राष्ट्रीय प्रौधोगिकी संस्थान गोवा

NATIONAL INSTITUTE OF TECHNOLOGY GOA

Farmagudi, Ponda, Goa, 403401

Programme Name: B.Tech, Second Semester

End Semester Examinations, July-2021

Course Name: Engineering Drawing | Course Code: ME101

Date: 31st July 2021 | **Time: 09:30 AM-12:30 PM**

Duration: 3 Hours | Max. Marks: 100

Please read instructions carefully

(1) Attempt all questions.

(2) Exam duration is only 3 hours. 15 minutes are for scanning and uploading the document.

(3) Please make title block in **left side down corner** of your A4 size sheet paper. Draw border line at a distance of **1.2 cm** from edge of your A4 size sheet.

(4) Use engineering drawing rules for Dimensioning, Text writing, Projection lines etc.

(5) Use pencil for drawing purposes and for writing texts you can use either Pencil or Pen.

(6) Use geometry tools to draw the projections. Using hand drawing leads to reduction in Marks.

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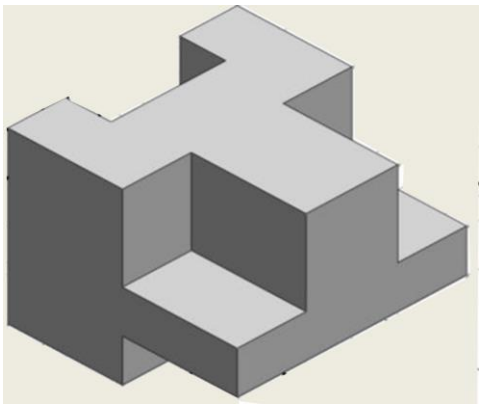
(1) Describe the types of line and its purpose in engineering drawing? Explain each of line with one example (Strictly draw the figures to explain) **(15 Marks)**

(2) Draw its front, top and side views of the provided solid object. Strictly adhere the engineering drawing protocol.

(15 Marks)



(3) How different types of pencils are useful for engineering drawing? Explain the methodology for 2D orthographic projections. **(5 Marks)**

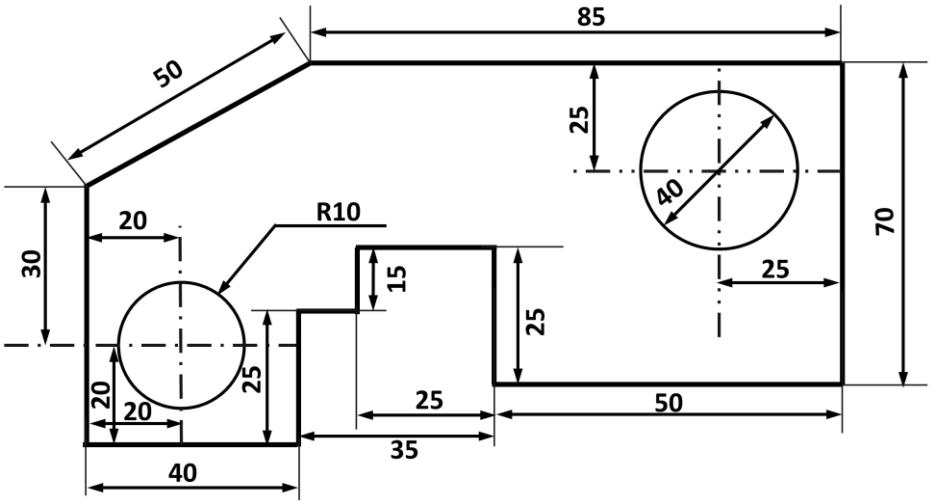
(4) Why there is need to study the projection of solids. Justify with one real life examples with clear sketch.

(4 Marks)

(5) Justify with one example to differentiate orthographic, prospective and isometric projections. **(6 Marks)**

(6) What are the types of dimensioning procedure? Redraw with its correct dimension. Redraw the provided plane figure with correct dimensioning scheme.

(**10 Marks**)



(7) What is Hexagonal Pyramid? Draw the projections for the below provided details: -A hexagonal pyramid of 42.5 mm side, resting with one of its edges on HP such that one of the triangular face containing that edge is inclined at 30° to HP and the edge on which it rests being inclined to 60° to VP. (**10 Marks**)

(8) Define "Solids". Classify "Types of Solids" with neat sketch. A pentagonal pyramid (side of base = 50 mm and height = 100 mm) is resting on its base on the ground with axis parallel to frontal plane and perpendicular to the top plane. One of the sides of the base is closer and parallel to the frontal plane. A vertical section plane cuts the pyramid at a distance of 15 mm from the axis with section plane making an angle of 50^{o} with FP. Draw the remaining part of the pyramid and the true shape of the cut section. (**15 Marks**)

(9) Define projection. (A) A thin (0.02 mm) rectangular white paper of sides 60 mm × 30 mm has its shorter side in the V.P. and inclined at 30^{o} to the H.P. Project its top view if its front view is a square of 30 mm long sides. (B) A circular plate of thickness of your drawing paper and 50 mm diameter appears as an ellipse in the front view, having its major axis 50 mm long and minor axis

30 mm long. Draw its top view when the major axis of the ellipse is horizontal (Assume suitable parameters if necessary) (**10 Marks**)

(10) A right circular cylinder, base 50 mm diameter and axis 60 mm long, is standing on HP on its base. It has a square hole of size 25 in it. The axis of the hole bisects the axis of the cylinder and is perpendicular to the VP. The faces of the square hole are equally inclined with the HP. Draw its projections and develop lateral surface of the cylinder. (**10 Marks**)

NOTE: - (1) Please verify yourself for quality assurance of documents before uploading the scanned document.

(2) Submit your sheet in organized way.

(3) The scanned copy should be in original format with good quality. Please upload original image for error free evaluation.