

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

00013

Term-End Examination

June, 2018

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. What is the function of frame buffer ? Compute the frame buffer size for a CRT display terminal of a 640×480 resolution with 96 pixels per inch. 10
2. Write down the advantages and limitations of surface modelling. Describe various surface entities with sketch. 10
3. What is the working principle of following hardware parts of a CAD workstation : 10
 - (a) Plotter
 - (b) Graphical Digitizer table
 - (c) Key board

4. Two end points of a line segment have co-ordinates (1, 3) and (3, 6). If this is to be scaled to twice its present size, write the transformation matrix and the co-ordinates of the new end points. *10*

 5. What is CAD database ? Explain the advantages of CAD database with popular database model. *10*

 6. What is geometric transformation ? Explain translation, rotation, scaling with respect to 2-D. *10*

 7. Describe CAD interference checking capabilities with the help of suitable example. *10*

 8. Describe the component of STEP with geometric data structure. *10*

 9. Discuss the procedure to validate the solid model. List the techniques used for solid modelling. *10*

 10. Describe CAD data exchange. Explain CAD to CAM data exchange in the light of true PLM (Product life-cycle management) Environment. *10*
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