

C 6148

(Pages : 2)

Name.....

Reg. No.....

**SIXTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION
JUNE 2010**

ME 04 603—COMPUTER INTEGRATED MANUFACTURING (CIM)

(2004 Admissions)

Time : Three Hours

Maximum : 100 Marks

Answer all questions.

Part A

- I. (a) Explain the different classification of NC system.
(b) Explain the difference between NC and CNC.
(c) Explain fixed block word address and variable block formats.
(d) Describe point to point programming.
(e) What are the roles of a PLC in a CNC machine ?
(f) Explain part families part classifications and coding.
(g) Explain the principal components of FMS.
(h) Explain on line and off line programming.

(8 × 5 = 40 marks)

Part B

- II. (a) (i) Describe features of Incremental and Absolute systems with *one* example.
(ii) Explain design consideration of NC Machine Tools.
Or
(b) (i) Explain the different methods of improving machine accuracy and productivity.
(ii) Explain the design considerations of NC machine tools.

- III. (a) Distinguish NC part programming and manual programming with *one* example.

Or

- (b) What is APT ? Explain.

- IV. (a) Explain the following :—

- (i) Automatic data capture, (ii) Barcode technology, (iii) Magnetic strip, (iv) Optical character recognition.

Or

- (b) (i) What is ASRS ? Explain the principle and operation of an ASRS.
(ii) Explain automated storage system with simple sketch.

Turn over

V. (a) What are the various types of FMS layouts ? Explain them schematically.

Or

(b) (i) What are the various types of joints used for the construction of a robot manipulator ?

(ii) What are the industrial applications of robots ?

(4 × 15 = 60 marks)

Maximum : 100 Marks

Time : Three Hours

Answer all questions.

Part A

- I. (a) Explain the different classification of NC system.
 - (b) Explain the difference between NC and CNC.
 - (c) Explain fixed block word address and variable block formats.
 - (d) Describe point to point programming.
 - (e) What are the roles of a PLC in a CNC machine ?
 - (f) Explain part families part classifications and coding.
 - (g) Explain the principal components of FMS.
 - (h) Explain on line and off line programming.
- (8 × 5 = 40 marks)

Part B

- II. (a) Describe features of Incremental and Absolute systems with one example.
 - (ii) Explain design consideration of NC Machine Tools.
- Or
- (b) (i) Explain the different methods of improving machine accuracy and productivity.
 - (ii) Explain the design considerations of NC machine tools.
- III. (a) Distinguish NC part programming and manual programming with one example.
- Or
- (b) What is APT ? Explain.
- IV. (a) Explain the following :—
(i) Automatic data capture, (ii) Barcode technology, (iii) Magnetic strip, (iv) Optical character recognition.
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- (b) (i) What is ASRS ? Explain the principle and operation of an ASRS.
 - (ii) Explain automated storage system with simple sketch.

Turn over