



A000114(037)

**B. Tech. (First Semester) Examination,
Nov.-Dec. 2024**

(AICTE Scheme)

(Common to all Branches : Q1 Group)

ENGINEERING GRAPHICS and DESIGN

Time Allowed : Four hours

Maximum Marks : 100

Minimum Pass Marks : 35

Note : Attempt all questions. Part (a) of each question is compulsory and carries 4 marks. Attempt any two parts from (b), (c) and (d) of each question and carries 8 marks each.

Unit-I

1. (a) Write 'first angle projection' in single stroke inclined capital letters. Use lettering A. Take lettering height $h = 14$ mm.
- (b) (i) Draw following lines & write their applications
continuous thin, continuous thin freehand
continuous thin with Zig Zag, chain thin.

[2]

- (ii) Draw fig. 1 & place the dimensions in aligned system, unidirectional system.

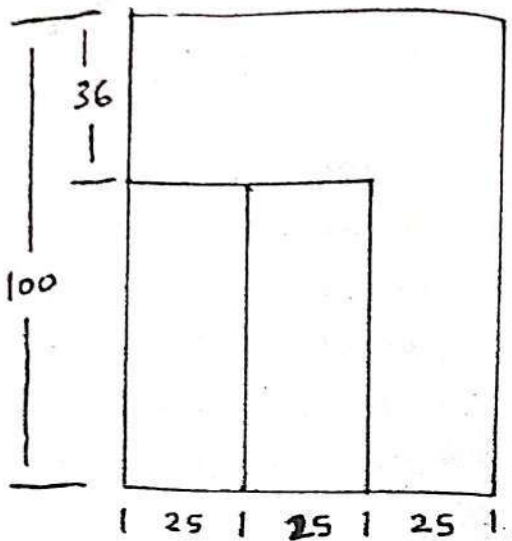


Fig. (1)

- (iii) Construct a scale of 1.5 inches = 1 foot to show feet and inches and long enough to measure upto 4 feet.
- (c) The area of a field is 50,000 sqm. The length and breadth of the field, on the map is 10 cm and 8 cm respectively. Construct a diagonal scale which can read upto one metre. Mark the length of 235 metre on the scale. What is the R.F. of the scale?

Or

A000114(037)

[3]

- (d) On a building plan, a line 20 cm long represents a distance of 10 m. Design a diagonal scale for the plan to read upto 12 m, showing metres, decimeters and centimetres. Show on your scale the lengths 6.48 m and 11.14 m.

Unit-II

2. (a) Differentiate between first and third angle projections. Draw their symbols also.
- (b) Draw front view, top view, left side view of fig. (2).

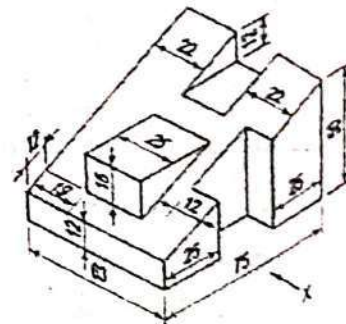


Fig. (2)

- (c) Draw the isometric view of fig. (3)

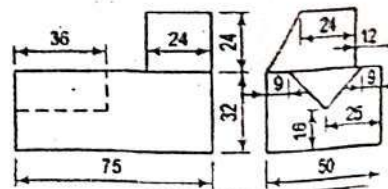


Fig. (3)

A000114(037)

PTO

[4]

Or

(d) Draw the isometric view of fig. (4)

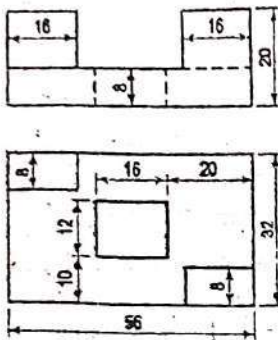


Fig. (4)

Unit-III

3. (a) State merits, demerits and applications of CAD.
Name any four CAD software.

(b) In Auto CAD write briefly about :

- (i) limits
- (ii) O-snap
- (iii) grid
- (iv) dynamic input
- (v) block
- (vi) layers

A000114(037)

[5]

Or

(c) Using the absolute coordinates and relative coordinates create the line diagram in fig. (5)

(d) Create the line diagram of fig. (5) by relative polar coordinates and direct distance entry method.

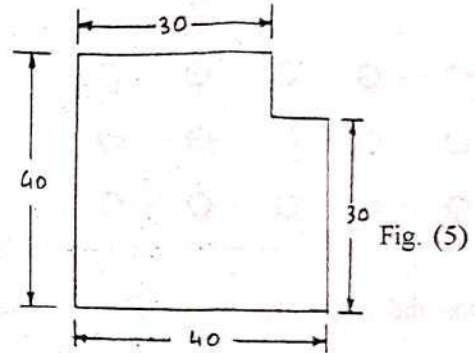


Fig. (5)

Unit-IV

4. (a) What are the different options available in Auto CAD to draw circle and area.

(b) Write with example following AutoCAD commands :

- (i) Rectangle
- (ii) Ellipse
- (iii) Spline
- (iv) Chamfer
- (v) Fillet

A000114(037)

PTO

[6]

- (vi) Array
- (vii) Offset
- (viii) M Text

(c) Write steps in AutoCAD to draw fig. (6)

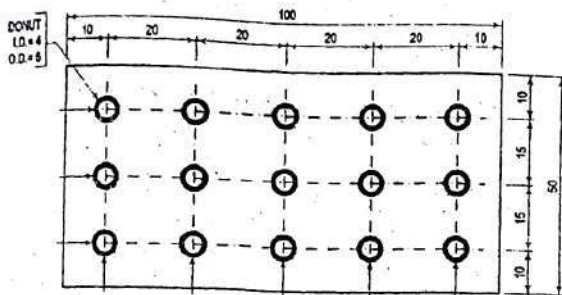


Fig. (6)

(d) State different steps in AutoCAD to draw fig. (7)

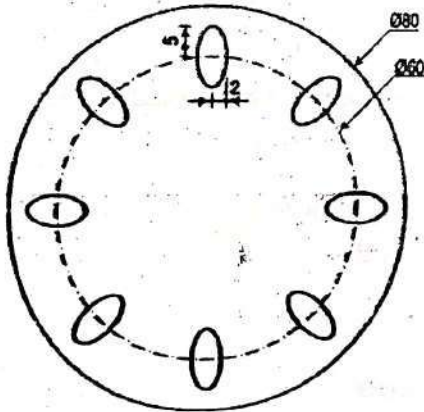


Fig. (7)

A000114(037)

[7]

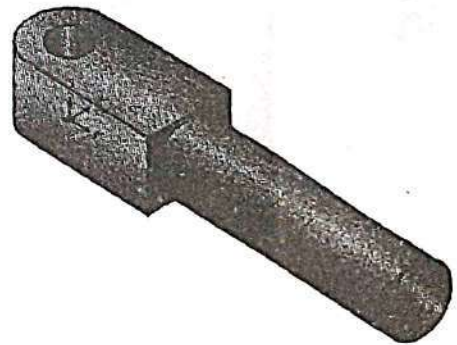
Unit-V

5. (a) Explain briefly 3D geometrical modeling.

(b) Write the functions of following 3D commands with examples :

- (i) extrude
- (ii) revolve
- (iii) Sweep
- (iv) loft
- (v) press pull
- (vi) Wedge

(c) What are the different steps to draw fig. (8) in AutoCAD.



A000114(037)

PTO

[8]

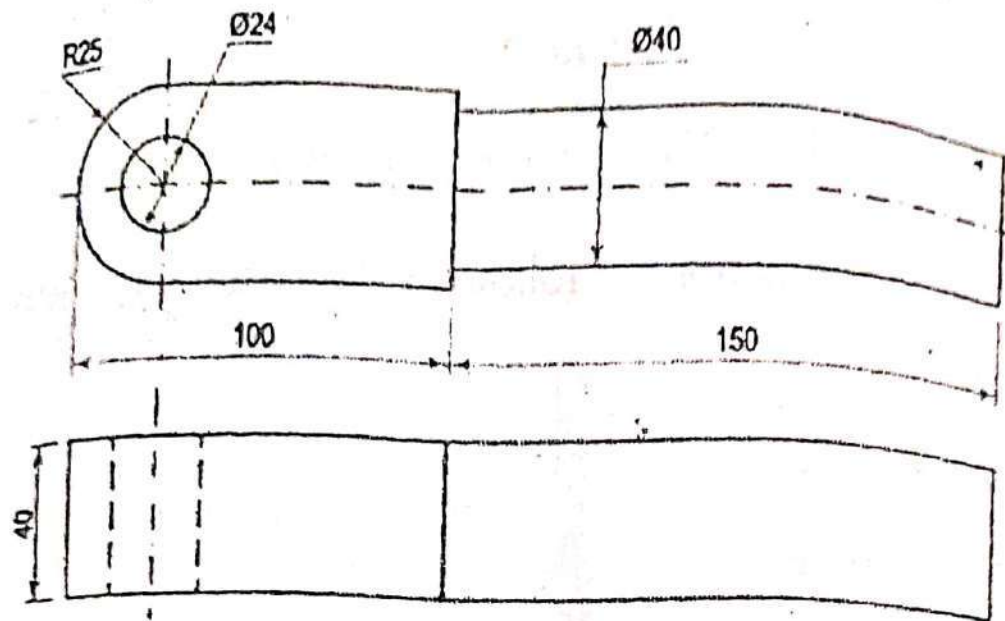


Fig. (8)

Or

(d) Write the steps in AutoCAD to draw fig. (9)

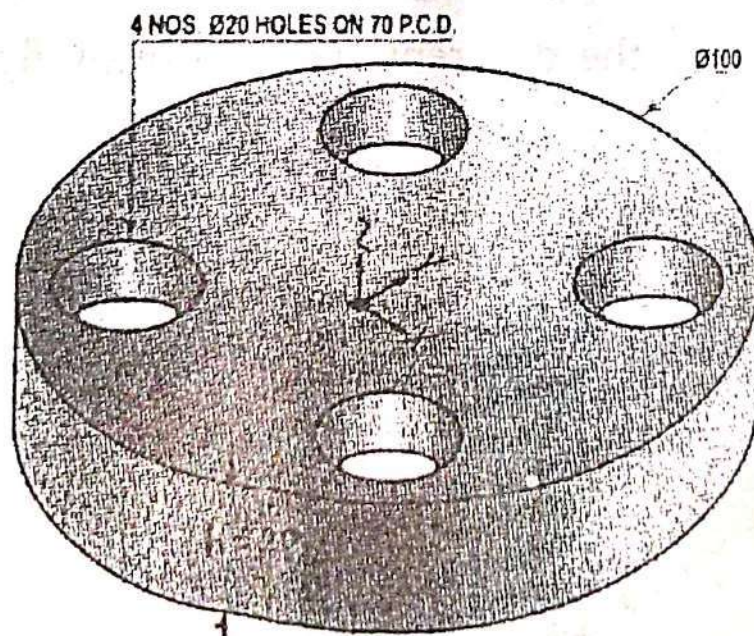


Fig. (9)