



Fanuc Computer Numerical Control (CNC) Questions with Answers

Q1. What is CNC?

ANS:

CNC (Computer Numerical Control) is a particular application usually to control a multi axis machine tool such as a milling machine or a lathe but also could be a tube bending machine punch press or similar.

The CNC controller is usually a purpose built controller using a micro computer but could be a general purpose computer or a PLC. The forerunner was NC (Numerical Control) before computers were readily available, it used solid state logic and relays, timers etc to provide the application.

Q2. What are the advantages of CNC Machines?

ANS:

1. Increased productivity.
2. High accuracy and repeatability.
3. Reduced production costs.
4. Reduced indirect operating costs.
5. Facilitation of complex machining operations.
6. Greater flexibility.
7. Improved production planning and control.
8. Lower operator skill requirement.
9. Facilitation of flexible automation.

Q3. What are the limitations of CNC Machines?

ANS:

1. High initial investment.
2. High maintenance requirement.

3. Not cost-effective for low production cost.

Q4. What are the types of CNC machines and instruments used in industry?

ANS:

Some common types of CNC machines and instruments used in industry are as following:

- Drilling Machine
- Lathe / Turning Centre
- Milling / Machining Centre
- Turret Press and Punching Machine
- Wirecut Electro Discharge Machine (EDM)
- Grinding Machine
- Laser Cutting Machine
- Water Jet Cutting Machine
- Electro Discharge Machine
- Coordinate Measuring Machine
- Industrial Robot

Q5. What is the main classification of CNC Machines?

ANS:

CNC machines can be divided into two groups

1) Milling Machines: A milling machine is a machine that has a spindle with a special tool that spins and cuts in various directions and moves in three different directions along the x, y and z axis.

2) Turning Machines: A turning machine is generally made up of a device that spins a work piece at a high speed and a tool (sharp edge) that shaves off the undesired material from the work piece (where the tool is moved back and forth and in and out until the desired form is achieved).

Q6. In CNC machine tool, the part program entered into the computer memory

- a. can be used only once
- b. can be used again and again
- c. can be used again but it has to be modified every time
- d. cannot say

ANS: can be used again and again

Q7. Which machine tool reduces the number of set-ups in machining operation, time spent in setting machine tools and transportation between sections of machines?

- a. Computer Numerical Control machine tool
- b. Direct Numerical Control machine tool
- c. Adaptive Control Systems
- d. Machining centre

ANS: Machining centre

Q8. The machine tool, in which calculation and setting of the operating conditions like depth of cut, feed, speed are done during the machining by the control system itself, is called

- a. Computer Numerical Control System
- b. Direct Numerical Control System
- c. Machining Centre System
- d. Adaptive Control System

ANS: Adaptive Control System

Q9. Part-programming mistakes can be avoided in



- a. NC (Numerical Control) machine tool
- b. CNC (Computer Numerical Control) machine tool
- c. Both a. and b.
- d. None of the above

ANS: CNC (Computer Numerical Control) machine tool

Q10. Arrange the below operations in operator controlled machine tool in correct order.

- (A) Operator
- (B) Process planing
- (C) Machine tool
- (D) Component drawing
- (E) Completed component

- a. (A) – (D) – (B) – (C) – (E)
- b. (D) – (B) – (C) – (A) – (E)
- c. (B) – (D) – (C) – (A) – (E)
- d. (D) – (B) – (A) – (C) – (E)

ANS: (D) – (B) – (A) – (C) – (E)

Q11. The device, fed to the control unit of NC machine tool which sends the position command signals to sideway transmission elements of the machine, is called as

- a. controller
- b. tape
- c. feedback unit
- d. none of the above

ANS: tape

Q12. In NC (Numerical Control) machine tool, the position feedback package is connected between

- a. control unit and programmer
- b. programmer and machine tool
- c. control unit and machine tool
- d. programmer and process planning

ANS: control unit and machine tool

Q13. Which of the following options is correct for the control unit and panel of NC (Numerical Control) and CNC (Computer Numerical Control) machine tools?

- a. The control unit of NC machine tool works in ON-line mode and the control unit of CNC machine tool works in batch processing mode
- b. The control unit of NC machine tool works in batch processing mode and the control unit of CNC machine tool works in ON-line mode
- c. The control units of both NC and CNC machines work in ON-line mode
- d. The control units of both NC and CNC machines work in batch processing mode

ANS: The control unit of NC machine tool works in batch processing mode and the control unit of CNC machine tool works in ON-line mode

Q14. Which of the following statements are correct for CNC machine tool?

1. CNC control unit does not allow compensation for any changes in the dimensions of cutting tool
2. CNC machine tool are suitable for long run applications
3. It is possible to obtain information on machine utilization which is useful to management in CNC machine tool
4. CNC machine tool has greater flexibility
5. CNC machine can diagnose program and can detect the machine defects even before the part is produced

- a. (1), (2) and (3)



- b. (2), (4) and (5)
- c. (3), (4) and (5)
- d. (2), (3), (4) and (5)

ANS: (3), (4) and (5)

Q15. Several machine tools can be controlled by a central computer in

- a. NC (Numerical Control) machine tool
- b. CNC (Computer Numerical Control) machine tool
- c. DNC (Direct Numerical Control) machine tool
- d. CCNC (Central-Computer Numerical Control) machine tool

ANS: DNC (Direct Numerical Control) machine tool