

- Q.28 Explain cutter radius compensation.
- Q.29 Classify CNC machine faults according to the characteristics.
- Q.30 Explain swarf Removal & its methods.
- Q.31 Define the term CIM. Give its benefits.
- Q.32 Give any five reasons to replace human labor by robots.
- Q.33 Write the basic structure of part programming. Explain with example.
- Q.34 Explain FMS layout with suitable diagram.
- Q.35 Explain the different types of slideways.

SECTION-D

- Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)
- Q.36 Define Automation. Explain the different types of automation.
- Q.37 Write the basic requirements of a transducer. Explain the factors to be considered while selecting a transducer.
- Q.38 Explain the main part programming formats.

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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 CNC stands for
- Computer and number control
 - Computer Numerical Control
 - Central Number Control
 - Computer Number Code
- Q.2 Full form of ATC:
- Air traffic control
 - Automatic Transfer Control
 - Automatic Tool Changer
 - American Tool Centre
- Q.3 ATC with double gripper_____ the tool changing time.
- Increases
 - First Increases then decreases
 - Reduces
 - None of these
- Q.4 Which of the following instrument is used to measure the rotation speed of an object?

- a) Transducer b) Thermometer
c) Dynamometer d) Tachometer
- Q.5 _____ system defines the relative movement of tool w.r.t. work-piece.
a) Coordinate b) Open loop
c) Closed loop d) None of these
- Q.6 _____ is an electronic component that exhibits a large change in resistance with a change in body temperature.
a) Thermometer b) amplifier
c) Thermistor d) None of these
- Q.7 _____ is a device which applies a code or changes information into a code form.
a) Recorder b) Decoder
c) Encoder d) None of these
- Q.8 Closed loop control system is also known as _____ control system.
a) Feedback b) Non-feedback
c) Hydraulic d) Pneumatic
- Q.9 Full form CIM is:
a) Computer Integrated Manufacturing
b) Central Integrated Manufacturing
c) Common Integrated Manufacturing
d) Cyclic Integrated Manufacturing
- Q.10 Absolute NC system is also known as
a) Fixed Zero b) Floating zero
c) either of a or b d) None of these

SECTION-B

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

Define the following :

- Q.11 NC machine
Q.12 Punched Cards
Q.13 Stepper Motor
Q.14 Control System
Q.15 Active transducer
Q.16 Absolute coordinate system
Q.17 G-code
Q.18 Fixed Automation.
Q.19 Group Technology
Q.20 CAM

SECTION-C

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

- Q.21 Write any five advantages of NC system.
Q.22 Name types of Adaptive Control system. Explain any one.
Q.23 Classify the cutting tools used in CNC machines.
Q.24 Write any five advantages of pneumatic actuators.
Q.25 Write any five characteristics of transducer.
Q.26 Name types of sensors. Explain any one.
Q.27 How will you set machine tool zero.