

**DIPLOMA IN MECHANICAL ENGINEERING  
(DME)**

**Term-End Examination**

**December, 2012**

**BME-057 : CNC MACHINES**

*Time : 2 hours*

*Maximum Marks : 70*

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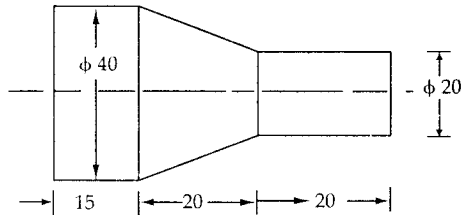
*Note : Answer any five questions only.*

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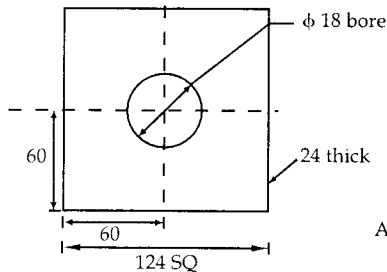
1. (a) What are the basic components of NC system ? Explain. 7+7  
(b) Explain the advantages of NC machines.
  
2. (a) Explain the working of Encoders and linear scales used in CNC machines for feed-back. 7+7  
(b) Explain Point-to-Point (P-type), straight line (L-type) and contouring (C-type) motion control system in NC machines.
  
3. (a) Explain environmental control for CNC machines. 7+7  
(b) Explain various components of CNC machines.

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



All dimension  
in mm  
Bar stock dia  
= 42 mm

- (b) Discuss the types of part programming methods.
5. (a) Discuss the classification of cutting tools 7+7  
used in NC machines.
- (b) Discuss cutting tool material used in NC machines.
6. (a) Write a part programme for the given 7+7  
operations :



All Dim. in 'mm'

- (b) Explain about the machine tool zero point setting with suitable examples.

7. Write short notes on *any two* :

7+7

- (a) Absolute and Incremental positioning
  - (b) Driving system
  - (c) Feed back control system
  - (d) Functions of 'G' codes and 'M' codes.
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