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## CAD/CAM, Mech., Engg. (Fabrication Tech.)

## Sub.: CNC Machines & Automation

M.M. : 100

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

- Q.5 Advantages of potentiometer.
- a) Easy to use                      b) Proven technology
- c) Inexpensive                      d) All of the above
- Q.6 Which of the following code will give circular interpolation arc counter clock wise:
- a) G01                                  b) G02
- c) G03                                  d) G00
- Q.7 Which is not the tool material property on the basis of construction:
- a) Solid                                  b) Diamond
- c) Brazed                              d) Inserted bit
- Q.8 Problems in Pneumatic components are not in
- a) Cylinders                          b) Piston
- c) Solenoid                          d) Valve
- Q.9 Which of the following are not components of flexible tooling.
- a) Encoder
- b) Tool magazine
- c) Work holder
- d) Tool changing mechanism
- Q.10 Canned cycle is also known as
- a) Fixed cycle                      b) Movable cycle
- c) Carnot cycle                      d) None of above

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### SECTION-B

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

- Q.11 \_\_\_\_\_ logic is used in PLC.
- Q.12 Explain DNC.
- Q.13 Give binary number of 26.
- Q.14 Beds are made of \_\_\_\_\_ material.
- Q.15 In part programming interpolation is used for obtaining \_\_\_\_\_ Trajectory.
- Q.16 Explain FMS.
- Q.17 NC machines are best suitable for \_\_\_\_\_ production.
- Q.18 Sub routines are also known as \_\_\_\_\_.
- Q.19 Miscellaneous operations are addressed by \_\_\_\_\_.
- Q.20 The axis perpendicular to work holding surface of a CNC machine is .

### SECTION-C

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

- Q.21 What is canned cycle?
- Q.22 Explain briefly on-line diagnostic.
- Q.23 Enumerate the criteria for designing the control system of a CNC.

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- Q.24 Explain two work holding devices used in CNC machines.
- Q.25 What are the limitations of cutter radius compensation.
- Q.26 Describe mirror image and its command.
- Q.27 Explain LVDT in brief.
- Q.28 Differentiate between proximity and range sensor.
- Q.29 Explain automation assembly.
- Q.30 Explain absolute and incremental system.
- Q.31 Write short note on any five NC words.
- Q.32 Write short note on opto interrupt.
- Q.33 List any five benefits of FMS.
- Q.34 Differentiate between open loop and close loop system.
- Q.35 What is actuator? Define any one.

### SECTION-D

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

- Q.36 Explain with neat sketch working of ball screw Assembly in a CNC machine.
- Q.37 Write short note on :
  - a) Servomotor
  - b) Potentiometer
- Q.38 What are the requirements of slide ways in a CNC system? Explain.

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