

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

Term-End Examination

01.185 December, 2014

BIME-018 : COMPUTER AIDED DESIGN

Time : 3 hours

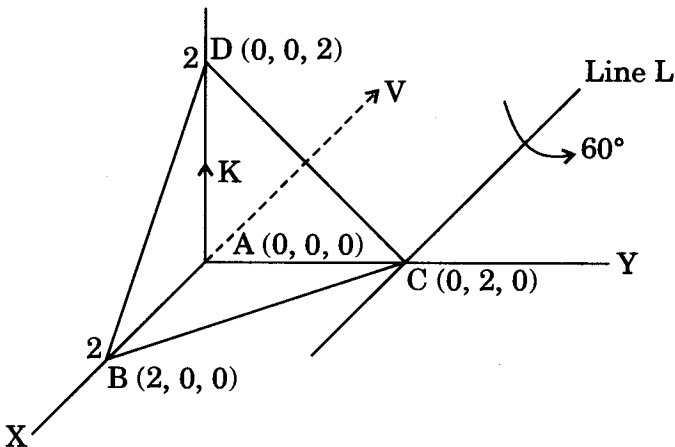
Maximum Marks : 70

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) What are the techniques commonly used to improve design ? Explain in brief. 7
2. (a) Discuss the window and view-port features of a CAD software. 7
- (b) Briefly describe the different techniques used for scan conversion of rendering an image. 7
3. (a) Describe the functions of a frame buffer. 7
- (b) Explain how a line is displayed on a graphic monitor. 7

4. (a) Write down the commands and their sequence to create 2D and 3D wire frame models of the following components : 7
- (i) Bracket
- (ii) Spur Gear
- (b) Describe the importance of curve and surface modelling in computer aided graphics and design. 7

5. The pyramid defined by the co-ordinates A (0, 0, 0), B (2, 0, 0), C (0, 2, 0) and D (0, 0, 2) is rotated by 60° about a line L that has the direction $V = J + K$ and passing through point C (0, 2, 0). Find out the co-ordinates of the rotated pyramid. 14



6. (a) Describe the structure of an IGES file. 7
- (b) Discuss in brief various data exchange systems currently in use. 7

7. (a) Discuss characteristics of Bezier curves.
Compare Bezier curves with Cubic Spline. 7
- (b) Discuss in brief :
- (i) Linear sweep and revolution
- (ii) UCS 7
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