

**B.Tech. – VIEP – MECHANICAL ENGINEERING
(BTMEVI)**

Term-End Examination

June, 2017

00483

BIME-018(S) : COMPUTER AIDED DESIGN

Time : 3 hours

Maximum Marks : 70

Note : Attempt any **five** questions. All questions carry equal marks.

1. (a) What are the limitations and drawbacks of sequential engineering in handling design change requests ? Explain in brief. 7
- (b) Describe the Window of a CAD software. Discuss its view-port features. 7
2. (a) Explain the functions of a frame buffer. 7
- (b) Illustrate how a line is displayed on a graphic monitor. 7
3. (a) What is geometric modelling ? Compare the features of a 3D model with a 2D model. 7
- (b) Name the output devices used in CAD systems. Explain any two devices with neat sketches. 7

4. (a) With suitable examples, explain the various types of 2D geometric transformations. 7
- (b) What are the various types of co-ordinate systems used in a CAD system ? Discuss their uses in a CAD system. 7
5. (a) Explain the parametric and non-parametric representation of curves. 7
- (b) Find out the transformation matrix to rotate an object by 90° counter-clockwise about its centre. The centre of the object is at [5, 4]. 7
6. (a) How can you integrate CAD/CAM systems ? Discuss the necessity and the importance of integrating CAD/CAM. 7
- (b) What is the function of a frame buffer ? Compute the frame buffer size for a CRT display terminal of 640 × 480 resolution with 96 pixels per inch. 7
7. (a) What do you understand by FEM ? Give an example of modelling a mechanical component with the help of FEM. 7
- (b) Find the real roots of the following equation by using the bi-section method, correct to three decimal places : 7

$$x^3 - 4x - 9 = 0$$

