



JK Lakshmipat University Jaipur
INSTITUTE OF ENGINEERING AND TECHNOLOGY

B. Tech. in Mechanical Engineering

1st Year (1st Semester)

Term-III Examination, Feb, 2022

SET A

Course No. : ES1110
Course Title : Design and Prototyping-1
Nature of Exam : On campus
Weightage : 20%
Max Marks : 40
Duration : 180 Minutes

No. of Pages = 02

No. of Questions = 07

Roll No: _____

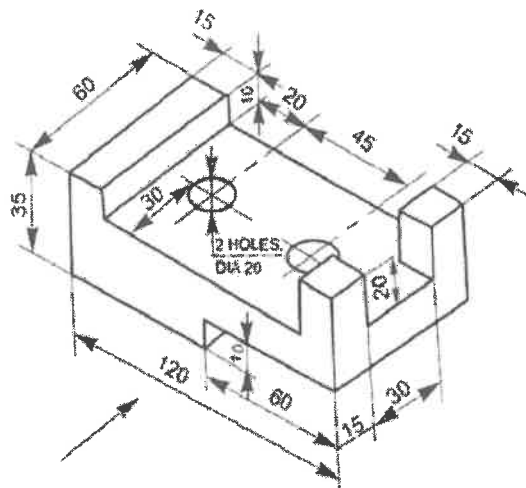
Note:

1. Draw neat Drawings using different grade of pencils
2. Assume data as and when required
3. Write only Roll No in Question Paper
4. Drawing sheet provided by exam cell can be used only.

- 1 Discuss five stages of design thinking taking a suitable example. CO1 5
- 2 With the help of a suitable example, discuss ductility and hardness of any metallic material. CO1 5
- 3
 - I. A line AB 60 mm long has its end A 20 mm above HP and 30 mm in front of VP. The line is inclined at 40° to VP and parallel to HP. Draw its projections. CO4 6
 - II. A line PQ 55 mm long is in HP and inclined to VP. The end P is 20 mm in front of VP. The length of front view is 35 mm. Draw the projections of the line and also find the inclination of the line with VP

Attempt any three questions from 4 to 7

- 4 Draw the front view, top view, and side views of the given figure in 1st angle projection CO1 8



- 5 An isosceles triangle of 40 mm long base side, 60 mm long altitude is freely suspended from one corner of Base side. Its plane is 45° inclined to VP. Draw its projections CO4 8
- 6 A regular pentagon of 30 mm sides is resting on HP on one of its sides while its opposite vertex (corner) is 30 mm above HP. Draw projections when side in HP is 30° inclined to VP. CO4 8
- 7 A cone of base diameter 40 mm and slant height 60 mm is kept on the ground on its base. An Auxiliary Inclined Plane inclined at 45° to the HP cuts the cone through the midpoint of the axis. Draw the development. CO4 8