No. of Printed Pages : 2

BME-002

B.Tech. MECHANICAL ENGINEERING (COMPUTER INTEGRATED MANUFACTURING)

Term-End Examination

00882

December, 2017

BME-002 : COMPUTER AIDED DESIGN

Time : 3 hours *Maximum Marks : 70*

Note : *Attempt any **seven** questions. Use of scientific calculator is allowed. Drawing the diagram is compulsory wherever instructed in the numerical questions.*

1. List different types of input devices. Explain any one. *10*

2. Differentiate between 2D and 3D clipping. Explain 3D transformation with matrix. *3+7*

3. List out the various Bezier curves based on control points. Explain Bezier surface with its properties. *3+7*

4. Find the reflection matrix when the axis of reflection is line $y = 3x + 2$. *10*

5. Explain with suitable examples : *4+3+3*

   (a) Wireframe modelling

   (b) Surface modelling

   (c) Solid modelling

6. Explain the Hermite cubic spine curve with a neat sketch. Also write its characteristics and obtain the parametric equation for the same. *10*

7. Explain Z-buffer algorithm with its operations. *10*

8. Describe Bottom Up and Top Down assembly design with example. *10*

9. Write the topology of IGES and describe the structure of IGES file. *3+7*

10. Explain the significance of data exchange in CAD/CAM. Highlight the use of data exchange standards. *10*