

Sector: Manufacturing

Occupation: MACHINING

Unit of Competence: Perform Advanced Lathe CNC Operations

Code: IND MAC3 04 0217

Name _____ ID. No. _____

I. Choose the best answer from the given choice (2 points each)

1. In machining of a workpiece, the material is removed by _____
 - a) drilling action
 - b) melting action
 - c) shearing acting
 - d) using brittleness of the material
2. The depth that the tool is plunged into the surface is called as _____
 - a) feed
 - b) depth of cut
 - c) depth of tool
 - d) working depth
3. Feed is measured in units of _____
 - a) length/revolution
 - b) degree/revolution
 - c) length
 - d) velocity
4. CNC machining centres do not include operations like _____
 - a) milling
 - b) boring
 - c) welding
 - d) tapping
5. In CNC systems multiple microprocessors and programmable logic controllers work _____
 - a) in parallel
 - b) in series
 - c) one after the other
 - d) for 80% of the total machining time
6. 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
7. In how many ways CNC machine tool systems can be classified?
 - a) 2
 - b) 3
 - c) 4
 - d) 5

8. Point-to-point systems are used for _____
- reaming
 - parting
 - grooving
 - facing
10. For CNC machining skilled part programmers are needed.
- True
 - False
11. An absolute NC system is one in which all position coordinates are referred to one fixed origin called the zero point.
- True
 - False
12. During the execution of a CNC part program block NO20 GO2 X45.0 Y25.0 R5.0 the type of tool motion will be
- circular Interpolation – clockwise
 - circular Interpolation – counterclockwise
 - linear Interpolation
 - rapid feed
13. In an NC machining operation, the tool has to be moved from point (5, 4) to point (7, 2) along a circular path with centre at (5, 2). Before starting the operation, the tool is at (5, 4). The correct G and N codes for this motion are
- N010GO3X7.0Y2.0I5.0J2.0
 - N010GO2X7.0Y2.0I5.0J2.0
 - N010GO1X7.0Y2.0I5.0J2.0
 - N010GOOX7.0Y2.0I5.0J2.0
14. The tool of an NC machine has to move along a circular arc from (5, 5) to (10, 10) while performing an operation. The centre of the arc is at (10, 5). Which one of the following NC tool path command performs the above mentioned operation?
- N010 GO2 X10 Y10 X5 Y5 R5
 - N010 GO3 X10 Y10 X5 Y5 R5
 - N010 GO1 X5 Y5 X10 Y10 R5
 - N010 GO2 X5 Y5 X10 Y10 R5
15. NC contouring is an example of
- continuous path positioning
 - point-to-point positioning
 - absolute positioning
 - incremental positioning
16. Match the following:
- | | |
|---------|-------------------------------|
| NC code | Definition |
| P. M05 | 1. Absolute coordinate system |
| Q. G01 | 2. Dwell |
| R. G04 | 3. Spindle stop |
| S. G09 | 4. Linear interpolation |
- P-2, Q-3, R-4, S-1
 - P-3, Q-4, R-1, S-2
 - P-3, Q-4, R-2, S-1
 - P-4, Q-3, R-2, S-1
17. In a CNC program block, N002 GO2 G91 X40 Z40.....,GO2 and G91 refer to
- circular interpolation in counterclockwise direction and incremental dimension
 - circular interpolation in counterclockwise direction and absolute dimension
 - circular interpolation in clockwise direction and incremental dimension
 - circular interpolation in clockwise direction and absolute dimension

18. Numerical control _____
- a) applies only to milling machines
 - b) is a method for producing exact number of parts per hour
 - c) is a method for controlling by means of set of instructions
 - d) none of the mentioned
19. Computer will perform the data processing functions in
- a) NC
 - b) CNC
 - c) DNC
 - d) None of the mentioned
20. Control loop unit of M.C.U is always
- a) a hardware unit
 - b) a software unit
 - c) a control unit
 - d) none of the mentioned
21. The repeatability of NC machine depends on
- a) control loop errors
 - b) mechanical errors
 - c) electrical errors
 - d) none of the mentioned

II. Write short answer for the following question

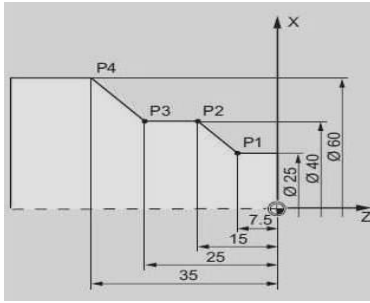
1. What Is Cnc?

2. What Is Part Program?

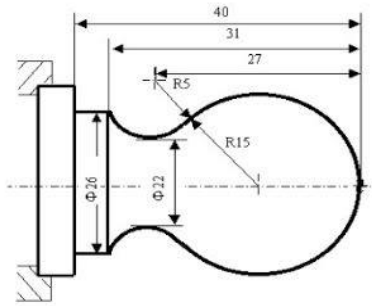
3. What Is Nc Part Programming?

III. Write NC program in absolute and incremental for the following drawings?

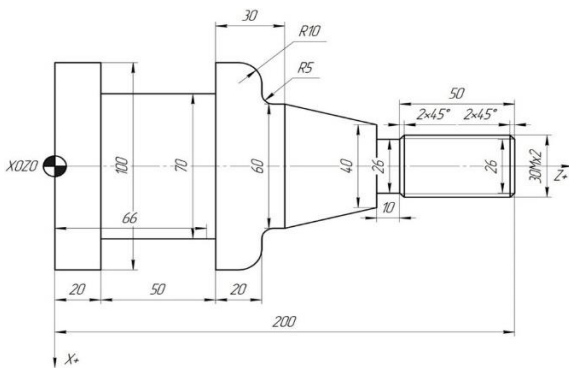
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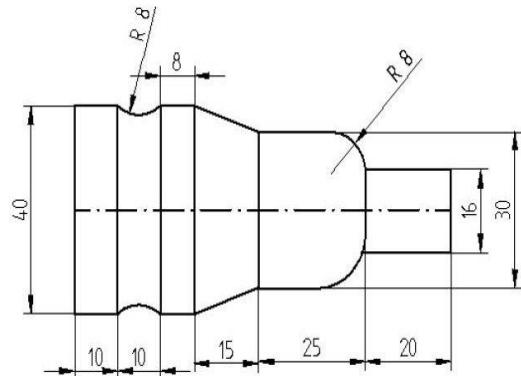
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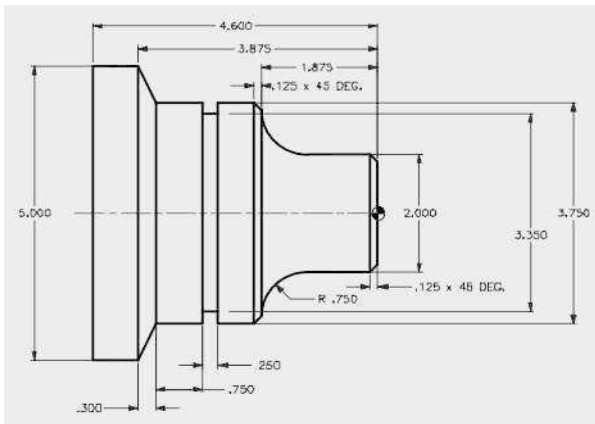
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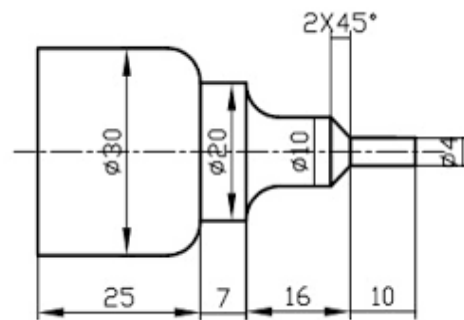
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5



6



Note: **Satisfactory** rating –60 points above / **Unsatisfactory** 55 below points
You can ask you teacher for the copy of the correct answers