

P P SAVANI UNIVERSITY

Third Semester of B. Tech. Examination

Nov-Dec 2021

SECV2020 Building Materials & Construction Technology

10.12.2021, Friday

Time: 09:00 a.m. To 11:30 a.m.

Maximum Marks: 60

Instructions:

1. The question paper comprises of two sections.
2. Section I and II must be attempted in single answer sheets.
3. Make suitable assumptions and draw neat figures wherever required.
4. Use of scientific calculator is allowed.

SECTION - I

- Q - 1 (a) Explain building materials & their properties. [05]
Q - 1 (b) Discuss in brief manufacturing process of bricks. [05]

OR

- Q - 1 (a) What are the factors affecting choice of materials? [05]
Q - 1 (b) Explain briefly the various properties and requirements of good bricks. [05]
Q - 2 (a) Define Water cement ratio. What is its importance in concrete? [05]
Q - 2 (b) What are the qualities of good building stone? [05]

OR

- Q - 2 (a) List out field and laboratory test on Cement. Explain anyone. [05]
Q - 2 (b) Discuss the importance of stones used in construction with its suitability. [05]
Q - 3 (a) Explain properties of aggregate and test performed on aggregate. [05]
Q - 3 (b) What is bitumen? What are the uses of bitumen in building construction? [05]

OR

- Q - 3 (a) Write the uses of lime with specific field situation. [05]
Q - 3 (b) Discuss timber as a construction material. [05]

SECTION - II

- Q - 1 Answer the Following (Any Five) [05]
(i) Define deep foundation and Shallow foundation.
(ii) The lowest part of the structure which transmit the load to the soil is known as _____.
(iii) What is jamb?
(iv) Define Cavity Wall.
(v) The angle which the line of nosing of the stair makes with the horizontal is called _____.
(vi) Define Purlin.
(vii) Define the term "Thermal Insulation".

- Q - 2 (a) Explain various types shallow foundation. [05]
Q - 2 (b) What is composite masonry? Explain it with a nice sketch. [05]

OR

- Q - 2 (a) Sketch Ashlar Chamfered Fine tooled wall in elevation. [05]
Q - 2 (b) Classify the stairs and explain half turn stair with figure. [05]
Q - 3 (a) Classify various types of windows based on nature of operation or opening and explain any two in brief. [05]

- Q - 3 (b) What are the causes of failure of foundation? What remedial measures would you adopt? [05]

OR

- Q - 3 (a) Explain factors that affects the choice of a flooring material. [05]
Q - 3 (b) Differentiate between Louvered door and Flush door [05]

Q - 4 Answer the Following (Any One)

[05]

(i) Explain about principle and construction of Green Building.

(ii) Discuss various principles to be followed for providing damp proofing.
