

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

Term-End Examination

00483

December, 2018

BIME-018 : COMPUTER AIDED DESIGN

Time : 3 hours

Maximum Marks : 70

*Note : Attempt any **five** questions. All questions carry equal marks. Use of scientific calculator is permitted.*

1. (a) Explain the working of Cathode Ray Tube (CRT) graphic display device with a neat sketch. 7
- (b) List out the various input devices used in CAD system. Explain any two with neat sketches. 7
2. (a) What are the basic techniques for generation of graphic image ? Explain with suitable examples. 7
- (b) Explain the functions of graphic software with two suitable examples. 7

3. (a) What is solid modelling ? Explain any two methods of solid modelling with suitable examples. 7
- (b) Discuss the essential requirements for visualization of a model in a CAD system. 7
4. (a) What are Bezier curves ? Write their properties. 7
- (b) Explain the necessity of synthetic surfaces. Give suitable examples. 7
5. (a) Explain any two types of sweep representations with neat sketches. 7
- (b) How is parametric representation of curves better than analytic representation ? Explain . 7
6. (a) What is wireframe model ? Enlist the limitations of wireframe model. 7
- (b) What are the various types of graphic standards in CAD system ? Explain any one graphic standard with neat sketch. 7

7. (a) Find the real root of the equation

$$x^3 + 3x^2 - 3 = 0$$

by Newton-Raphson method, correct to three decimal places. 7

(b) Describe the types of element shapes usually employed for modelling in FEM. 7

8. Write short notes on the following : $4 \times 3 \frac{1}{2} = 14$

- (a) Mesh Generations
 - (b) 3D Transformations
 - (c) Direct View Storage Tube
 - (d) Windowing and Clipping
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