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

INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

M.Tech II Semester End Examinations (Supplementary) - January, 2019

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) Explain in detail the macro statement in APT with an example. **[7M]**
   (b) Discuss the advantages of CAD/CAM in NC programming. **[7M]**
2. (a) Explain the four types of APT statements with examples. **[7M]**
   (b) Brief out the initial steps of NC programming with Interactive graphics and explain tool path generation. **[7M]**

UNIT – II

3. (a) Discuss the functions of CNC machines with the help of block diagram. **[7M]**
   (b) Explain the two different types of DNC with the block diagram. **[7M]**
4. (a) Explain the operation of an adaptive control with constraints (ACC system) with a neat diagram. **[7M]**
   (b) Explain the adaptive control of machining process for grinding. **[7M]**

UNIT – III

5. (a) Explain the general structure of post processor with a neat sketch. **[7M]**
   (b) Discuss the necessity of a post processor and write the advantages and disadvantages of post processor. **[7M]**
6. (a) What is DAPP? Explain the major variables in DAPP based post processor. **[7M]**
   (b) Explain the various communication channels and major variables in DAPP based post processor in detail. **[7M]**

UNIT – IV

7. (a) Explain about the Microcontrollers and its hardware components. **[7M]**
   (b) Explain applications of Programmable logical controller in Computer numerical control machines. **[7M]**

8. (a) Explain the structure and selection of microcontrollers. **[7M]**

   (b) Discuss in detail the basic structure and principle of operations in Programmable logical controller. **[7M]**

UNIT – V

9. (a) Discuss the benefits and limitations of CAPP system. **[7M]**

   (b) Explain Coordinate measuring machine in detail. Discuss the limitations of CMM. **[7M]**

10. (a) Explain briefly the expert systems and its structures. **[7M]**

    (b) Explain any two optical inspection methods in detail. **[7M]**

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