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# **5th Sem / Mech, Mecatronics, Prod, T&D, CAD/CAM, Mech. Engg. (Fabrication Tech.) Mechanical Engg. (CAD/CAM Design) & Robotics**

Time : 3 Hrs. M.M. : 100

## **SECTION-A**

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



(1) 181755/171755/121755  
/031755



## **SECTION-B**

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

- Q.11 Binary equivalent of 23 is \_\_\_\_\_

Q.12 Design of CNC structure which dissipate equal heat in all directions is known as \_\_\_\_\_ (Aerodynamic/thermosymmetrical)

Q.13 Backlash is eliminated by \_\_\_\_\_ component of CNC

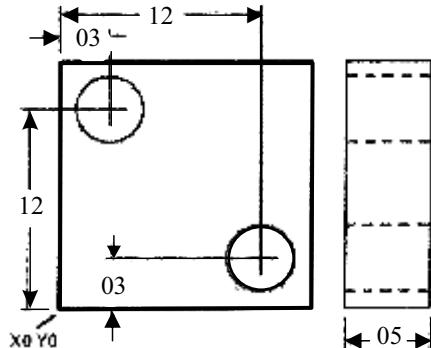
(2) 181755/171755/121755  
/031755

- Q.14 Normally \_\_\_\_\_ type of ATC is used in CNCs  
 Q.15 Expand ASRS  
 Q.16 LVDT measures \_\_\_\_\_ (scalar/ vector) quantity  
 Q.17 Painted line AGV sense direction from \_\_\_\_\_ color paint  
 Q.18 Expand AI  
 Q.19 Which type of production is best suited for CNC?  
 Q.20 G02 code stands for \_\_\_\_\_

### SECTION-C

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

- Q.21 Explain the types of DNC  
 Q.22 What are the basic components of CNC?  
 Q.23 Explain LVDT.  
 Q.24 Write short note on swarf removal method of CNC.  
 Q.25 Classify sensors  
 Q.26 Write short note on FMS and AGV  
 Q.27 Differentiate between open loop and closed loop control system.  
 Q.28 Explain working of linear encoders with diagram.  
 Q.29 Write a part program for following drilling part, assume Speed, feed and depth of cut data.



(3)

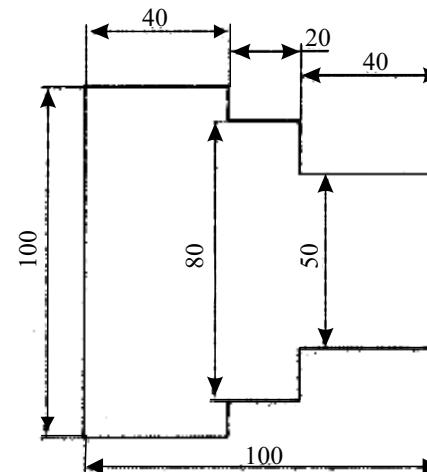
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/031755

- Q.30 Explain Canned cycle.  
 Q.31 Write short note on safety and guarding devices.  
 Q.32 Explain the method of giving cutter radius compensation  
 Q.33 Write any five M codes.  
 Q.34 Write short note on CIM  
 Q.35 Describe axis identification rules

### SECTION-D

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

- Q.36 Define Automation. Explain the different types of automation.  
 Q.37 What are the common problems of CNC related to mechanical and electrical components? Give their remedies.  
 Q.38 Write a part program for following component with step turning, facing from 100 mm dia rod.



(3360)

(4) 181755/171755/121755  
/031755