

- Q.22 Define
- a) Tool off sets
  - b) Tool wear compensation

**SECTION-D**

**Note:** Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

- Q.23 Explain any two milling Cutters in detail with neat sketch. (CO5)
- Q.24 Explain in details the various components of robot. Also give the main advantages and disadvantages .
- Q.25 Explain the principle and process of USM (Ultrasonic Machining) with figure and limitations.

(**Note:** Course outcome/CO is for office use only)

No. of Printed Pages : 4  
Roll No. ....

220343

**4th Sem / Automobile**

**Subject : CNC Machines and Advanced Manufacturing Processes**

Time : 3 Hrs.

M.M. : 60

**SECTION-A**

**Note:** Multiple choice questions. All questions are compulsory (6x1=6)

- Q.1 A code for Rapid Positioning is \_\_\_\_\_
- a) G09
  - b) G02
  - c) M01
  - d) G00
- Q.2 The type of memory which is fast and temporarily stores the data which are immediately required for use is called as \_\_\_\_\_.
- a) HDD
  - b) ROM
  - c) RAM
  - d) SSD
- Q.3 In the block diagram of the CNC machine, data processing and control loop are a part of \_\_\_\_\_
- a) speed and position sensor
  - b) feedback system
  - c) machine control unit
  - d) input device

- Q.4 When \_\_\_\_\_ contacts are actuated, they disrupt the power supply through them.
- Normally open type
  - normally closed type
  - normally open and closed type
  - none of the mentioned
- Q.5 Computerized numerical control machines uses
- Digital data & a computer
  - Computer and a CAM program
  - A computer, a part program & a digital data
  - none of the above
- Q.6 In ultrasonic Machining, magnetostriction converts magnetic energy into which type of energy?
- Mechanical energy
  - Electrical energy
  - Thermal energy
  - None of the mentioned

### SECTION-B

**Note:** Objective/ Completion type questions. All questions are compulsory. (6x1=6)

- 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) (CO1)
- Q.8 Write full form of LBM. (CO3)

- Q.9 Down milling is also called CNC machines. (True/False) (CO3)
- Q.10 LASER Stands for \_\_\_\_\_. (CO3)
- Q.11 Open loop control systems are accurate as compared to close loop control system. (True/False) (CO1)
- Q.12 First milling machine came into existence in about 1770. (True/False) (Co4)

### SECTION-C

**Note:** Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

- Q.13 Differentiate between NC system and CNC system. (CO4)
- Q.14 Describe m00, m03, m60, m78NC words. (CO3)
- Q.15 Describe the major steps in Manual Part Programming. (CO1)
- Q.16 Explain Linear and circular Interpolation. (CO4)
- Q.17 Explain any two milling operations with figure. (CO2)
- Q.18 Write classification of joints and links of robot with figure. (CO2)
- Q.19 State the working principle of EBM. (CO2)
- Q.20 Explain the variation of metal removal rate (MMR) with respect to voltage effect in EDM. (CO4)
- Q.21 Describe the process parameters of USM. (CO2)