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BME - 057

DIPLOMA IN MECHANICAL ENGINEERING (DME)

01434

Term-End Examination

June, 2011

BME-057 : CNC MACHINES

Time : 2 hours *Maximum Marks : 70*

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

1. (a) Define numerical control and explain the Numerical Control (NC) Machine tool with suitable sketch. 5

   (b) What are the advantages and disadvantages of NC Machines ? 5

2. (a) What are the basic components of NC machines ? Explain about the machine control unit. 5

   (b) Describe about the NC coordinate system for the turning operations with neat sketch. 5

3. (a) How do you classify the NC system based on feed back control ? Explain with suitable diagram. 5

(b) What are the various types of feed back devices ? Explain any one with neat sketch. 5

4. (a) How do you identify the axis of NC machines tools ? Explain with neat sketch. 5

(b) Explain the operation of Computer Numerical Control (CNC) machines with neat sketch. 5

5. (a) How do you control the environmental factors for the CNC Machines ? 5

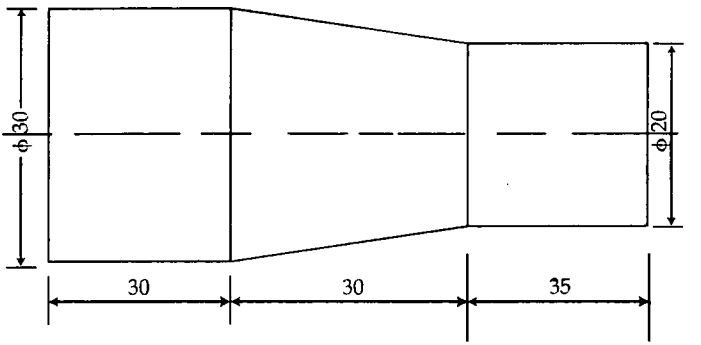
(b) Explain about the computer aided part programming with neat sketch. 5

6. (a) Describe the functions of 'G' codes and 'M' codes. 5

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

7. (a) What are the types of interpolation ? Explain with suitable illustrations. 5

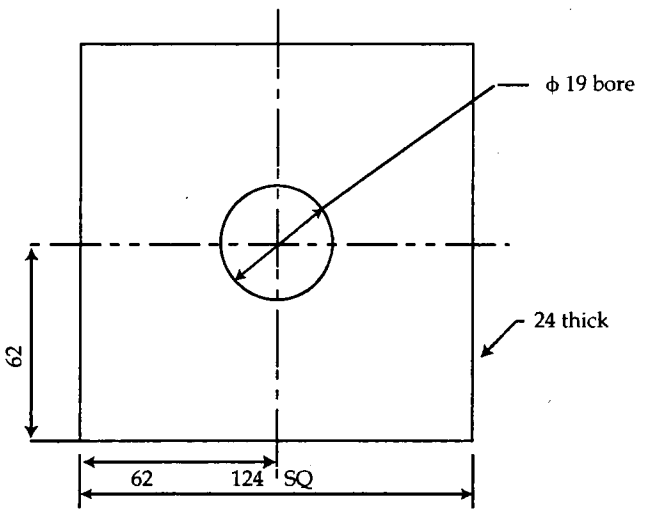
(b) Write a part programme for the given taper turning operation by using 'G' - code and 'M' - code. 5



All Dimensions are in mm.

8. (a) Describe about the block as information for CNC Machines. 5

(b) Write a part programme for the given operations. 5



All dimensions are in mm.

9. (a) Explain the procedure of work setting and offsets of the CNC Machines. 5

(b) Explain about work holding devices for CNC Machines. 5

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

(a) Preset tools.

(b) Driving system.

(c) DNC system.