

**B.Tech. MECHANICAL ENGINEERING
(BTMEVI)****Term-End Examination****June, 2014****BIME-018 : COMPUTING AIDED DESIGN***Time : 3 hours**Maximum Marks : 70*

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- Note:** (i) *All questions carry equal marks.*
(ii) *Attempt any five questions.*
(iii) *Standard notations have usual meaning.*
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| 1. | (a) | Describe the various activities involved in product development. | 7 |
| | (b) | Discuss the stages of the product life cycle and explain the importance of each stage. | 7 |
| 2. | (a) | Explain what is rendering. What are the different stages of rendering and image ? Explain. | 7 |
| | (b) | Describe an algorithm used for the removal of hidden lines. | 7 |
| 3. | (a) | Describe the advantages of a local area network in the design environment. | 7 |
| | (b) | What are the principal subsystems of a graphic engine ? Explain in brief. | 7 |
| 4. | | Suggest and describe the procedure that you would adopt to create the surface of the vanes and inner projections of the shroud of a mixed flow impeller. | 14 |

5. (a) Discuss the following with reference to stiffness matrix : 7
(i) Sparse matrix and
(ii) Band width.
- (b) Scale the triangle with vertices X (0, 0), Y (2, 2) and Z (5, 0) to twice its size while keeping a point fixed at C (5, 3). 7
6. (a) Discuss the need for standardization in computer graphics. 7
(b) Compare CORE and GKS graphic standards. 7
7. Describe giving suitable examples **any four** of the following surface modelling commands of standard CAD packages : 14
(a) 3D face
(b) P face
(c) Rulesurf
(d) Tabsurf
(e) Revsurf and
(f) Edgesurf
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