

Total No. of printed pages = 2

CE 171107

Roll No. of candidate

--	--	--	--	--	--	--	--	--	--

30731

2022

BINA CHOWDHURY CENTRE FOR RESEARCH
(ICMRT & CIPS)
22/20/20, Hatnara, Wapara,
Gurgaon - 700017

B.Tech. 1st Semester End-Term Examination

ENGINEERING GRAPHICS — I

(New Regulation and New Syllabus w.e.f. 2017-18)

Full Marks – 70

Time – Three hours

The figures in the margin indicate full marks
for the questions.

Note :

1. Question 1 is compulsory.
2. Solve any *four* from question 2 to question 7.

1. Fill in the blanks : (10 × 1 = 10)
- (i) What is representative fraction?
 - (ii) _____ method is used to draw an ellipse, if major and minor axis are given
 - (iii) Vernier scales can measure length with the same precision. True or false?
 - (iv) If a line is inclined 40° to HP and parallel to VP, its true length can be seen in _____ view
 - (v) To draw a plan of a building on paper _____ scale is generally used.
 - (vi) What is the least count of Vernier scale.
 - (vii) The size of the title block for all size of drawing sheet is _____
 - (viii) For an ellipse, eccentricity is always _____ than 1.
 - (ix) When a plane is parallel to the axis, the curve is a _____
 - (x) In _____ projection method the object comes between the observer and the plane.

[Turn over

2. (a) Write freehand the following in single stroke vertical capital letters of 12 mm size
THIS IS TOUGH BUT YOU ARE TOUGHER
- (b) Mention three instruments used in Engineering drawing and their uses. (9+6=15)
3. (a) Draw a plain scale of 1:50 to show meters and decimeters and long enough to measure 6 m. show a distance of 4.9 m on it.
- (b) The actual length of 300 m of an Auditorium is represented by a line of 10 cm on a drawing. Draw a forward Vernier scale to read up to 600 m and mark a length of 364 m on it. (6+9=15)
4. (a) Construct a hyperbola when the distance of the focus from the directrix is 80 mm and eccentricity is $\frac{4}{3}$.
- (b) What are the various types of curves which are commonly used in engineering practice? (12+3=15)
5. (a) What is Cycloid and Trochoid?
- (b) A circle of diameter 60 mm on the circumference of another circle of 185 mm diameter and outside it. Trace the locus of a point on the circumference of the rolling circle for one complete revolution. Name the curve. Draw a tangent and a normal to the curve at a point 120 mm from the center of the directing circle. (2+13=15)
6. (a) Draw the projections of the following points on the same ground line keeping the distance between the projectors equal to 25 mm.
- (i) Point A, 20 mm above HP and 25 mm behind VP
- (ii) Point C, 20 mm below HP and 30 mm in front of VP
- (iii) Point D, 30 mm above HP and 35 mm in front of VP
- (iv) Point E on HP and 25 mm behind VP
- (b) A line AB 65 mm long has its end 'P' 25 mm above HP and 20 mm in front of VP. The line makes an angle 30° with the VP and 45° with HP. Draw the projections of the line. (8+7=15)
7. (a) Draw the projections of a circular lamina of 50 mm diameter having its plane vertical and inclined to 30° to the VP. Its center is 30 mm above the HP and 20 mm in front of the VP.
- (b) What do you mean by first angle and third angle of projection. (12+3=15)

BINA CHOWDHURY CENTRAL LIBRARY
(GIMT & GIPS)
2212, Haldi Wapara,
Gowahat - 781017