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Question Paper Code: 58762

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2018

One Credit

Mechanical Engineering

15UME862 - CNC Programming

(Regulation 2015)

Duration: 1.30 hours

Maximum: 30 Marks

Answer ALL Questions

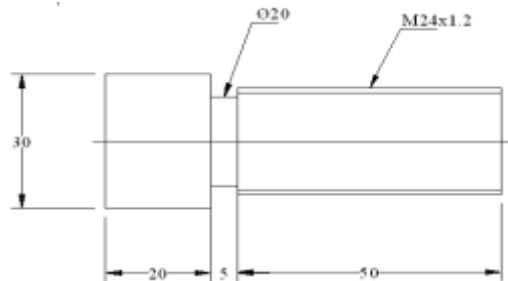
PART A - (10 x 1 = 10 Marks)

1. What is the Tool Length Offset?
 - (a) The difference between a reference such as the length of Tool 0 and the current Tool's length
 - (b) The difference between the tip of the tool and the top of the work material that is to be cut
 - (c) The difference between the tip of the tool and Z=0
 - (d) The total length of the tool from shank to tip
2. 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
3. What does the G in G-Codes stand for
 - (a) Graphic
 - (b) General
 - (c) Geometric
 - (d) Global
4. NC contouring is an example of
 - (a) continuous path positioning
 - (b) point-to-point positioning
 - (c) absolute positioning
 - (d) incremental positioning

5. Computer will perform the data processing functions in
 - (a) NC
 - (b) CNC
 - (c) DNC
 - (d) none of these
6. What G- code are used to create arcs and circles?
 - (a) "GARC" will do it
 - (b) G20 and G30
 - (c) G02 and G03
 - (d) "CIRC" and "ARC" are the commands
7. Rotation about Z-axis is called
 - (a) a-axis
 - (b) b-axis
 - (c) c-axis
 - (d) none of these
8. For a CNC machine absolute referencing is measured relative to the
 - (a) X axis only
 - (b) Y axis only
 - (c) Origin
 - (d) last point where the tool was located
9. The process of putting data into a storage location is called
 - (a) reading
 - (b) writing
 - (c) controlling
 - (d) hand shaking
10. 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?
 - (a) N010 GO2 X10 Y10 X5 Y5 R5
 - (b) N010 GO3 X10 Y10 X5 Y5 R5
 - (c) N010 GO1 X5 Y5 X10 Y10 R5
 - (d) N010 GO2 X5 Y5 X10 Y10 R5

PART - B (20 x 1 = 20 Marks)

11. (a) Write a CNC program for Thread Cutting and Grooving and simulate in the software. (20)



- (b) Explain the following with neat sketch. (20)
 - (i) Functions of a machine tool & Concept of numerical control.
 - (ii) Limitations of CNC & Features of CNC