Enrollment No.....................................

Faculty of Engineering
End Sem Examination May-2023
CE3CO21 Building Planning & Drawing
Programme: B.Tech.   Branch/Specialisation: CE

Duration: 3 Hrs.   **Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

Q.1 i.   A Stair turning through one right angle is known as a _____ stair.   1
(a) Quarter- turn   (b) Half-turn
(c) Dog-legged   (d) Open navel

ii.   What is the type of door in the exam hall?   1
(a) Sash door   (b) Panelled door
(c) Braced door   (d) Flush door

iii. The science which deals with the sound insulation in a building is known as _____.   1
(a) Reverberation   (b) Transmission
(c) Acoustic   (d) Air borne

iv.   According to standard building practices, a Kitchen can be placed in which of the following directions-   1
(a) South-East (b) East   (c) North-West   (d) West

v.   The pipe carrying both human waste (sewage) and waste water (sullage) to the drain is called-   1
(a) Vent Pipe   (b) Soil pipe
(c) Waste pipe   (d) Soil waste pipe

vi.   How much water supply requirement is assumed for residential building for a person per day in litres?   1
(a) 200   (b) 135   (c) 250   (d) 175

vii. Which one the following is correct grouping of rooms?   1
(a) Kitchen with dining hall   (b) Bedroom with bathroom
(c) Both (a) & (b)   (d) None of these

viii. What should be the Standard minimum size of Single Bedroom?   1
(a) $9.5m^2$ (b) $5.5m^2$ (c) $15m^2$ (d) $12m^2$

P.T.O.

ix.   Elevation drawings will include information about _____.   1
(a) Roof pitch   (b) Siding
(c) Window style   (d) All of these

x.   The primary unit of measurement for engineering drawings and design in the mechanical industries is the-   1
(a) Millimetre (b) Centimetre (c) Meter   (d) Kilometre

Q.2 i.   Describe lintel.   2
ii.   What is pile foundation?   3
iii. Describe various types of shallow foundation with neat sketch.   5
OR   iv.   Write different types of staircases with their neat sketches.   5

Q.3 i.   Define FAR.   2
ii.   What are the open spaces limitation within the plot?   3
iii. For a square plot of size 800 m2, the owner allowed an equal setback of 5m on two opposite sides. Within the building lines thus formed, if he constructed a two-storey house (G+1) - with the upper storey having equal area as the ground floor - what is the resultant F.A.R.? Assume wall area as 15% of the built-up area.   5
OR   iv.   Describe the classification of building as per NBC.   5

Q.4 i.   Explain thermal insulation in buildings. Give advantage of providing thermal insulation.   4
ii.   Explain the following sanitary fittings with their standard dimensions: 6
(a) Wash basins   (b) Bath tubs
(c) Water closets
OR   iii. What are the principles of house drainage system? Explain them.   6

Q.5 i.   What is Anthropometric science?   4
ii.   Explain in brief the principles of building planning.   6
OR   iii. Explain Space function relationship diagram.   6

Q.6 i.   Explain one point and two-point perspective drawing.   3
ii.   Draw a line plan of 2 BHK residential building with respect to the principle of planning.   7
OR   iii. Plan a primary school building I rural background for class 1st to 5th standard to accommodate 400 students. Draw the line plan on answer copy. Write your comments for deciding the dimensions of each unit.   7

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Marking Scheme
CE3CO21 Building Planning & Drawing

Q.1 i) A Stair turning through one right angle is known as a _____ stair.   1
(a) Quarter- turn

ii) What is the type of door in the exam hall?   1
(d) Flush door

iii) The science which deals with the sound insulation in a building is known as _____   1
(c) Acoustic

iv) According to standard building practices, a Kitchen can be placed in which of the following directions: 1
(b) East

v) The pipe carrying both human waste (sewage) and waste water (sullage) to the drain is called   1
d) Soil Waste Pipe

vi) How much water supply requirement is assumed for residential building for a person per day in litres?   1
b) 135

vii) Which one the following is correct grouping of rooms?   1
c) Both 'a' & 'b'

viii) What should be the Standard minimum size of Single Bedroom?   1
a) $9.5m^2$

ix) Elevation drawings will include information about _____.   1
d) All of the above

x) The primary unit of measurement for engineering drawings and design in the mechanical industries is the: 1
a) Millimetre

Q.2 i. Correct definition of lintel- 2 marks   2
ii. Pile foundation correct description- 3 marks   3
iii. Types of shallow foundation with sketches (At least five) - 1 mark for each type   5
OR iv. Types of Staircases with their sketches (At least five)- 1 mark for each type   5

Q.3 i. Defination of FAR- 2 marks   2
ii. Correct open spaces limitations- 3 marks   3

OR iii. Area Calculations 3 marks   floor area =894.99   5
FAR Result 2 marks = 111
iv. Classification of building as per NBC -1 mark for each classification   5

Q.4 i. Explanation of thermal insulation in buildings – 2 marks   4
Advantage of thermal insulation- 2 marks
ii. (a) Wash basins - 2 mark   6
(b) Bath tubs - 2 mark
(c) Water closets- 2 mark
OR iii. At least ten Principles of house drainage- 0.5 mark for each principle   6

Q.5 i. Explanation of Anthropometric science – 4 marks   4
ii. Each Principles of building planning – 1 marks   6
OR iii. Explanation of Space function relationship diagram- 6 marks   6

Q.6 i. Explanation one point perspective – 1.5 marks   3
Two point perspective- 1.5 marks
ii. planning -4 marks   7
dimensional balance- 3
iii. planning -4 marks   7
dimensional balance- 3

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