



Q.20 What are the main components of MCU? Explain in detail.

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3rd year
Branch : Advance Diploma in Tool & Die Making
Subject : CNC Technology

Time : 2 Hrs.

M.M. : 50

SECTION-A

Note: Multiple choice Questions. All Questions are compulsory. (5x1=5)

- Q.1 Which of the following is not the advantage of CNC machines?
 - a) Higher flexibility
 - b) Improved quality
 - c) Reduced scrap rate
 - d) Improved strength of the components
- Q.2 NC contouring is an example of
 - a) Continuous path positioning
 - b) Point-to-point positioning
 - c) Absolute positioning
 - d) Incremental positioning
- Q.3 Miscellaneous Code M03 describes
 - a) Spindle ON clockwise
 - b) Spindle ON counter clockwise
 - c) Coolant ON
 - d) Coolant OFF

Q.4 What is the function of slideways in CNC?

- a) Reduce friction
- b) Reduce Wear
- c) Improve smoothness of the drive
- d) All of the mentioned

Q.5 What is the purpose of using re-circulating ball screw nut mechanism in CNC machine;

- a) To reduce the set up time
- b) To remove backlash
- c) To remove jerks in machine
- d) For higher surface finish

Section-B

Note: Objective type questions. All questions are compulsory. $(5 \times 1 = 5)$

Q.6 The punched tape contains _____ for NC Machine.

Q.7 An absolute NC system is one in which all position coordinates are referred to one fixed origin called the zero point. True/False

Q.8 2-1/2D milling tool paths machine only in the XY plane. (True/False)

Q.9 A boring bar is used to create a precision size and finish hole through the bore of the part. These are mounted axially with the spindle.(True/False)

Q.10 The part datum for lathe parts is usually the center-face of the finished part.(True/False)

Section-C

Note: Very Short answer type Questions. Attempt any six questions out of eight Questions. $(6 \times 5 = 30)$

Q.11 Compare NC machine tools with conventional machine tools.

Q.12 Differentiate between open and closed loop control systems.

Q.13 What do you mean by canned cycle? Also write down its advantages in programming CNC machines.

Q.14 Write a short note on automatic tool changer.

Q.15 Write the various Principle of selection of Machine control system for CNC machining.

Q.16 Discuss about CNC EDM-spark erosion.

Q.17 What do you know about Machine and Work reference? Discuss it for CNC grinding machine.

Q.18 What is cutter radius compensation? Write the various G-codes associated with it.

Section-D

Note: Long answer type questions. Attempt any one questions out of two Questions. $(1 \times 10 = 10)$

Q.19 The components to be drilled is shown in Figure. Develop the part program without and with the use of canned cycle. Assume any other relevant data required.