I. Rocks

(1) Briefly describe the following
   a) Dressing of stone
   b) Quarrying
   c) Preservation of stone

(2) Discuss the three important type of rocks and their formation.

(3) Name the various types of stones which are used for building works and give in brief the specifications for a good building stone.

(4) Explain the classification of Rocks in detail.

(5) What is the natural bed of stone? Why it is necessary to set a along its natural bed.

(6) What are the tests to which a stone should be subjected before it is selected for building purpose?

(7) What are the types of explosives generally used in blasting the rocks?

(8) Give the characteristics and uses of the following stones:
   a) Granite
   b) Marble
   c) Sandstone
   d) Slate

(9) Describe the various weathering agencies responsible for deterioration of stones.

(10) Describe the process of blasting rocks. State the precautions to be exercised.

II. Bricks

1. What are the properties of first class bricks?
2. What are the constituents of good bricks-earth?
3. Describe briefly the tests to which bricks may be put before using them for engineering purposes.
4. Describe the process of manufacture of clay bricks.
5. Describe the common defect in bricks.
6. Describe the how bricks are classified?
7. What is efflorescence in bricks? What are its causes and remedies?
8. What do you understand by glazing? How it is done.
9. Diff between
   a) over burnt and under burnt
   b) perforated and hollow bricks.
10. What are the factors to be considerd while selecting a site for the manufacture of bricks.?

III. Cement

(1) Write short notes on
   a) Hydration of cement
   b) Grinding of cement
   c) Clinkering
   d) Use of gypsum in cement

(2) What are the ingredients of portland cement? State the function and limits of each of them.

(3) Describe with flow diagrams the dry and wet process of manufacture of cement

(4) Describe the setting and hardening of cement

(5) What do you mean by normal consistency? What it is significance? How it is tested.?

(6) Differentiate between rapid hardening and slow setting cements.

(7) Write short notes on:
   a) Compressive strength test of cement
   b) Soundness test of cement
   c) Tensile strength test of cement

(8) How is the cement classified?

(9) What is the effect of grinding on cement? Describe the method of determining fineness by air permeability method.

(10) What is rapid hardening cement? What is responsible for it high early strength? How does it differ from ordinary portland cement

(11) What is the purpose of adding gypsum while manufacturing cement?

IV. Concrete

(1) What is bulking of sand? How does it affect concrete mix?
(2) Discuss curing? What is its significance.
(3) Define water-cement ratio. How does it influence concrete strength?
(4) Describe the procedure of preparing good quality concrete.
(5) How nominal mix concrete is different from design mix concrete.
(6) Write short notes on:
    a) Segregation
    b) Bleeding
    c) Sulphate Attack
(7) What is meant by M30 grade concrete?
(8) Define creep. What are its advantages and disadvantages.
(9) What is shrinkage? What factors promote shrinkage? What precautions will you take to reduce it?.
(10) What are the factors affecting workability of concrete?.

V. [Wood & wood products] + [Asphalt] + [Pozzolona] + [Gypsum]

1. What is seasoning of timbers and why it is done.?
2. What is the effect of paint on unseasoned timbers?
3. What is the difference between soft wood and hard wood.?
4. Write short notes on the following
   a) Defects in Timber
   b) Plywood
   c) Preservation of timber
   d) Hard board
   e) Veneers
5. Describe various defects in timber?.
6. Define bitumen, asphalt and tar and how do they differ?.
7. What is meant by flash point and fire point of bitumen?
8. How bitumen is tested for ductility?
9. Give the comparison of tar and asphalt in a tabular form.
10. What is puzzolana? How it is classified?
11. Write short notes on
    a) Fly ash b) Surkhi
    c) Rice husk ash d) Blast-furnace slag
12. Discuss briefly the various effects of adding puzzolanas to cement concrete.

Plastic + Paint + Ferrous Metals

1. Why are the plasticisers added to the polymers.
2. Differentiate between the following
   a) Thermoplastic & thermosetting plastic
   b) Rubber and plastic
   c) Injection and compression mouldings of plastics.
3. How are the plastics classified? state the role of plastic as a building material.
4. State the properties of plastic.
5. What are the advantages of plastics over the other suitable building materials?
6. What are the various ingredients of paints? state the function of each of them.
7. What are the characteristics of good oil paints?
8. Discuss the reasons for the causes of defects in Painting work.
9. Write short notes on the following
   a) Bases b) Enamels c) Colour wash
   d) Distemper.
10. What are the ingredients of varnish?
11. What is distempering? How it is done?
12. Name the ores required for making steel.
13. State the differences between mild steel, wrought iron, Cast iron and Cast steel.
14. Write a short notes on rolled steel sections.
15. Differentiate between the mild steel rods and HYSD bars.

Non-Ferrous Metals + Glass

1. Describe the manufacture, properties and uses of:
   a) Aluminium
   b) Lead
2. Describe briefly the use of glass as a building industry.
3. Describe the manufacturing process of glass.
4. What are the constituents of glass? Give the function of each of them.
5. Describe the classification of glass.
6. Describe briefly the following:
   a) Glass wool
   b) Gas glass
   c) Pyrex
   d) Foam glass

UNIT-III.

(1) Describe the 'components of building' in detail with the help of neat sketch.

(2) What do you understand by Damp proofing of a building.

(3) What is the anti termite treatment of the building.

(4) What is solution used for the anti termite treatment of the building

(5) What are the types of stair case used in the building. describe dog-legged stair case in detail

(6) What types of floors would you recommend for the following? Give reasons for your choice?

a) Assembly hall of a college
b) Entrance lobby of high class hotel
c) Dancing hall
d) Drawing room of a high class residence
e) operation theatre.

(7) What do you understand by cavity wall.

(8) Describe hollow block construction & where it can use in the building.

(9) What is the diff. between the brick & stone Masonary.?

(10) Describe form work & for which work that can be used in the building.

UNIT-IV

1. What is the difference between the Doors & Window.
2. Describe the cross-section of a truss roof in detail.
3. Describe the types of window used in the building.
4. Describe the 'gable' window in detail.
5. What do you mean by Lintel & Chajja. & why it is provided.
6. What do you understand by principles of building planning.?.
7. Also describe the factors affected the planning of building in detail.
8. Describe the components of building in detail.?.
9. Describe about the components of door in detail.
10. What do you understand by Roof & What is the purpose of providing the roof.
11. What are the materials used for the roofing.
12. What is the meaning of term 'orientation' in the principle of building planning.
13. Describe Door & window fitting.
14. Describe about the roof treatment.

UNIT-V.

(1) What do you understand by term 'Ventilation' and why it is important in building.

(2) What are the external features of natural ventilation.

(3) For what items of work are pipes are used in building construction? Give the usual types that can be used for each of them.

(4) Explain what is meant by each of the following and indicate what types of pipes can be used for them:
   a) Rain water harvesting
   b) Sewage disposal
   c) Internal water supply
   d) ventilation.

(5) What are the methods of building maintenance.

(6) Write short notes on
   a) paints
   b) Distemper
   c) Varnishes
   d) plastering.
   e) pointing.

(7) What are varnishes & Explain their uses in building industry.

(8) What are the point considered for the fire protection of the building.

(9) Write short notes on colour washing, Acoustics.

(10) Give reason for the following:
   a) An oil paint should not be applied during humid weather.
   b) Plastic emulsion paints are not suitable for verandas.