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Question Paper Code : 40670

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2021.

First Semester

Civil Engineering

GE 8152 – ENGINEERING GRAPHICS

(Common to : Aeronautical Engineering/Aerospace Engineering/
Agriculture Engineering/Automobile Engineering/Biomedical Engineering/
Computer Science and Engineering/Computer and Communication
Engineering/Electrical and Electronics Engineering/ Electronics and Communication
Engineering/Electronics and Instrumentation Engineering/Electronics and Tele
communication Engineering/Environmental Engineering/Geoinformatics
Engineering/Industrial Engineering/Industrial Engineering and
Management/Instrumentation and Control Engineering/Manufacturing
Engineering/Marine Engineering Material Science and Engineering/Mechanical
Engineering/Mechanical Engineering (Sandwich)/Mechanical and Automation
Engineering/Mechatronics Engineering/Medical Electronics/Petrochemical
Engineering/ Production Engineering/Robotics and Automation/Safety and Fire
Engineering/Artificial Intelligence and Data Science/Bio Technology/Biotechnology
and Biochemical Engineering/Chemical Engineering/Chemical and Electrochemical
Engineering/Computer Science and Business System/Fashion Technology/Food
Technology/Handloom and Textile Technology/Information Technology/
Petrochemical Technology/Petroleum Engineering/Pharmaceutical
Technology/Plastic Technology/Polymer Technology/
Textile Chemistry/Textile Technology)

(Regulations 2017)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

(5 × 20 = 100 marks)

1. (a) Construct a hyperbola with the distance between the focus and the directrix as 50 mm and eccentricity as $3/2$. In addition, draw normal and tangent to the curve at a point 30 mm from the directrix.

Or

- (b) For the object shown in Fig. 1b. draw free hand sketching of
- (i) front view
 - (ii) top view and
 - (iii) right hand side view

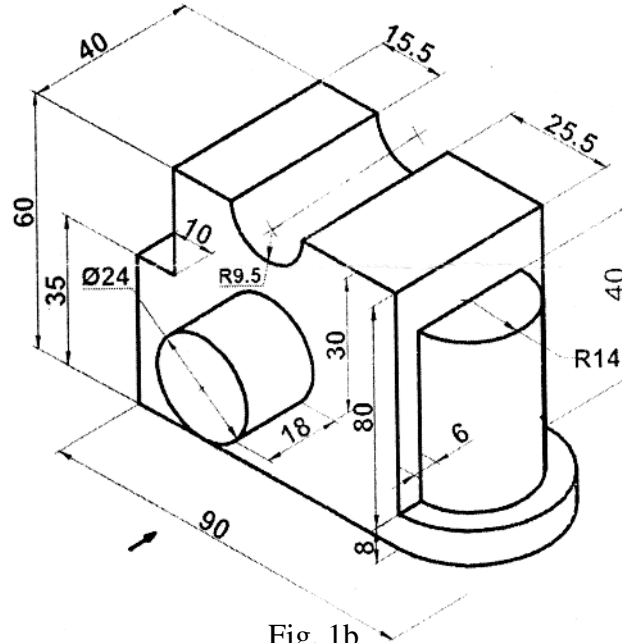


Fig. 1b

Note: All dimensions are in 'mm'

2. (a) A line AB of length 65 mm is inclined at 40° to HP and 30° to VP. The end A is 25 mm above HP and 30 mm in front of VP. Draw the projections of the line and locate its traces.
- Or
- (b) A thin rectangular card board lamina has one of its corners on the HP and the surface makes 60° with the HP. Draw its projections, when the top view of the diagonal passing through the corner on HP, makes 45° with the reference line. The size of the lamina is 50×25 mm.
3. (a) A hexagonal pyramid of base sides 30 mm and axis 70 mm long is lying on VP on one of its slant edges. A plane containing this edge and the axis is perpendicular to VP and parallel to HP. Draw the projections of the pyramid.
- Or
- (b) A pentagonal prism 30 mm side of base and axis 70 mm long is resting on one of its edges of the base, in such a way that the base makes an angle of 40° with HP. Draw the projections, if the axis is parallel to VP.

4. (a) A pentagonal pyramid of base side 30 mm and axis 60 mm is resting on its base on the HP with an edge of the base parallel to the VP. It is cut by a section plane perpendicular to the VP, inclined at 60° to the HP and bisecting the axis. Draw its front view and sectional top view and true shape of the section.

Or

- (b) A cone of base diameter 50 mm and axis 60 mm is resting on its base on the HP. Draw the development of its lateral surface when it is cut by an auxiliary inclined plane inclined at 60° to the HP and bisecting the axis.

5. (a) A hexagonal prism of base side 25mm and axis 70mm is placed centrally on its rectangular face over a cylindrical block of base diameter 80mm and thickness 30mm. Draw the isometric view of the arrangement.

Or

- (b) Draw a perspective view of a square pyramid of base side 40 mm and axis 60mm, resting on its base in the GP with its axis 40 mm behind the PP and an edge of the base right to the axis inclined at 60° to it. The station point is 50 mm in front of PP, 90 mm above GP and lies in a CP which is 50 mm towards the right of the axis.