



GOVERNMENT COLLEGE OF ENGINEERING, JALGAON

(An Autonomous Institute of Government of Maharashtra)

National Highway No.6, JALGAON – 425 002

Phone No.: 0257-2281522

Fax No.: 0257-2281319

Website : www.gcoej.ac.in

E-mail : princoej@redifmail.com



Name of Examination : **FY Winter 2021** - (Preview)

Course Code & Course Name : **ME151U - Engineering Graphics and Drafting**

Generated At : **18-05-2022 11:30:34**

Maximum Marks : **60**

Duration : **3 Hrs**

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Answer Key Submission Type: Marking scheme with model answers and solutions of numerical

Instructions:

- All questions are compulsory. Do not right anything on question paper.
- Illustrate your answer with suitable figures/sketches wherever necessary.
- Additional supplement will be providing.
- Assume suitable additional data; if required.
- Use of logarithmic table, drawing instruments and non programmable calculators is allowed. (Name of data book, hand book or manual should be specified)
- In the Sheet Graph or diagram should be drawn by black H, 2H or 6H pencil.
- whenever required for plotting sketch/s and scaling the sketch as per space availability, Student can use any type of standard scale..
- In the question if there is not mention the type of orthographic Projection method shall be used then consider the suitable method for drawing.
- Figures to right indicate full marks.

1) Solve any two of following sub- questions.

- a) A line AB, 90 mm long is inclined at 45° to HP and its Plan view makes an angle of 60° with VP. The end point 'A' is in the HP and 12 mm in front of VP. Draw the Elevation view and find its true inclination with the VP. [(06)]
- b) Following fig 1.b shows the elevation of a cut cone, cut by two cutting planes C_1-P_1 and $C_2 - P_2$. Draw the Development of lateral surface of cone removing the portion containing apex. [(06)]

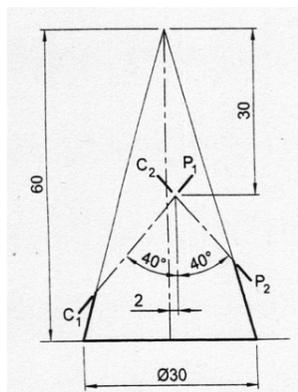


Fig. No.1.b

- c) The top view of a 45° set- square with side BC in HP and the side AB in VP is a triangle ABC. The side BC = 200 mm being perpendicular to XY line and angle $BCA = 25^{\circ}$. Draw the top and front views and measure the inclination of the set- square with the HP. Also draw side view. Refer following Fig. No 1.c (Use 1:2 scales, if required and also mention it below the sketch). [(06)]

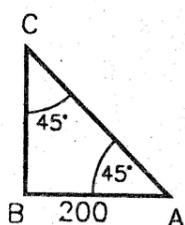


Fig. No. 1.c

2) Solving following sub- question is compulsory.

a) Fig. No.2.a shows pictorial view of an object. Using third Angle orthographic projection method, draw

[(12)]

1. Sectional Front view along C-P line A-B,
2. T.V.
3. Side View from Left.

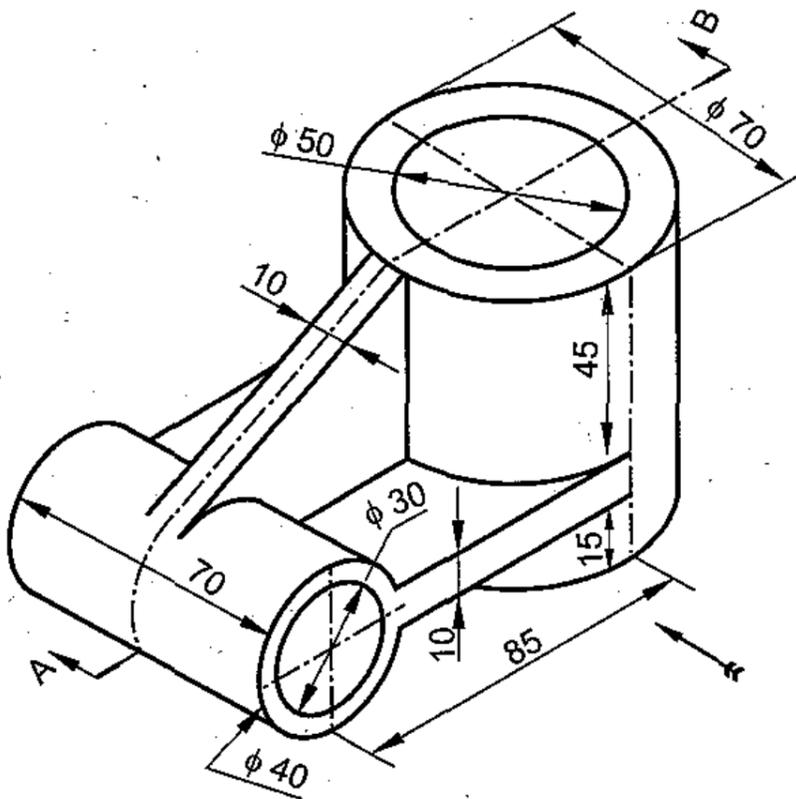


Fig. No.2.a

3) Solving following sub- question is compulsory.

a) Draw the Isometric View of a Machine component from given F. V. & T. V. in Fig. No. 3.a. Also Show the all dimensions.

[(12)]

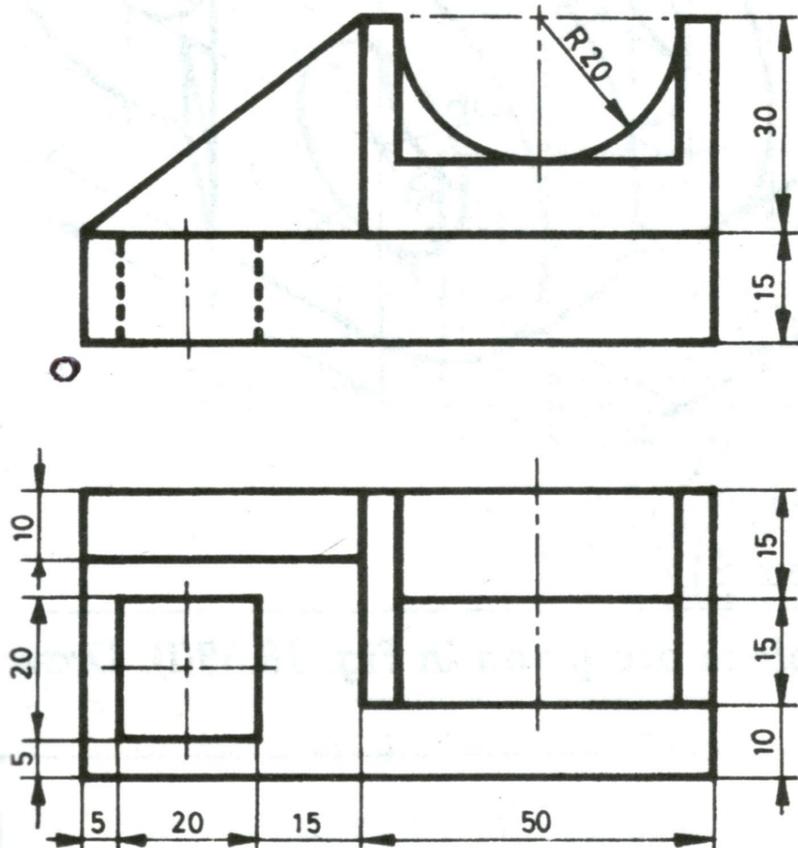


Fig. No. 3.a

4) Solve any two of following sub- questions.

- a) A semi circular thin plate, of 60 mm diameter, rests on the HP on its diameter, which is inclined at 45° to the VP and the surface is inclined at 30° to HP. Draw the Projection of the plate.
- b) A tetrahedron of 80 mm long edges is held on one of its edge on HP such that the triangular face containing that edge is perpendicular to HP. Draw its projections of the tetrahedron when the edge which is on HP is inclined at 45° to VP.

[(06)]

[(06)]

- c) Fig. no. 5.1 shows the elevation of a square prism with side of base 30 mm and axis length 60 mm kept on H.P. with all sides of base equally inclined to V. P. and its cut by two cutting planes. Draw the Development of Lateral Surface of the prism by method of first angle orthographic projection. [(06)]

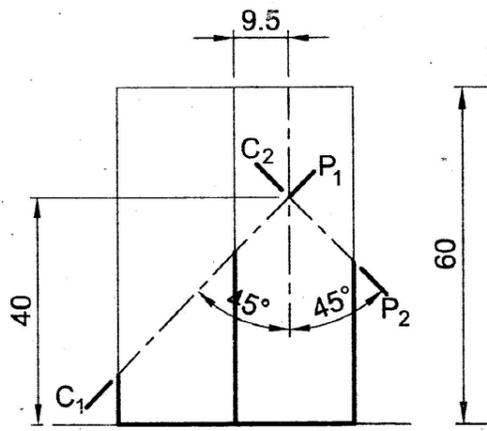


Fig. No 4.c

- 5) Solve any two of following sub- questions.
- a) A line PQ, 110 mm long, is in HP with its end P 20 mm in front of VP. Draw its three views, when the end Q is 60 mm in front of the VP. determine its inclination with VP. [(06)]
- b) A regular Hexagonal plane of 30 mm side has one of its corners on the HP. The surface of the plane is inclined at 30° to HP. Draw the projection of the plane when diagonal passing through corner on the HP. Makes an angle of 45° to the VP. Consider the hexagonal plane based on a corner near to the VP and the corner opposite of it away from VP. [(06)]
- c) A 70 mm long line PQ is inclined at 45° to the VP. Its end P lies in the HP and 15 mm in front of the VP. The Top view of the line measures 60 mm. Draw its projections and determine true inclination with the HP. [(06)]

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