Printed Pages: 3 NME-031/NPL-031

(Following Paper ID and Roll No. to be filled in your Answer Books)

Paper ID : 2012230 Roll No. | | | | | | | | | | |

B.TECH.

Regular Theory Examination (Odd Sem - VII), 2016-17

COMPUTER AIDED MANUFACTURING

Time : 3 Hours *Max. Marks : 100*

SECTION - A

1. Attempt all parts. All parts carry equal marks. Write answer of each part in short. (10×2=20)

a) State the reasons to justify the need for automation in manufacturing a product.
b) What are the advantages of automation?
c) List some of the application Numerical Control.
d) What are the methods used for improving accuracy of NC System?
e) Name the two types of controller used in the CNC Machine tool.
f) How feedback devices are classified in CNC System?
g) Distinguish between G and M function.
h) What are Geometry statements in APT?
i) List the benefits of Computer Aided Process Planning.
j) Define a robot.

SECTION - B

Attempt any 5 questions from this section (5×10=50)

2. Identify the various levels of automation in a production plant and explain their hierarchy with a flow chart.

3. Briefly explain automated manufacturing system.

4. Identify and briefly describe the three basic components of a numerical control (NC) system.

5. Write short note on NC coordinate system.

6. What is control system in CNC system and explain its functions?

7. Explain the features and elements of CNC machines.

8. Explain the procedure for developing manual part program with example.

9. Explain generative computer aided process planning in detail.

SECTION - C

Attempt any 2 questions from this section(2×15=30)

10. a) Explain the various features of modern CNC systems.

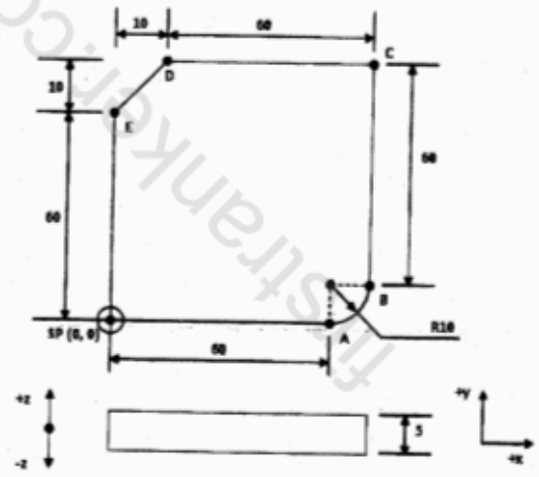
    b) Explain the advantages of incremental programming over absolute system.

11. a) Classify automated systems used in manufacturing and write short notes on it.

    b) Discuss how group technology is used in designing manufacturing cells.

12. Write a part program for the following part with plate thickness of 5 mm.

    Take spindle speed = 1500 rpm; feed rate = 100 mm/min.



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