

TED (15) – 3011  
(REVISION — 2015)

Reg. No. ....  
Signature .....

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/  
MANAGEMENT/COMMERCIAL PRACTICE — OCTOBER, 2019

**CONSTRUCTION MATERIALS AND ENGINEERING**

[Time : 3 hours

(Maximum marks : 100)

PART — A

(Maximum marks : 10)

Marks

I Answer *all* questions in one or two sentences. Each question carries 2 marks.

1. Define Pre-stressed concrete.
2. What is meant by Seasoning of Timber ?
3. Differentiate between Mullion and Transom.
4. What is Plaster of Paris ?
5. What is meant by Slaking of lime ?

(5 × 2 = 10)

PART — B

(Maximum marks : 30)

II Answer any *five* of the following questions. Each question carries 6 marks.

1. What are the Initial and Final setting times of Cement ? What is their importance ?
2. Describe Compaction Factor test of Concrete with a sketch.
3. What is Glass ? List the principal constituents of Glass.
4. Compare Brick masonry and Stone masonry.
5. Explain Plastering and Pointing.
6. What is the purpose of providing Foundations ? Explain with sketch a Raft foundation.
7. What are the different types of Arches based on the shape of construction ? Draw a neat sketch of an Arch and mark all its components.

(5 × 6 = 30)

PART — C  
(Maximum marks : 60)

(Answer *one* full question from each unit. Each full question carries 15 marks.)

UNIT — I

- III (a) Explain the Geological classification of rocks. Mention examples for each category. 7
- (b) What are the characteristics of good bricks used for building purpose ? 8

OR

- IV (a) What is meant by Aggregate ? Briefly describe their classification based on size. 7
- (b) Explain with the help of a flow chart, the manufacturing of Ordinary Portland Cement by Wet process. 8

UNIT — II

- V (a) What is Paint ? List any five types of paints commonly used for engineering purposes. 7
- (b) Write short notes on (i) Thermo plastic and (ii) Thermo setting plastics. 8

OR

- VI (a) State any seven properties of Aluminium. 7
- (b) Write short notes on (i) Plywood and (ii) Varnishes. 8

UNIT — III

- VII (a) Define Damp-proofing. What are the various defects caused by Dampness in building ? 7
- (b) Explain the different classification of Stone masonry with neat sketches. 8

OR

- VIII (a) (i) Compare merits and demerits of English bond and Flemish bond. 4
- (ii) What is meant by Retaining wall ? 3
- (b) Explain the following terms (i) Shoring and (ii) Under pinning. 8

UNIT — IV

- IX (a) Write different types of Trusses for Pitched roofs. Show sketches of each. (Any four) 8
- (b) Write short notes on : 7
- (i) Combined Footing and (ii) Well Foundation

OR

- X (a) Explain with neat sketches different classification of Windows based on the position. 8
- (b) Explain with neat sketches the following types of stairs. 7
- (i) Two quarter turn stairs and (ii) Bifurcated stairs.