DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Summer Examination – 2023

Course: B. Tech.   **Branch :First Year All Branches**   **Semester :II**

Subject Code & Name: BTES103G Engineering Graphics

Max Marks: 60   **Date: 17/07/2023**   **Duration: 3 Hrs.**

Instructions to the Students:
1. *All the questions are compulsory.*
2. *The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in ( ) in front of the question.*
3. *Use of non-programmable scientific calculators is allowed.*
4. *Assume suitable data wherever necessary and mention it clearly.*

		(Level/CO)	Marks
Q. 1	**Solve <u>Any Two</u> of the following.**		**12**
A)	Construct a regular heptagon of 30 mm side by General method.	Remember	**6**
B)	Inscribe a regular pentagon in a circle of 70 mm diameter.	Remember	**6**
C)	Explain the two systems of placing dimensions with the help of sketches.	Understand	**6**

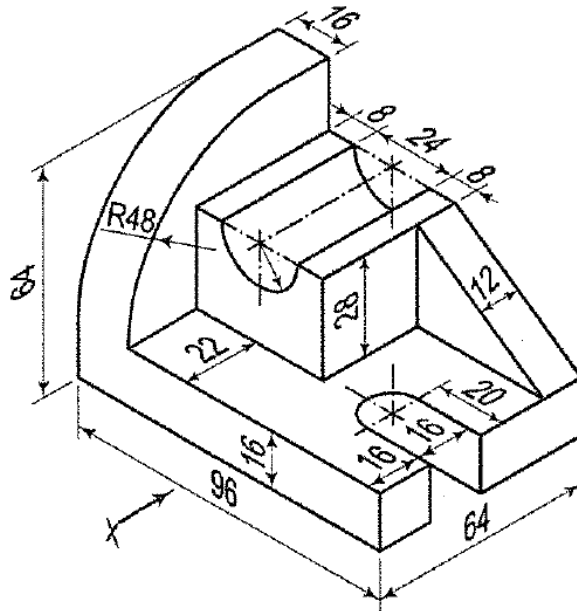|			
Q.2	**Solve <u>Any One</u> of the following.**		**12**
A)	Draw the following views of the object (in X – direction) shown below, by using first angle projection method.	Apply	
	(a) Front View		**6**
	(b) Top View		**6**
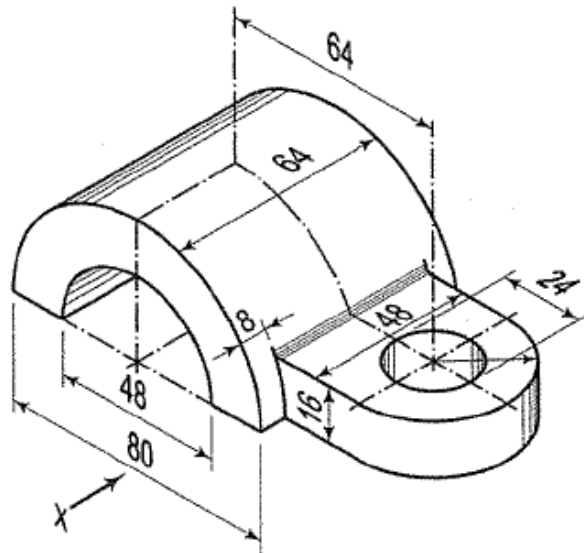
B) Draw the following views of the object (in X – direction) shown below, by using first angle projection method.   Apply

(a) Front View   **6**

(b) Right Hand Side View   **6**

Q. 3 **Solve <u>Any One</u> of the following.** 12

A) The front view of a line AB makes an angle of 30^0 with xy. The HT of the   Apply   12
line is 45 mm in front of the VP, while its VT is 30 mm below the HP. The
end A is 10 mm above the HP and the end B is 100 mm in front of the VP.
Draw the projections of the line and determine (i) its true length, and (ii) its
inclinations with the HP and the VP.

B) A regular hexagon of 40 mm side has a corner in the HP. Its surface is   Apply   12
inclined at 45^0 to the HP and the top view of the diagonal through the corner
which is in the HP makes an angle of 60^0 with the VP. Draw its projections.

Q.4 **Solve <u>Any One</u> of the following.** 12

A) A cube of 50 mm long edges is resting on one of its corners on the HP   Apply   12
such that one of the body diagonals is parallel to both the HP and the VP.
Draw its three views.

B) A cone, base diameter 50 mm and axis length 60 mm is resting on the HP on   Apply   12
a point of its base circle in such a way that the apex is 50 mm above the HP.
Draw the projections of the cone when the top view of the axis is making
45^0 to the VP.

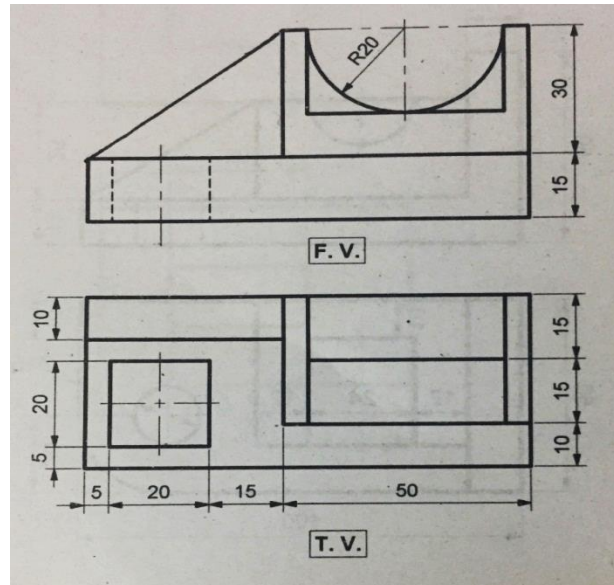**Q. 5** **Solve <u>Any One</u> of the following.** 12

A) A hexagonal prism, side of the base 30 mm and axis 70 mm long is resting   Apply   12
on one of its bases on the HP with the edge of base perpendicular to the VP.
It is cut by section plane inclined to the HP such that the true shape of the

section is a trapezium of maximum size. Draw the sectional top view and the true shape of the section. What will be the inclination of the cutting plane with the HP?

B) Draw the isometric view of the following object having FV and TV drawn   Apply   **12** by first angle projection method.

*** End ***