Q.25 List the main requirements of slideways in a CNC system. (CO2)

Q.26 Explain in brief Basic Components of CNC Machines. (CO1)

Q.27 Differentiate between CNC Machines and Conventional Machines. (CO1)

Q.28 Describe various types of Actuators. (CO3)

Q.29 Give any five applications of Robots. (CO7)

Q.30 Differentiate between Encoders and Decoders. (CO3)

Q.31 Write a short note on Basic Concepts of Part Programming. (CO4)

Q.32 Discuss common problems in mechanical components. (CO5)

Q.33 Enlist the various advantages of Automation. (CO6)

Q.34 Describe various benefits of CIM. (CO6)

Q.35 What are the advantages and Applications of Robots. (CO7)

SECTION-D

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

Q.36 Describe LVDT. Explain the construction, working and advantages of LVDT in detail. (CO3)

Q.37 Explain Canned Cycle with example. (CO4)

Q.38 Define NC Machine. What are the different components of an NC Machine. (CO1)

(**Note:** Course outcome/CO is for office use only)

Roll No. .....

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 What is the full form of LVDT? (CO1)

a) Linear Variable Different Transducer
b) Linear Variable Differential Transformer
c) Linear Variable Differential Transducer
d) Linear Variable Different Transformer

Q.2 The design of slide ways in CNC machine tools should have (CO2)

a) Reduced friction and wear
b) Reduced speed and feed
c) Reduced accuracy and surface finish
d) Reduced toughness and stiffness

Q.3 The punched tape contains _____ for NC Machines (CO1)

a) Control Unit
b) Part Program
c) Binary Code
d) Punched Cards

Q.4 _____ are employed in feed mechanism of CNC Machine tool (CO2)

a) Ball Screws
b) Bolts
c) Nuts
d) Spindles

Q.5 The M-Codes are also known as (CO4)

a) Motor Codes c) Metric Codes

b) Margin Codes d) Miscellaneous Codes

Q.6 The Closed-Loop Control System is also known as (CO3)

a) Non Feedback System

b) Multivariable Control System

c) Feedback System

d) Hybrid System

Q.7 Which of the following G-code will give Circular interpolation Clockwise (CO4)

a) G01 c) G03

b) G02 d) G04

Q.8 Which of the following M-code will end the program (CO4)

a) M00 c) M02

b) M01 d) M03

Q.9 The two types of CNC Machine faults according to the Nature are (CO5)

a) Recoverable and Unrecoverable

b) Mechanical and Electrical

c) Hardware and software

d) Opening and Closing

Q.10 What is the full form of CIM? (CO6)

a) Control Installed Machine

b) Control Integrated Machine

c) Computer Installed Manufacturing

d) Computer Integrated Manufacturing

SECTION-B

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

Q.11 What is the full form of DNC Machine? (CO1)

Q.12 What is the Binary Equivalent of 104? (CO1)

Q.13 What is the other name of open loop control system? (CO3)

Q.14 Name the G-Code used for Linear interpolation. (CO4)

Q.15 Name the M-Code used for Stopping the spindle. (CO4)

Q.16 Define Automation. (CO6)

Q.17 Which feedback Device translates physical motion into electrical Data? (CO3)

Q.18 Expand SCARA Robot. (CO7)

Q.19 Name the two separate modules of an Actuator. (CO3)

Q.20 Expand ATC. (CO2)

SECTION-C

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

Q.21 Describe the process of swarf removal from cutting zone and machine tool. (CO2)

Q.22 Enlist the various advantages of DNC. (CO1)

Q.23 Differentiate between Open Loop and Closed Loop Control System. (CO3)

Q.24 Describe various types of MCU. (CO1)