4760

BOARD DIPLOMA EXAMINATION, (C–14)

JUNE—2019

DME—SIXTH SEMESTER EXAMINATION

COMPUTER AIDED MANUFACTURING

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 any three functions of CAM.

2. What is an integrated CAD/CAM system?

3. State any three advantages of NC system.

4. List out different steps in manufacturing on NC system.

5. Draw the block diagram of CNC system showing its components.

6. What are the G-codes for the following:

    (i) Rapid Traverse, *(ii)* Linear Interpolation, *(iii)* Circular Interpolation (clock wise)

7. What is a canned cycle? What is the use of it in CNC part programming?

8. Define CIMS.

9. Define scanning and digitizing?

10. Define the term degrees of freedom with respect to a ROBOT.

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PART—B 10×5=50

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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. Write the features and advantages of computer integrated production system.

12. Explain MRP-II using suitable block diagram and write its uses.

13. Define numerical control. List basic components of NC system and explain each one of them.

14. *(a)* What are slideways? Explain any two types of slideways with neat sketches.

(b) Write any five advantages of recirculatory ball screws.

15. Write short notes on the following :

(a) Mirror Image   *(b)* Thread cutting cycle   *(c)* Tool Magazine

(d) Interpolation

16. Write a part progam for the component shown in fig. The machining parameters are given as:

Cutting speed=600 rpm,   Feed =150 mm/min   Depth of cut should exceed 2 m
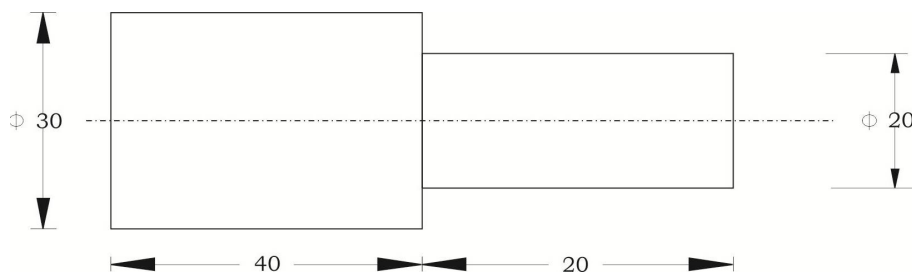
17. *(a)* Explain the necessity of computer integrated manufacturing system.

(b) Explain the necessity of Flexible manufacturing system(FMS).

18. Draw the line diagram of Robot. List the components of Robot and explain the function of each components.

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