

**Uka Tarsadia University (Diwaliba Polytechnic)**

**Diploma in Environmental Engineering**

**Assignment (Building Material Technology-EV1003)**

### **Unit-1 Introduction**

1. Write the physical properties of building material.
2. Enlist Mechanical properties of building material and explain any five of them.
3. Give definitions of following terms: (a) Elasticity (b) Brittleness (c) Ductility (d) Creep (e) Permeability (f) Thermal conductivity
4. Which parameters are considered while selecting a material? Explain in detail.
5. Write the alternative use of following material: (1) Cement (2) Aggregates (3) Wood (4) Sand
6. Enlist miscellaneous materials of construction.

### **Unit-2 Clay Products**

1. Classify clay products.
2. State general requirements of bricks.
3. State the ingredients of brick clay.
4. How will you prepare the clay for molding bricks?
5. Write short note on (a) Earthenware (b) Stoneware
6. What is glazing? What are its advantages?
7. State different forms of bricks.
8. Enlist the laboratory tests for bricks. Explain any one of them.
9. Compare clamp burning with kiln burning of bricks.

### **Unit-3 Rocks and Stones**

1. How igneous rocks and metamorphic rocks are formed?
2. State the types of artificial stone.
3. Give point of comparison between brick and stone.
4. List out the important building stone with their uses.
5. What are the properties and uses of limestone?
6. Enlist five uses of the stone.
7. What are the properties and uses of marble?
8. Write short note on metamorphic rocks and calcareous rocks.
9. Compare bricks with stones for building construction.
10. Explain in detail natural bed of stone.
11. Enlist geological classification of rock and explain sedimentary rocks.
12. Enlist chemical classification of rock and explain calcareous rocks.
13. Write short note on artificial stone.
14. Explain the properties and uses of building stone.

15. Differentiate between stratified and unstratified rocks.
16. Write short note on Plane of Cleavage.
17. Enlist the characteristics of building stone.
18. Write short note on igneous rocks and foliated rocks.
19. Write short note on physical classification of rocks.
20. Explain the requirements of rocks.
21. How the rocks are classified?
22. Enlist the requirements of good building stone.
23. Describe briefly about siliceous rocks and argillaceous rocks.
24. Explain the natural bed of stone.
25. Write short note on Sedimentary rocks and metamorphic rocks.
26. Write short note on marble stones.
27. What are the advantages of using stone as a building material?
28. What are the merits of using artificial stones in building?
29. How the rocks are classified based on chemical composition?
30. Write down the properties and uses of basalt and granite.

#### **Unit-4 Lime, Pozzolana and Cement Concrete**

1. Define cement. Enlist Laboratory test of cement.
2. Explain bulking of fine aggregate.
3. Describe the Sources of Lime in brief.
4. Define the following term: 1) Slaking 2) Setting 3) hydraulicity 4) Calcinations 5) Quick lime
5. State use of coarse aggregates.
6. State use of fine aggregates.
7. State use of accelerators and retarders as an admixture.
8. State the chemical reaction which takes place in setting of quick lime.
9. Enlist Different types of cement.
10. State classification of lime.
11. Differentiate between: i) cement and hydraulic lime  
ii) Hydraulic Lime and Fat Lime.
12. Describe in brief precautions taken while storing of cement
13. Enlist test on aggregate. Explain in detail.
14. Enlist Types of Admixtures and Give the Functions of any 4 of them.
15. Write down Various Uses of Lime.
16. Explain field tests of cement.
17. Explain in detail hydraulic lime.
18. Write a short note on artificial hydraulic lime.
19. Write a short note on pozzolanic materials.
20. Explain classification of lime in detail.
21. Write any nine types of cements with their specific uses.
22. Explain requirements of ordinary portland cement.

## **Unit-5 Timber**

1. Which one of the following woods will be most suitable for preparing scaffolding? Bamboo, Chil, Babul, Rose Wood, Wall nut
2. Draw a cross section of a trunk and describe its components.
3. State the defects in timber.
4. Give uses of timber for construction purpose.
5. Describe different types of knots and explain it.
6. Enlist the methods of seasoning of wood and explain any one of them.
7. Show the merits and demerits of timber as a construction material.
8. How reconstruction wood is prepared?
9. Differentiate between batten wood and Lamin wood.

## **Unit-6 Miscellaneous Materials**

1. Explain the importance of plastic.
2. What is ductility of steel?
3. Write full names for the following steel sections.  
ISRO, ISMC, ISJB, ISLT, ISLC, ISF, ISPL
4. Enlist name of damp proofing materials.
5. Show the requirement of a good paint.
6. Give names of different types of heat treatment for steel.
7. State the products of ceramic and explain any one.
8. Enlist the names of insecticides used for anti termite treatment.
9. State the harmful effects of dampness.