

**B.Tech. MECHANICAL ENGINEERING
(COMPUTER INTEGRATED
MANUFACTURING)**

Term-End Examination

December, 2018

00303

BME-002 : COMPUTER AIDED DESIGN

Time : 3 hours

Maximum Marks : 70

Note : Answer any *five* questions. Use of scientific calculator is allowed.

1. (a) How can the flickering of the image on the CRT monitor be avoided ? 7
(b) What is persistence ? Explain the function of electron gun in a CRT. 7
2. Describe the different types of locating devices. List their merits and demerits. 14
3. Explain the purpose of different colour models in computer aided design and manufacturing, both. How is the pixel value related to intensity level ? Briefly describe YIQ color model. 14
4. (a) Describe parametric and non-parametric representation of curves. 7
(b) Compare parametric and non-parametric representation of a circle. 7

5. A triangle ABC with vertices A (2, -1), B (5, 2) and C (2, 1) is rotated by 90° about the origin in anticlockwise direction. Calculate the position vectors of the rotated triangle. 14
6. (a) What is raster scanning ? Why is it preferred to the storage tube in the display of graphics information ? 10
- (b) Explain the screen buffer. 4
7. Test the back face detection for a tetrahedron (pyramid) PQRS with vertices P(1, 1, 2), Q(3, 2, 3), R(1, 4, 1) and S(2, 4, 0). Provide different views of the pyramid so that each face is displayed at least once. 14
8. Explain the salient features of the following standards : $4 \times 3 \frac{1}{2} = 14$
- (i) PDDI
- (ii) IGES
- (iii) PDES
- (iv) STEP
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