

- 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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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.