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**ENGLISH**

[ TIME ALLOWED—3 HOURS ]

(MARKS—100)

**SURVEYING, LEVELING AND CONSTRUCTION (THEORY-II)***Instructions:—*(1) All questions are *compulsory*.(2) Figures to the right indicate *full* marks.(3) Assume suitable data if *required*.**Marks**1. (a) Fill in the blanks with correct options (any *five*) :—

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(i) The moving or movable load on floor call as .....

(a) Live load

(b) Dead load

(c) Wind load.

(ii) For India standard size of brick ..... is recommended by BIS.

(a) 185 mm. × 85 mm. × 85 mm.

(b) 190 mm. × 90 mm. × 90 mm.

(c) None of this.

(iii) In ..... the beds sides and face are finely chisel-dressed.

(a) Ashlar rough-tooled masonry

(b) Ashlar fine masonry

(c) None of this.

(iv) The horizontal projection of head or sill beyond the face of the frame is called .....

(a) Jamb

(b) Horn

(c) Sill.

(v) In flat arch skewback forms an angle of ..... with the horizontal.

(a) 30°

(b) 45°

(c) 60°.

(vi) ..... are employed to extend the length of member by joining two pieces of timber.

(a) Lengthening joint

(b) Bearing joint

(c) Angle joint.

(b) Match the following (any *five*) :—

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Group 'A'

Group 'B'

(i) Leveling deals with

(a) Fix reference point at known elevation

(ii) Surveying deals with

(b) Horizontal angle measure with compass.

(iii) Dumpy level

(c) Vertical plane measurement

(iv) Theodolite

(d) Horizontal plane measurement

(v) Bench mark

(e) Horizontal and Vertical angle measure with the help of verniers.

(vi) Prismatic compass

(f) Measure the bearing of survey line.

[Turn over]

**Marks**

- (c) State long form of the following (any *five*) :— 5
- (i) W.C.B.      (ii) B.M.      (iii) R.L.  
(iv) H.I.      (v) B.S.      (vi) C.P.
- (d) State *True* or *False* (any *five*) :— 5
- (i) Black cotton soil good for structural view purpose.  
(ii) The louvered door allow free passage of air when closed and at the same time maintain sufficient privacy.  
(iii) The inclination of stair to the horizontal should be limited to 30° to 45°.  
(iv) Queen post truss having one vertical post at centre.  
(v) Temporary frame work known as scaffolding.  
(vi) When concrete is placed, it is in plastic state if require to supported by temporary support till it become strong. This temporary casing known as formwork.
2. Answer of the following (any *two*) :— 16
- (a) Sketch the following symbols :—
- (i) Dam      (ii) North line      (iii) Bench mark  
(iv) Road and railway crossing      (v) Cutting  
(vi) Bridge      (vii) Temple      (viii) Pond.
- (b) Draw the figure of 20 m. chain and name the parts and give the information about it.
- (c) Define surveying and leveling. State the object of surveying.
- (d) Write the difference between plane survey and geodetic survey.
3. Answer of the following (any *two*) :— 16
- (a) Discuss the provision of door and window in structure with respect to the following :—
- (i) Location      (ii) Purpose      (iii) Size      (iv) Material.
- (b) What are the good requirements of form work list them and explain any *four* of them?
- (c) Explain the following technical terms with figure (any *four*) :—
- (i) Baluster      (ii) Flight      (iii) Going      (iv) Riser  
(v) Tread      (vi) Soffit.
- (d) Write the short notes on :—
- (i) Terrazzo floor      (ii) Mosaic tiles.
4. Answer of the following (any *two*) :— 16
- (a) Enlist the various instruments required for measuring distances. Describe five with figure out of them.
- (b) Enlist the various accessories of plane table surveying. Explain it with figure.
- (c) Enlist the various methods of locating contour. Explain any *one* method.
- (d) Draw the sketch of dumpy level and name of the part.

**Marks**

5. Write the short notes on following (any *four*) :— 16
- (a) English bond
  - (b) Course rubble masonry
  - (c) Scaffolding
  - (d) Raft foundation
  - (e) King post truss
  - (f) R.C.C. stair.
6. Answer of the following (any *two*) :— 16
- (a) Draw a neat sectional elevation of Prismatic compass and name all the important component parts.
  - (b) Write the temporary adjustment of dumpy level or theodolite.
  - (c) Write the short note on field book.
  - (d) Describe with sketch :—
    - (i) Base line      (ii) Check line      (iii) Tie line
    - (iv) Location sketch      (v) Open cross staff.
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