Hall Ticket No | | | | | | | | | | | Question Paper Code: BCC005

INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

M.Tech II Semester End Examinations (Regular/ Supplementary) - July, 2018

Regulation: IARE–R16

COMPUTER AIDED MANUFACTURING

(CAD/CAM)

Time: 3 Hours   **Max Marks: 70**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the question must be answered in one place only

UNIT – I

1. (a) Write complete Automatically Programmed Tool (APT) program to machine the profile of the part drawing shown in figure 1. Assume suitable machining data and cutting tool. **[7M]**
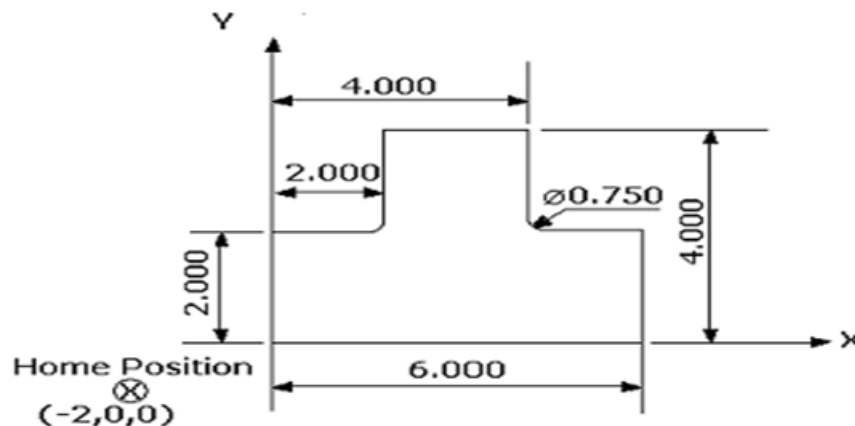

Figure 1

   (b) Discuss about part surface, check surface and drive surface in Automatically Programmed Tool (APT) language. **[7M]**

2. (a) Explain about Numerical Control (NC) part programming on CAD/CAM system. **[7M]**

   (b) Explain about design and implementation of postprocessors in detail. **[7M]**

UNIT – II

3. (a) Explain about preset and qualified tools. **[7M]**

   (b) Discuss in detail about quick change tooling system.

   [7M]

4. (a) Discuss in detail about applications of modular fixturing in Computer Aided Manufacturing Systems. **[7M]**

   (b) Explain about application of adaptive control with constraints. **[7M]**

UNIT – III

5. (a) Explain about necessity of post processor. **[7M]**

   (b) Describe about general structure of a post processor.

   [7M]

6. (a) Describe about function of a post processors. **[7M]**

   (b) Explain about major variables in DAPP based post processor. **[7M]**

UNIT – IV

7. (a) Explain in detail about factors to be considered in the selection of microcontroller. **[7M]**

   (b) Write a note on the following **[7M]**
      i. Counters
      ii. Serial data I/O interrupts

8. (a) Explain about hardware components of Programming Logic Controllers (PLC). **[7M]**

   (b) Describe about principle of operation of PLC. **[7M]**

UNIT – V

9. (a) Describe in detail about working principle of machine vision. **[7M]**

   (b) Explain about hybrid computer aided process planning system. **[7M]**

10. (a) Explain about any two types of non-optical inspection methods in Computer Aided Quality Control (CAQC) systems. **[7M]**

    (b) Discuss about various applications of artificial neural networks. **[7M]**

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