

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

**Term-End Examination**

**December, 2013**

**BIME-018 : COMPUTING AIDED DESIGN**

*Time : 3 hours*

*Maximum Marks : 70*

**Note:** (i) Solve *any five* questions.  
(ii) All questions carry *equal* marks.

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| 1. | (a) Explain the principle of working of a Cathode Ray Tube with a neat sketch.   | 9  |
|    | (b) Discuss functions of a frame buffer.   | 5  |
| 2. | A square having end points A (1, 1), B (6, 1), C (6, 6), D (1, 6) is rotated by $50^\circ$ in clockwise direction keeping point (6, 1) fixed. Find the final co-ordinates. | 14 |
| 3. | (a) Discuss what is rendering ?  | 5  |
|    | (b) Write in brief the difference between cubic spline, Bezier and B-spline curve.   | 9  |
| 4. | (a) Describe in brief Bicubic surface method of a surface modeling.  | 5  |
|    | (b) Explain in detail Cubic Bezier and B-spline surface with their important properties.   | 9  |
| 5. | Explain the following :  |    |
|    | (a) Constructive Solid Geometry(CSG)   | 7  |
|    | (b) Boundary representation  | 7  |

6. Discuss various color models application commands for Auto CAD. 14
  7. Derive the stiffness matrix for a spring system. 14
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