

3E1134

Roll No. _____

Total No of Pages: **3**

3E1134

B. Tech. III - Sem. (Main / Back) Exam, Dec. 2019

PCC Civil Engineering

3CE4-07 Building Material & Construction

Time: 3 Hours

Maximum Marks: 120

Instructions to Candidates:

Attempt all ten questions from Part A, five questions out of seven questions from Part B and four questions out of five from Part C.

Schematic diagrams must be shown wherever necessary. Any data you feel missing may suitably be assumed and stated clearly. Units of quantities used /calculated must be stated clearly.

Use of following supporting material is permitted during examination. (Mentioned in form No. 205)

1. NIL

2. NIL

PART - A

(Answer should be given up to 25 words only)

[10×2=20]

All questions are compulsory

- Q.1 What is the role of fly ash in concrete?
- Q.2 What do you understand by seasoning of timber?
- Q.3 Differentiate between mild steel and HYSD bars.
- Q.4 Write the name of different types of bond use in brick work.
- Q.5 Write any two comparison between stone and brick masonry.

[3E1134]

Page 1 of 3

[3620]

- ~~Q.6~~ Explain relative merits and demerits of Flemish bond.
- ~~Q.7~~ Differentiate between arches and lintels.
- Q.8 Write down causes of dampness.
- ~~Q.9~~ What is load bearing structure use in building construction?
- ~~Q.10~~ What do you understand by light weight concrete blocks?

PART – B

(Analytical/Problem solving questions)

[5×8=40]

Attempt any five questions

- Q.1 Enlist of various laboratory tests performed on stone. Explain any four in detail.
- ~~Q.2~~ Explain the role of fly ash in manufacturing of bricks and cement.
- Q.3 State and discuss different methods of seasoning of timber.
- ~~Q.4~~ Explain causes of failure of foundation and their remedial measures.
- Q.5 Describe the various construction features of shell roof.
- ~~Q.6~~ Explain types and methods of shoring and underpinning.
- ~~Q.7~~ Explain various types of paints and varnish and their application in detail.

PART – C

(Descriptive/Analytical/Problem Solving/Design Questions)

[4×15=60]

Attempt any four questions

- ~~Q.1~~ What are various standard test performed on bricks? Explain any four with their procedure. <http://www.rtuonline.com>

Q.2 What is mortar? Briefly describe lime and cement mortar. State the role of sand in mortar.

Q.3 Explain different types of stone masonry. Also describe their relative merits and demerits

Q.4 Explain the requirements of good staircase. Describe the constructions details and suitability of different types of stairs.

Q.5 Explain the following-

(a) Flat slab and their application

(b) Methods and material for damp proofing

(c) Purpose and use of partition wall

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