

Uka Tarsadia University (Diwaliba Polytechnic)

Diploma in Environmental Engineering

Assignment (Basic Construction Technology)

Unit-1 Introduction

1. Explain framed structure.
2. Explain functions of following components of buildings:
A) Parapet wall B) Columns C) Foundation D) Stair E) Window sill
3. Give the difference between Load bearing structure and framed structure.
4. Draw a cross section of a wall from foundation to top of parapet wall and label its components.
5. Classify civil engineering structures based on areas of their usage and explain any one.
6. List out various components of a building and explain any four.

Unit-2 Foundations

1. Classify the piles based on material and explain any one.
2. Explain the procedure of setting out of foundation.
3. Draw sketch and explain “Double walled coffer dam”.
4. Define foundation and what is the difference between shallow and deep foundation?
5. What do you mean by vertical sheeting?
6. Define and classify caisson and cofferdam.
7. Classify pile foundation based on use and explain end bearing pile.
8. Describe raft foundation in detail with neat sketch.
9. Explain the procedure for setting out foundation trenches.
10. Write a short note on failure of foundation.
11. Enlist types of spread footing and explain any one.

Unit-3 Building Construction

1. Define mortar. Enlist and explain types of mortar.
2. Explain prevention of concrete deterioration.
3. Differentiate between brick masonry and stone masonry.
4. State different types of bond and explain English bond.
5. Define stone masonry and state the points to be kept in mind during stone masonry work.
6. Explain lap joint and butt joint.
7. Explain coursed rubble masonry and uncoursed rubble masonry.
8. Explain ashlar masonry.
9. Explain mixing and transportation of concrete.
10. Enlist methods used for placing concrete under water and explain tremie method.
11. Classify methods of curing & explain any one.
12. Explain slip formwork.
13. What is formwork? Explain requirements of good formwork.
14. Explain prestressed concrete in brief and give advantages & disadvantages of it.

Unit-4 Building Items

1. Explain shotcretes or guniting.
2. Define Grouting with its purpose and state materials used for grouting.
3. Enlist types of pointing and explain any two.
4. Define plastering and enlist tools used for plastering.
5. Explain with sketch anti-termite treatment given to ground floor building.
6. Explain defects in plastering.
7. Explain effects of dampness.
8. List out measures to be taken to prevent dampness.
9. Write short note on types of plaster.

Unit-5 Construction Machinery

1. Prepare list of hoisting equipment and explain any one.

2. Explain machineries used for heavy construction.
3. Explain factors affecting selection of construction equipment.
4. Enlist equipment for excavation & explain dragline with sketch.
5. Enlist earth moving equipment and explain any one.
6. Explain transporting equipment.
7. Enlist compacting equipment & explain any one.
8. Explain equipment for production of aggregates. 9. Write short note on table vibrator.

Unit-6 Building Maintenance and Safety Measures

1. Write a detail note on defects in buildings.
2. Enlist safety measures to be adopted for excavation.
3. Explain Importance of safety in construction.
4. Explain preventive maintenance.
5. Explain direct shear test with sketch.
6. State safety measures for masonry work.
7. List out safety measures for demolition work.
8. Write psychological causes of accidents.
9. Explain soil treatment in brief.
10. Explain different tests for checking leakage in pipelines.