R09

Code No: C8006

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M.Tech I Semester Examinations April/May-2012
ADVANCED CNC TECHNOLOGY
(MECHATRONICS)

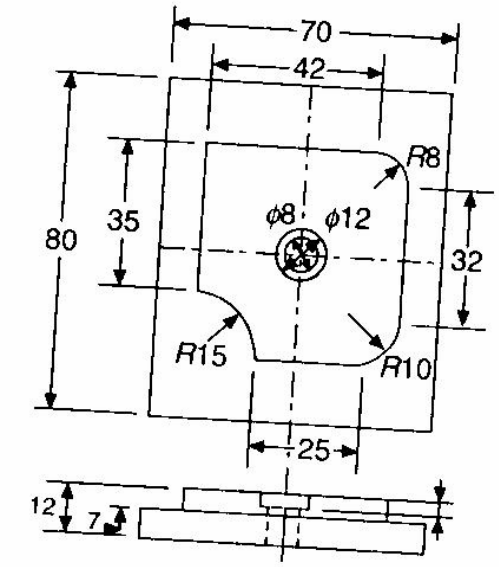
Time: 3hours **Max.Marks:60**

Answer any five questions
All questions carry equal marks
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1.a) Discuss the basic components of an NC system.
b) What are the different types of NC systems? Explain them with schematicall diagram.

2.a) What are the requirements of structure in the case of CNC machine tools?
b) Briefly describe about the type of electric drives used in CNC machine tools.

3. Write an ATP program for the profile shown in the figure with the cutter 12 mm dia, cutting speed 600 rpm and feed rate of 10 mm/min.



4.a) What are the various operations that can be completed in a CNC turning centre?
b) Explain the need for canned cycles in turning centres.

5.a) What are the different types of DNC? Explain them with schematicall diagrams.
b) What are the types of communication interfaces used in the DNC systems?

6.a) What are the various types of adaptive control systems? Explain.
b) What is adaptive control optimization? How it is used in CNC machines?

7.a) Discuss the advantages and limitations of rapid prototyping process.
b) Explain the Fused deposition modeling technique used for rapid prototyping.

8.a) Why postprocessor is required for CNC controllers?
b) Explain about DAPP-based-Post Processor.

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