Code : ESC–203 (101303)

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

   (a) Reference plane

   (b) Layers in AutoCAD

   (c) Optimal layout of drawing

   (d) 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

   (a) Picture plane and Vertical plane

   (b) 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 :

   (a) Drawing hall

   (b) Living room

   (c) Kitchen-cum-dinning

   (d) Master bedroom

   (e) Children's bedroom

   (f) 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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