

B. Tech Degree VI Semester (Supplementary) Examination, September 2008

ME 603 CAD/CAM I (1999 Scheme)

Time : 3 Hours

Maximum Marks : 100

- I. Define and explain the following terms and differentiate between them.
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|---------------|----------|------|
| (i) CAD | (ii) CAM | |
| (iii) CAD/CAM | (iv) ICG | (20) |
- OR**
- II. With the help of suitable block diagrams differentiate between the 'general design process' and 'computer aided design process'. (20)
- III. (a) Define and explain the term 'Automation' and state any five reasons for Automation. (10)
 (b) Write short notes on the following (10)
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|-----------------------|--------------------------|------|
| (i) Assembly machines | (ii) Flow line balancing | (10) |
|-----------------------|--------------------------|------|
- OR**
- IV. (a) What is meant by FMS? What are the different modules needed to implement FMS? Explain. (10)
 (b) Explain clearly the terms 'Artificial Intelligence' and 'Expert System'. With a suitable illustration, show any one application of AI and Expert System in manufacturing automation. (10)
- V. Briefly explain the classification of CNC Systems with two examples for each type. (20)
- OR**
- VI. Briefly explain the different feed back devices used in CNC machine tools with neat sketches. (20)
- VII. Develop a CNC part program for plain turning and facing operations as per the following data. (20)
- Material : Aluminium Rod
 Size : Dia – 20 mm, Length – 30mm
 Speed : 800 RPM; Feed : 200 mm/min
 Depth of cut : 2mm
 (Assume all other data and indicate all assumed data)
- OR**
- VIII. Develop an APT part program for the part shown below using both mill and drill. The plate thickness is 15mm. (20)
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- (Assume all other data and indicate the same. Draw the work piece tool set-up also) (20)
- IX. Briefly explain the major design considerations in the manufacture of CNC Machines. (20)
- OR**
- X. Write short notes on the following: (20)
- | | | |
|--|--|------|
| (i) Cutting tool materials used in CNC Machines. | | |
| (ii) Preset Tools | | |
| (iii) Automatic Tool Changer | | |
| (iv) Automatic Pallet Changer | | (20) |

