



GIET Main Campus (Autonomous)

Gunupur-765 022

Reg.No.:

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B.TECH. DEGREE EXAMINATION-NOV-DEC.2018
End Semester Examination
BCEPC3020-Building Materials and Building Construction
(Regulations 2017)(Civil Engineering Branch)

Time : 3 Hours

Maximum : 100 Marks

Question Code:201012

Answer ALL Questions

PART A - (10 X 2 = 20 Marks)

1. (a) The constituent of cement which is responsible for all the undesirable properties of cement is[CO1][PO1]
(A) Di-calcium silicate
(B) Tri-calcium silicate
(C) Tri-calcium aluminate
(D) Tetra calcium alumino ferrite

- (b) The rocks formed due to cooling of magma at a relatively shallow depth from the earth's surface are called [CO1][PO1]
(A) Plutonic rocks
(B) Hypabyssal rocks
(C) Volcanic rocks
(D) Igneous rocks

- (c) A part of a brick obtained by cutting a brick longitudinally into two equal parts is called[CO2][PO1]
(a) king closer
(b) queen closer
(c) stretcher
(d) bat

- (d) Size of conventional brick is [CO2][PO2]
(a) 19 x 9 x 9 cm
(b) 20 x 10 x 10 cm
(c) 22 x 11 x 7.5 cm
(d) 23 x 12 x 8.5 cm

- (e) The load per unit area which the soil can support without yielding or displacement, is called[CO2][PO1]
(a) safe bearing capacity of soil
(b) bearing capacity of soil
(c) strength of foundation
(d) none of these

- (f) Pick up the correct statement from the following: [CO3][PO1]
(A) D.P.C. should be continuous
(B) D.P.C. should be of good impervious material



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- (C) D.P.C. may be horizontal or vertical
- (D) All the above

- (g) The minimum width of a stair in residential buildings is [CO3][PO1]
 - (A) 55 cm
 - (B) 70 cm
 - (C) 85 cm
 - (D) 100 cm
- (h) For plastering the exposed brick walls, the cement sand mortar should be [CO3][PO1]
 - (A) 1 : 2
 - (B) 1 : 3
 - (C) 1 : 4
 - (D) 1 : 6
- (i) Pick up the correct statements from the following: [CO4][PO1]
 - (A) Cracks appear on the plastered surface in the form of hair cracks
 - (B) In brick work, the efflorescence is removed by applying a solution of zinc sulphate and water
 - (C) Excessive thermal variations in the backing or plaster causes the plaster to fall
 - (D) All the above
- (j) In soft clay of low bearing capacity, the type of steel pile generally used, is [CO4][PO1]
 - (A) H-pile (B) Screw pile (C) Disc pile (D) Pipe pile

PART B - (10 X 2 = 20 Marks)

- 2. (a) What affects the strength of bricks? [CO1][PO1]
- (b) How the stones are classified? [CO1][PO1]
- (c) What are the various types of foundations? [CO2][PO1]
- (d) What are the causes of failures of brick masonry [CO2][PO1]
- (e) Classify various types of joints in brick masonry [CO2][PO1]
- (f) What are the requirements of a good stair [CO3][PO1]
- (g) What is terrazzo flooring [CO3][PO1]
- (h) What are different types of plastering methods [CO3][PO1]



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(i) What are the types of defects and causes of defects in buildings [CO4][PO1]

(j) State any two laws of buildings [CO4][PO1]

PART C - (4 X 15 = 60 Marks)

3. (a) (i) Discuss the manufacturing of bricks? [7][CO1][PO1]

(ii) What are uses of various types of bricks? [8][CO1][PO1]

(or)

(b) (i) What are the function of cement ingredients? [7][CO1][PO1]

(ii) Discuss the difference b/w dry process and wet process of cement? [8][CO1][PO1]

4. (a) (i) Describe mat foundation? [7][CO2][PO1]

(ii) Describe combined footing with neat sketches [8][CO2][PO1]

(or)

(b) (i) Explain cutting and dressing of stones [7][CO2][PO1]

(ii) Explain the method and purpose of construction of cavity wall [8][CO2][PO1]

5. (a) (i) Describe the defects in plastering [7][CO3][PO1]

(ii) Explain different types of flooring [8][CO3][PO1]

(or)

(b) (i) What are the different types of materials used for damp proofing [8][CO3][PO1]

(ii) State any two dampness preventing measures [7][CO3][PO1]

6. (a) (i) Write the causes and occurrence of cracks in buildings [7][CO4][PO1]

(ii) Describe the classification of maintenance [8][CO4][PO1]

(or)

(b) (i) Explain norms and regulations that are considered for safety [7][CO4][PO1]

(ii) What are the precautions taken in constructing a building [8][CO4][PO1]