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C09–M–**604**

3782

BOARD DIPLOMA EXAMINATION, (C–09)

OCT/NOV—2016

DME—SIXTH SEMESTER EXAMINATION

CAD/CAM

Time : 3 hours] [*Total Marks* : 80

PART—A 3×10=30

Instructions : (1) Answer **all** questions.

(2) Each question carries **three** marks.

(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. Write three benefits of CAD.

2. Write the types of output devices.

3. Write the types of display devices.

4. Distinguish between CNC and DNC system.

5. What is a machining centre?

6. What is a spindle drive? Write the types of spindle drives.

7. Write the M-codes for the followings :

(a) Program stop

(b) Spindle start (clockwise)

(c) Spindle stop

8. Define interpolation. Write the types of interpolation.

9. Write the advantages of CNC CMM.

10. Write the advantages of CIMS.

PART—B

10×5=50

Instructions : (1) Answer *any* **five** questions.

(2) Each question carries **ten** marks.

(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. *(a)* What is AUTOCAD? What is its importance as a CAD software? 5

(b) Explain the salient features of AUTOCAD. 5

12. Explain various phases in computer aided design process by using line diagram.

13. *(a)* Explain the working principle of CNC machine with a block diagram. 5

(b) Explain briefly about CNC turning centre with a neat sketch. 5

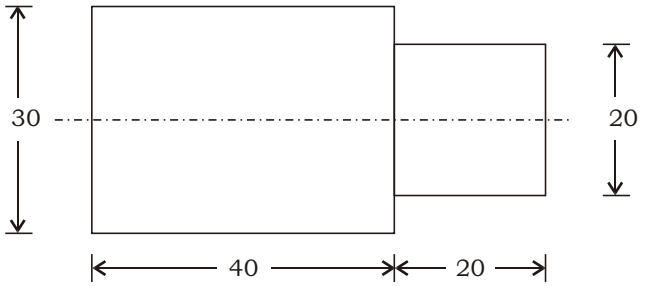
14. *(a)* Describe with a neat sketch the working of recirculating ball screw. 5

(b) Write the advantages of using recirculating ball screws in CNC machines. 5

15. *(a)* Write the differences between manual part programming and computer aided part programming. 5

(b) Write the procedure involved in computer aided part programming. 5

16. Write the part program for the component as shown in the figure below :



Dimensions are in mm
Parameters are cutting speed = 600 r.p.m.
Feed = 150 mm/min
Depth of cut = 2 mm.

17. Draw the FMS layout and explain function of each component.

18. *(a)* Write the various types of end effectors and explain them briefly. 5

(b) Write the industrial applications of robot. 5

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