

00692

**DIPLOMA IN MECHANICAL ENGINEERING
(DME)**

Term-End Examination

December, 2011

BME-057 : CNC MACHINES

Time : 2 hours

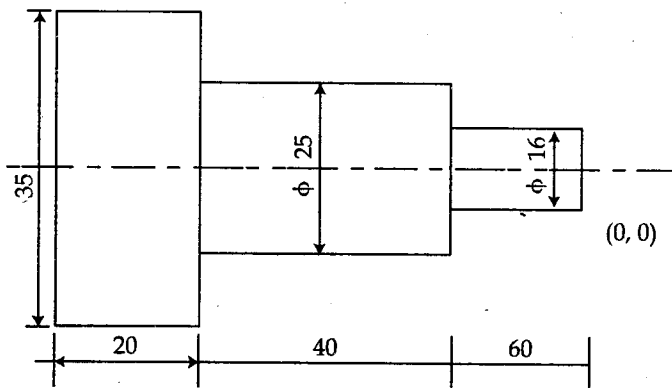
Maximum Marks : 70

Note : Answer *any seven* questions.

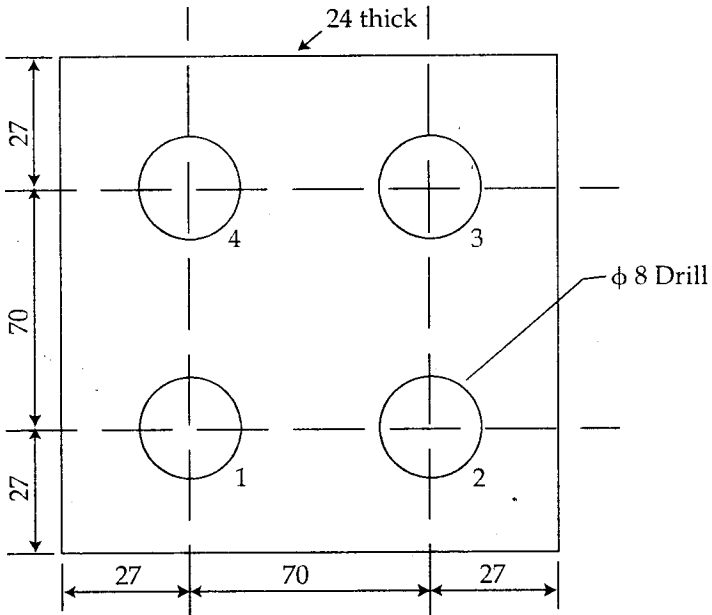
1. (a) What are the types of the NC system ? 5
Explain any one type with neat sketch.
- (b) Describe about the NC co-ordinate system 5
for milling and drilling operations with neat sketch.
2. (a) What are the problems with conventional 5
NC system ?
- (b) Describe about the principle of NC 5
machines.

3. (a) What are the various types of driving system applied in NC machine tools ? Explain any one with neat sketch. 5
- (b) How do you classify the NC system based on control system with neat sketch ? 5
4. (a) What are the various types of NC Co-ordinate system ? Explain each with suitable illustrations. 5
- (b) List out the advantages and disadvantages of CNC machines. 5
5. (a) Explain the operation of Direct Numerical Control (DNC) machine with neat sketch. 5
- (b) What are the fundamental elements required for developing manual part programming ? 5
6. (a) Describe about the Tape programming format in CNC machines with suitable examples. 5
- (b) Explain about "preset tools" with neat sketch. 5

7. (a) Describe about the Rapid positioning with suitable sketch. 5
- (b) What are the parameters required for circular interpolation ? Explain with suitable examples. 5
8. (a) What are the Design features for CNC machine tools ? 5
- (b) Write a part programming for the given turning operation by using G-codes and M-codes. All dimensions are in mm. 5



9. (a) What are the requirement of work holding devices for CNC machines ? 5
- (b) Write a part programming for the given operations by using G - codes and M-codes. 5



all dimensions are in MM

10. Write short notes *any two* of the following : 5+5
- (a) Zero Point Setting
- (b) Automatic Tool Changer
- (c) Cutting Tools for CNC machines.