BME-057

DIPLOMA IN MECHANICAL ENGINEERING (DME)
Term-End Examination
June, 2018

00303

BME-057 : CNC MACHINES

Time : 2 hours   *Maximum Marks : 70*

Note : *Answer any **seven** questions.*

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1. (a) Write about Direct Numerical Control (DNC) machines and their advantages.   *5*

    (b) Explain the concept of CNC machines with neat sketch.   *5*

2. (a) Briefly write about the fundamental elements for developing manual part programme.   *5*

    (b) With the help of example, explain how do you identify 3-axes of NC machines.   *5*

3. (a) Discuss briefly the types of Part programming.   *5*

    (b) List down the advantages and disadvantages of CNC machines.   *5*

4. (a) Write any six codes used in programming CNC machines. Also write their functions.   *5*

    (b) Explain Do-loops with example.   *5*

5. (a) Discuss different programming formats. 5

(b) Explain the machine tool zero point setting with suitable example. 5

6. (a) Explain the following : 5

(i) Feed function

(ii) Sub routine

(b) Discuss the classification of cutting tools used in NC machines. 5

7. (a) How do you classify the NC system based on control system features ? Explain. 5

(b) Briefly explain : 5

(i) Absolute Co-ordinate system

(ii) Incremental Co-ordinate system

8. (a) Explain Automatic Tool Changer and discuss its advantages. 5

(b) Describe in brief the spindle function and feed function used in CNC part programming. 5

9. (a) What are the different work-holding devices in CNC machines ? 5

(b) What are the different feedback devices that are used in NC machines ? Explain briefly. 5

10. Write short notes on any *two* of the following :   5+5

(a)   Tape Format

(b)   Rapid Positioning

(c)   Programmable Logic Controller

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