the objects of foundations.
2. Explain the shallow foundations with sketch.
3. Discuss the load bearing piles and non load bearing piles.
4. Explain the concrete sheet piles.
5. Explain the sand piles.
6. Explain the timber piles.

Long Type Questions: (10 Mark)

1. Describe the design of shallow foundation.
2. Explain the uses of piles.

Chapter: 3 (Walls & Masonry Works)

Short Type Questions: (2 Mark)

1. Define walls and its types.
2. Explain the retaining wall.
3. Define partition walls.
4. Define stretcher and header of bricks.
5. Explain closer of brick masonry.
6. Define the bullnose.
7. Explain the frog in brick.
8. Define junctions and its types.
9. Explain the coping and throating.

Long Type Questions: (5 Mark)

1. Discuss the functions of wall.
2. Classify the load bearing walls and non load bearing walls.
3. Explain the shear wall with sketch.
4. Discuss the requirements of partition walls.
5. Explain the common or stud partitions.
6. Differentiate stretcher bond and header bond.
7. Define Flemish bond with sketch.
8. Discuss corbel and cornice.

Long Type Questions: (10 Mark)

1. Discuss the bricknogged partitions.
2. Discuss timber partitions, advantages and disadvantages of its.
3. Explain the closer and its types with sketches.
4. Discuss English bond and its features.
5. Define the cross-junction with sketch.
6. Discuss the details of rubble masonry.
7. Discuss the details of ashlar masonry.

Chapter: 4 (Doors, Windows and Lintels)

Short Type Questions: (2 Mark)

1. Define frame and style.
2. Explain head and sill.
3. Define casement windows.
4. Explain sliding windows.
5. Explain dormer windows.
6. Define purposes of arches and lintels.

Long Type Questions: (5 Mark)

1. Differentiate flush doors and louvered doors.
2. Differentiate revolving doors and sliding doors.
3. Discuss pivoted windows with sketch.
4. Explain the skylights with sketch.

Long Type Questions: (10 Mark)

1. Discuss the ledged doors with diagram.
2. Explain the metal windows and clerestorey windows.

Chapter: 5 (Floors, Roofs and Stairs)

Short Type Questions: (2 Mark)

1. Define floor of a building.
2. Explain roof of a building.
3. Define batterns and gable.
4. Explain the flat or terraced roofs.
5. Explain the stairs of building.
6. Define baluster and balustrade.
7. Differentiate riser and tread.
8. Define straight stairs.

Long Type Questions: (5 Mark)

1. Discuss the concrete flooring.
2. Explain the terrazzo flooring.
3. Discuss the requirements of a good roof.
4. Explain the curved roofs with sketch.
5. Explain the half-turn stairs with sketch.

Long Type Questions: (10 Mark)

1. Discuss details about the timber flooring.
2. Describe the madras terrace roof with sketch.
3. Describe the bengal terrace roof with sketch.
4. Discuss the spiral stairs with sketch.

Chapter: 6 (Protective, Decorative Finishes and Termite Proofing)

Short Type Questions: (2 Mark)

1. Explain about plastering.
2. Discuss mortar for plastering and its types.
3. Define the methods of plastering.
4. Explain the rough cast finish.
5. Explain the objects of pointing.
6. Define termite and its types.

Long Type Questions: (5 Mark)

1. Discuss the requirements of good plaster.
2. Explain about the mortar for plastering.
3. Discuss the sand-faced finish.
4. Define the painting and its objects.
5. Discuss about the repainting old woodwork.
6. Define the whitewashing.
7. Explain the causes of dampness.
8. Explain the effects of dampness.
9. Discuss about the materials of damp proofing.

Long Type Questions: (10 Mark)

1. Describe the plaster in two coats.
2. Discuss the details of types of pointing.
3. Explain the methods of painting.
4. Discuss details about the distempering and its process.
5. Explain the methods of prevention of dampness in building.
6. Describe the pre-construction treatment.
7. Describe the post-construction treatment.

Chapter: 7 (Green Buildings, Energy Management and Energy Audit of Buildings & Project)

Short Type Questions: (2 Mark)

1. Explain the green building.
2. Explain the types of energy auditing schemes.

Long Type Questions: (5 Mark)

1. Discuss the features of green building.
2. Explain the objects of green building.
3. Discuss the benefits of green building.
4. Explain the energy management of buildings.

Long Type Questions: (10 Mark)

1. What is green building? Explain in details the features or principles of Green Building.
2. Discuss the goals of green building.
3. Describe the energy auditing and its types.
4. Discuss the aims of energy management of buildings.