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BIMEE-009

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B.Tech. MECHANICAL ENGINEERING (BTMEVI)

Term-End Examination

December, 2012

BIMEE-009 : COMPUTER AIDED MANUFACTURING

Time : 3 hours *Maximum Marks : 70*

Note : *Answer **any five** questions.*

1. (a) What do you mean by CAM ? Explain briefly the role of CAM in modern manufacturing environment. Why Industries are shifting to CAM ? 7

   (b) What are the advantages and disadvantages of automation ? 7

2. (a) Explain the operation of NC - Machine tool system with neat sketch. 7

   (b) "Numerical control increases Existing Machine tool capacity". Discuss. 7

3. (a) Define NC-part programming why the computer - aided programmes are prefered for NC - Machine tools. 7

(b) Write the NC Part programme in G and M codes for the turning operation given in Figure - 1 7

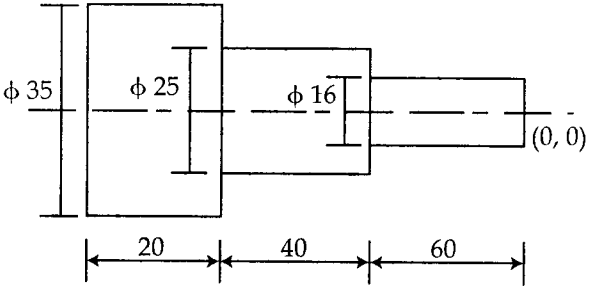

Fig. 1

(All Dimensions are in MM)

4. (a) Why the electronic computers required in numerical contour control ? What is the purpose of feed back ? Explain. 7

(b) Differentiate the open loop control system and closed loop control system with suitable examples. 7

5. (a) Explain the principle and operation of Differential Integrator with suitable diagram. 7

(b) Discuss the importance of control loop in contouring systems with suitable examples. 7

6. (a) Explain the concept of FMs with suitable examples. Justify the need of FMs for the Manufacturing Industries. 7

(b) Explain the application of Group Technology Coding System in Manufacturing Industries. 7

7. (a) Explain the computer Integrated process planing system with neat diagram. 7

(b) Explain the configurations of commercially available Industrial robot with neat sketch. 7

8. Write short notes on the following : 3.5x4=14

(a) Computer Aided Inspection

(b) Application of NC system

(c) Adaptive control system

(d) DDA Hardware Interpolator