Q.28 Write short note on Opto interrupter.

Q.29 Write short note on manual part programming.

Q.30 Write any five G-codes.

Q.31 Explained the canned cycle.

Q.32 Explain disadvantages of automation.

Q.33 Enlist various types of slide ways.

Q.34 What are the requirements of CNC tooling? Explain briefly.

Q.35 Explain machine control unit.

SECTION-D

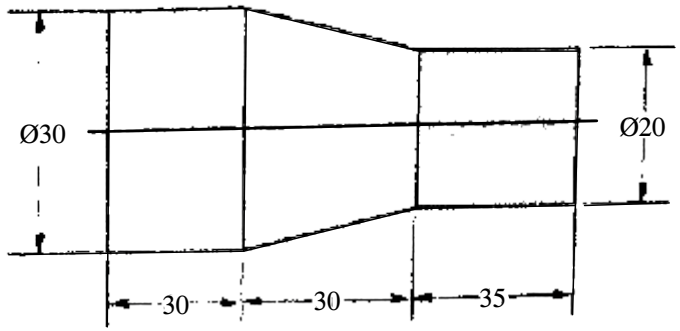
Note: Long answer type questions. Attempt any two out of three questions. (2x10=20)

Q.36 Explain CNC. What are its various advantages, disadvantages and applications.

Q.37 Describe LVDT. Explain the construction, working and advantages of it.

Q.38 Write a manual program for tapper turning operations with G90 cycle for a given component

02 (All dimensions are in mm).



Roll No. .....

4th Sem. / Mech. Engg. (MSIL)

Subject : CNC Machines and Automation

Time : 3 Hrs. M.M. : 100

SECTION-A

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

Q.1 Several machine tools can be controlled by a central computer in

a) NC b) CNC

c) DNC d) None of these

Q.2 The following type of robot is most suitable for picks and place operation

a) Rectangular b) Cylindrical

c) Spherical d) Jointed arm type

Q.3 Full form of MCU is :

a) Machine computer unit

b) Machine control unit

c) Machine control universal

d) Machine computer universal

Q.4 The other name for G-codes is _____

a) Spindle speed codes

b) Preparatory codes

c) Governing codes

d) Miscellaneous codes

Q.5 The axis perpendicular to work holding surface of a CNC machine is

a) X b) Y

c) Z d) W

Q.6 A robot's arm is also known as its

a) Actuator b) End effector

c) Manipulator d) Servomotor

Q.7 M-codes are also known as

a) Modal codes

b) Spindle speed codes

c) Machine codes

d) Miscellaneous codes

Q.8 _____of motion is always the axis of the main spindle of the machine.

a) Z axis b) Y axis

c) X axis d) None of these

Q.9 CNC machining centres do not include operations like_____.

a) Welding b) Tapping

c) Milling d) Boring

Q.10 The CNC control system which has no feedback are also called as

a) Uncontrolled system

(b) Controlled system

(c) Closed system

(d) Open system

SECTION-B

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

Q.11 ATC stand for_____.

Q.12 What is tachometer?

Q.13 Name the various types of encoder.

Q.14 Describe the sensor.

Q.15 Expand DNC.

Q.16 Give binary equivalent of 27.

Q.17 What is use of tool holder?

Q.18 Most modern CNC controls have _____ interpolation.

Q.19 The input command, in servo motor is in the form of _____.

Q.20 Name the different cutting tool materials.

SECTION-C

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

Q.21 Define FMS and its benefits.

Q.22 Write a short note on stepper motor and servo motor

Q.23 Discuss the types of CNC.

Q.24 Discuss the function of buffer in MCU.

Q.25 Describe open loop and closed loop system used in NC machines.

Q.26 Explain different tool material properties.

Q.27 What ate special functions in CNC?