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BIMEE-009

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

Term-End Examination

December, 2017

00052

BIMEE-009 : COMPUTER AIDED MANUFACTURING

Time : 3 hours *Maximum Marks : 70*

Note : *Answer any **five** questions. All questions carry equal marks. Standard symbols have usual meaning.*

1. (a) Explain the advantages of using a pallet shuttle in an NC machining centre.

(b) What are the various stages involved in NC manufacturing ? How do they differ from traditional manufacturing ? 7+7

2. (a) Define Computer Aided Manufacturing (CAM). Discuss the role of CAM in modern manufacturing environment.

(b) Explain the advantages and limitations of Automation. 7+7

3. (a) Explain the principle and operation of a differential integrator with a neat diagram.

(b) Write the importance of control loop in contouring systems. 7+7

4. (a) With the help of a neat diagram, describe the computer integrated process planning system.

(b) With the help of a neat sketch, explain the configuration of a commercially available industrial robot. 7+7

5. (a) What is Group Technology (GT) concept in manufacturing ? Discuss the stages of planning in GT.

(b) Discuss the Computer Integrated Manufacturing (CIM) concept and its relevance in today's industrial competitiveness. 7+7

6. (a) How does MCU handle the data read from the tape ? Explain the functioning of DPU and CLU.

(b) What are the most commonly used NC part programming languages ? Explain the APT languages with suitable examples. 7+7

7. Write short notes on the following : $4 \times 3\frac{1}{2} = 14$

(a) Computer Aided Inspection

(b) ASRS

(c) Mechatronics System

(d) Artificial Intelligence