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BME-057

DIPLOMA IN MECHANICAL ENGINEERING (DME)

Term-End Examination

00762

December, 2017

BME-057 : CNC MACHINES

Time : 2 hours *Maximum Marks : 70*

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

1. (a) What do you understand by an NC system ? List the different types of NC systems. *5*

(b) Describe the NC-coordinate system for milling and drilling with a neat sketch. *5*

2. (a) Explain the Driving system of an NC machine. *5*

(b) What is an Encoder ? Describe Rotary Encoder with a neat sketch. *5*

3. (a) Explain the design features of CNC tooling. *5*

(b) What are the different types of Interpolation ? Explain any one type of Interpolation. *5*

4. (a) With the help of a neat sketch, describe the the working of CNC machines. *5*

(b) What are Qualified Tools ? Discuss the requirements of qualified tools. *5*

5. (a) Explain the following with diagrams : 5

(i) Point-to-point motion control system

(ii) Straight line control system

(b) Write about the symbols used in NC machines. 5

6. (a) Discuss the problems associated with conventional machining systems. 5

(b) Explain the principles of NC machines. 5

7. (a) With the help of examples, explain work setting and offset. 5

(b) Discuss how cutting tools used in CNC machines are classified. 5

8. (a) Discuss the features of work-holding devices for CNC machines. 5

(b) Briefly explain the following : 5

(i) Fixed cycle/Canned cycle

(ii) Deep drilling

9. (a) With the help of a diagram, describe tool-offset determination in CNC machines. 5

(b) Explain semi-qualified tooling for CNC machines. 5

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

(a) Absolute and Incremental Positioning

(b) Driving System

(c) Feedback Control System