

Q.32 Define the automation and its three types.

Q.33 What is potentiometer?

Q.34 Explain any one type of AGV.

Q.35 Explain hydrostatic slide ways.

### SECTION-D

**Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

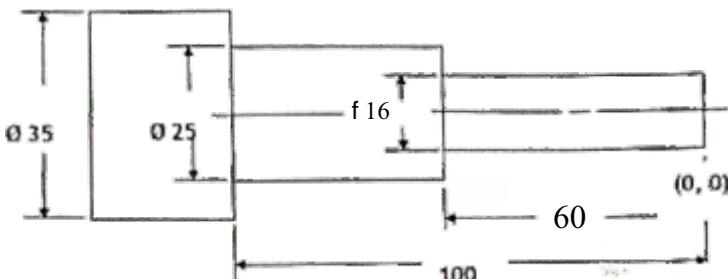
Q.36 Explain DNC machine. Write its advantages, disadvantages & applications

Q.37 Write short note on:

- a) Encoders
- b) LVDT.

Q.38 Write a manual part program for simple turning operation for a given component (using G01 command).

01 ( All dimensions are in mm)



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MSIL121755/031755

### 4th Sem / Mech. Engg.(MSIL) Subject:- CNC Machines and Automation

Time : 3Hrs.

M.M. : 100

### SECTION-A

**Note:** Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 LVDT has got \_\_\_\_\_ number of windings.

- a) 04
- b) 02
- c) 03
- d) 08

Q.2 Full form of MCU is.

- a) Machine computer unit
- b) Machine control unit
- c) Machine control universal
- d) Machine computer universal

Q.3 Point to point systems are used for.

- a) Drilling
- b) Parting
- c) Grooving
- d) Facing

Q.4 Which of the following code is used in programming in incremental coordinates?

- a) G92
- b) G90
- c) G91
- d) G94

Q.5 The punch tape reader in a CNC machine is.

- a) Feedback system
- b) Input device
- c) Program
- d) Driving system

Q.6 Which of the following code will give circular interpolation anti-clockwise?

- a) G00
- b) G01
- c) G03
- d) G903

Q.7 In how many ways CNC machine tool systems can be classified?

- a) 3
- b) 5
- c) 4
- d) 2

Q.8 Part programming mistakes can be avoided in.

- a) CNC machine tool
- b) NC machine tool
- c) Both (A) and (B)
- d) None of these

Q.9 Closed loop control system is also known as \_\_\_\_\_ Control system.

- a) Feedback
- b) Non-Feedback
- c) Hydraulic
- d) Pneumatic

Q.10 M05 code used for.

- a) Program end
- b) Program optional stop
- c) Spindle stop
- d) Coolants on

### SECTION-B

**Note:** Objective type questions. All questions are compulsory. (10x1=10)

Q.11 Expand CIM.

Q.12 Expand ATC.

Q.13 Write the benefits of group technology.

Q.14 G codes are also known as \_\_\_\_\_.

Q.15 Expand PLC.

Q.16 Name any two types of NC program readers.

Q.17 Define Sensor.

Q.18 Zero point in absolute system can be outside the work piece. (True/False)

Q.19 Define work zero.

Q.20 The function of the feedback system is to record the data from the sensor and compare it with output data. (True/False)

### SECTION-C

**Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Define Laws of Robotics.

Q.22 Explain the following terms:

- a) Subroutines
- b) Do loops

Q.23 Differentiate between open-Loop & Closet loop control system.

Q.24 Write a short note on servomotor.

Q.25 Write a note on canned cycles.

Q.26 Write a short note on swarf removal.

Q.27 Explain term FMS.

Q.28 Write short note on "ON-Line" fault finding diagnosis.

Q.29 Name different types of axis drives.

Q.30 Enlist different types of actuators.

Q.31 Name any five G codes.