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BINA CHOWDHURY CENTRAL LIBRARY  
(GIMT & GIPS)

2019

Azara, Hatkhowapara,  
Guwahati - 781017

**B.Tech. 3rd Semester End-Term Examination**

**BUILDING CONSTRUCTION**

**(New Regulation)**

Full Marks – 70

Time – Three hours

The figures in the margin indicate full marks  
for the questions.

Answer Question No. 1 and any *four* from the rest.

1. Answer the following MCQs : (10 × 1 = 10)
- (i) The floor of a building below the ground level is known as :
- (a) Underground floor
  - (b) Basement floor
  - (c) Ground floor
  - (d) None of the above
- (ii) The distance between supports of a truss, beam is called :
- (a) Horizontal distance
  - (b) Purlin
  - (c) Span
  - (d) Rafter

[Turn over

- (iii) The most common type of deep foundation adopted for bridges in India is :
- (a) Isolated sloped foundation
  - (b) Well Foundation
  - (c) Box Caissons
  - (d) Spread foundation
- (iv) The size of modular brick is
- (a) 20 cm × 10 cm × 10 cm
  - (b) 19 cm × 19 cm × 9 cm
  - (c) 19 cm × 9 cm × 9 cm
  - (d) 20 cm × 10 cm × 9 cm
- (v) A door that provides entry to one person and exit to the other person simultaneously and closes automatically when not in use is called
- (a) Swing doors
  - (b) Revolving door
  - (c) Rolling shutter
  - (d) Sliding door
- (vi) The upper horizontal portion of a step over which the foot is placed while ascending and descending is known as
- (a) Landing
  - (b) Tread
  - (c) Rise
  - (d) Platform
- (vii) The most common roof covering over a period pitched roof is
- (a) Thatch
  - (b) Slates
  - (c) Tiles
  - (d) C.G.I. Sheets

(viii) The electrically operated arrangement provided in a departmental store for transporting men and materials between two floors is called

- (a) Escalator                      (b) Ramp  
(c) Stairs                          (d) None of the above

(ix) The temporary structure erected near the construction work of a masonry wall above 1.5 metre to carry out the further construction is known as

- (a) Scaffolding  
(b) Bamboo structure  
(c) Timber structure  
(d) None of the above

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(x) D.P.C. in a building is provided over

- (a) Plinth Wall                      (b) Ventilator  
(c) Door                              (d) Window

2. What do you mean by orientation of a building? Discuss the various factors responsible for orientation of a building. State the aspects that govern the building bye-laws. (3 + 7 + 5)

3. Briefly describe the term foundation. Discuss various functions of foundation. How failure of building foundation can be detected? Describe with a neat diagram (Plan and section) different components of a single circular well foundation for a bridge. (2 + 5 + 2 + 6)

4. Classify stairs into different types and give simple sketch for each. Plan a dog-legged stair for a building with the following data : (5 + 10)
- (a) Vertical distance between floors 3.60 metre
  - (b) Size of stair hall =  $2.5 \times 5.5$  metre
5. Define a floor. Draw section of a solid ground floor. Name different materials used for floor finish. Name the factors to be considered before selecting the materials for floor finish. Describe the procedure for construction of cement concrete floor in ground floor. (2 + 2 + 2 + 3 + 6)
6. What are the requirements of a good roof? Give the different forms of pitched roof with neat sketches. State the merits and demerits of flat roofs. Discuss the advantages of steel roof trusses over timber trusses. (3 + 3 + 3 + 6)
7. Draw the followings (any *three*) : (3 × 5 = 15)
- (a) Section of slopped isolated footing with reinforcement
  - (b) Section of a combined footing joining two columns
  - (c) A wooden truss - span 7 metre
  - (d) Draw plan of alternate courses of one Brick English Bond
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