

**B.Tech 3rd Semester Special
Exam., 2020
(New Course)**

**COMPUTER-AIDED CIVIL ENGINEERING
DRAWING**

Time : 3 hours

Full Marks : 70

Instructions :

- (i) The marks are indicated in the right-hand margin.
- (ii) There are **NINE** questions in this paper.
- (iii) Attempt **FIVE** questions in all.
- (iv) Question No. 1 is compulsory.

1. Choose the correct answer of the following
(any seven) : 2×7=14

(a) Long-dashed dotted narrow line is used to represent

- (i) line of symmetry
- (ii) centerlines
- (iii) pitch circle of gears and holes
- ~~(iv) All of the above~~

(b) Which of the following is the correct statement for dimensioning a view?

- (i) All of them should be placed within a view.
- (ii) All of them should be placed close to the parts being dimensioned.
- (iii) They should be marked from visible outlines rather than from hidden line.
- (iv) Dimensions indicated in one view may be repeated in another view.

(c) The dimension figure for diameter of a circle should be

- (i) preceded by the symbol 'Ø'
- (ii) suffixed by the symbol 'Ø'
- (iii) preceded by the symbol 'D'
- (iv) suffixed by the symbol 'D'

(d) A map of 10 cm × 8 cm represents an area of 50000 sq. metre of a field. The RF of the scale is

- (i) 1/25
- (ii) 1/625
- (iii) 1/2500
- ~~(iv) 1/6250000~~

(e) When measurements are required in three consecutive units, the appropriate scale is

(i) plain scale

~~(ii) diagonal scale~~

(iii) isometric scale

(iv) scales of chords

(f) Status bar does not contain

(i) snap

(ii) grid

~~(iii) erase~~

(iv) polar

(g) Scale command can be accessed easily by typing

(i) SL

(ii) S

~~(iii) SC~~

(iv) C

(h) How many grip points does a circle have?

~~(i) 5~~

(ii) 4

(iii) 3

(iv) 2

(i) A room of 1728 m^3 volume is shown as 216 cm^3 volume on a drawing sheet. What is the RF?

(i) 1/20

~~(ii) 1/200~~

(iii) 1/250

(iv) 1/186

(j) What is scale ratio of full-size scales?

(i) 1 : 2

(ii) 1 : 3

(iii) 1 : 10

~~(iv) 1 : 1~~

2. Explain the following : 14
- Reference plane
 - Layers in AutoCAD
 - Optimal layout of drawing
 - Scales in drawing
3. (a) What is the difference between conventional sign and conventional symbol? Explain with sketch. 7
- (b) What symbols are used in civil engineering drawing for electrical and plumbing system? Draw neat sketches of electrical and plumbing symbols. 7
4. Differentiate between the following : 7+7=14
- Picture plane and Vertical plane
 - Orthographic projection and Perspective projection
5. (a) What do you understand by a squint junction? Draw typical sketches showing squint junction in (i) English bond and (ii) Double Flemish bond. 7
- (b) Differentiate and compare corner wall and cross wall in case of English bond and Flemish bond system. 7

6. It is proposed to construct a residential building (G+1) RCC framed structure with the following requirements :
- Drawing hall
 - Living room
 - Kitchen-cum-dinning
 - Master bedroom
 - Children's bedroom
 - Guest room
- Provide verandah, passage, staircases and sanitary unit as per requirement. Plot size is 50 m × 40 m. Draw floor plan for both levels. 14
7. (a) How are the perspective projections classified? Mention the practical application of each type of perspective projection. 8
- (b) Differentiate between angle of vision and cone of vision. 6
8. (a) What do you understand by drawing limits and zoom extent? 8

- (b) When do you choose the following commands? 6
- (i) PLINE
 - (ii) MLINE
 - (iii) OFFSET
9. (a) What are the section methods of objects in AutoCAD? 7
- (b) How do you begin a new drawing? How do you select an existing drawing for editing? List five important edit commands and mention their applications. 7

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