

01235

**DIPLOMA IN MECHANICAL ENGINEERING
(DME)**

Term-End Examination

June, 2012

BME-057 : CNC MACHINES

Time : 2 hours

Maximum Marks : 70

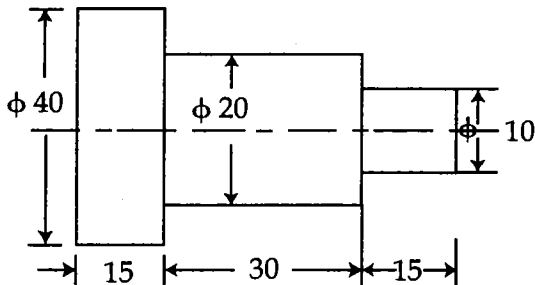
Note : *Answer any five questions only.*

1. (a) Explain the importance of NC Machines in present Manufacturing environment. **7+7**
(b) Explain various components of NC Machine.

2. (a) Discuss classification of NC Machines. **7+7**
(b) Explain open loop and closed loop control system for NC machines.

3. (a) What are the advantages and disadvantages of CNC machine ? **7+7**
(b) Explain the parts suitable for machining on CNC Machines. How CNC differ from NC machines ?

4. (a) Write manual part program for machining following component on CNC lathe. 7+7



(All dimensions in mm)

Bar stock diameter is 42 mm.

- (b) Describe the functions of 'G' codes and 'M' codes.
5. (a) Explain the various programming formats used for a part program. Briefly discuss the tool offset in part programming. 7+7
- (b) How do you control the environmental factors for the CNC machines ?
6. (a) Explain the design features of CNC Tooling and Automatic Tool Changer (ATC). 7+7
- (b) Explain work holding devices used for CNC machines.
7. Write short notes on *any two* : 7+7
- (a) Types of Interpolation
 - (b) Feed Back Devices
 - (c) DNC machine
 - (d) Preset tools