C 41282 (Pages 2) Name.....

Reg. No.....

SIXTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION, MAY 2013

ME/PTME/AM 09 605—COMPUTER INTEGRATED MANUFACTURING

(2009 Admission onwards)

Time : Three Hours Maximum : 70 Marks

Part A

Answer **all** *questions.*

1. What are the basic elements of NC ?
2. What is the need for DNC ?
3. What is the need for CAD based process plans ?
4. What is the working principle of computer vision systems ?
5. What are the benefits of FMS ?

(5 × 2 = 10 marks)

Part B

Answer any **four** *questions.*

6. Explain the principle of concurrent engineering.
7. Explain the different segments of generic CIM.
8. Explain generative process planning methods.
9. What are the salient features of CNC machining centres ?
10. Explain the objectives of CAQC.
11. Explain MAP/TOP.

(4 × 5 = 20 marks)

Part C

Answer **all** *questions.*

12. (a) (i) Explain open loop and closed loop system with one example. (6 marks)

(ii) Explain the design considerations of NC machine tools. (4 marks)

Or

(b) (i) Explain point to point and contouring system with one example. (5 marks)

(ii) Explain the different features of NC machine tools. (5 marks)

Turn over

13. (a) Describe features of Incremental and absolute systems with one example. (10 marks)

Or

(b) Explain the different methods to improving machine accuracy and productivity. (10 marks)

14. (a) Explain the following :—

(i) Material handling in CIM ;

(ii) AVG and

(iii) Vehicle guidance.

(10 marks)

Or

(b) Explain the following :—

(i) Automatic data capture ; (ii) Barcode technology ;

(iii) Magnetic strip ; (iv) Optical character recognition.

(10 marks)

15. (a) (i) Explain the principal components of FMS. (6 marks)

(ii) Explain the various types of material handling systems. (4 marks)

Or

(b) Explain the different types of robots used in Automobile industry and explain their performance capabilities.

(10 marks)

[4 × 10 = 40 marks]