

Q.24 Explain the principle and process of ECM (Electrochemical Machining) with figure and state its limitations. (CO3)

Q25 Explain the following milling Cutters with neat sketch. (CO5)

- i) Plain milling cutter
- ii) End milling cutter

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

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

220343

**4th Sem. / Automobile Engineering**  
**Subject : CNC Machines and Advanced**  
**Manufacturing Processes**

Time : 3 Hrs.

M.M. : 60

**SECTION-A**

**Note: Multiple type Questions. All Questions are compulsory. (6x1=6)**

- Q.1 What is the function of the GUI (Graphical user interface)?
- a) To control motion and speed
  - b) Converts program into the action of the driver
  - c) To record the data from the sensor
  - d) To understand the position of the tool according to the input program
- Q.2 In Ultrasonic Machining, magnetostriction converts magnetic energy into which type of energy?
- a) Mechanical energy    b) Electrical energy
  - c) Thermal energy        d) None of the mentioned
- 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 What is the full form of CNC?  
 a) Computer numerical control  
 b) Computer number control  
 c) Computer network control  
 d) Computer numbers count
- Q.5 Computerized numerical control machines use  
 a) Digital data & a computer  
 b) Computer and a CAM program  
 c) A computer, a part program & a digital data  
 d) None of the above
- Q.6 The machining system of USM contains which of the following components?  
 a) Magnetostriction      b) Concentrator  
 c) Tools and slurry      d) All of the mentioned

#### Section-B

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

- Q.7 First milling machine came into existence in about 1770 (True/False) (CO4)
- Q.8 Write full form of LBM. (CO3)
- Q.9 Down milling is also called CNC machines (True/False) (CO3)
- Q.10 In 2003, OTC DAIHEN have introduced a line of arc welding and handling robots. (CO4)

(2)

220343

- Q.11 Open loop control systems are accurate as compared to close loop control system. (CO1)
- Q.12 EDM Stands for \_\_\_\_\_. (CO3)

#### Section-C

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

- Q.13 Differentiate between absolute and Incremental Coordinate system. (CO4)
- Q.14 Describe G10, G20, G30, G40 code in part programming. (CO3)
- Q.15 Explain NC part programming Languages. (CO3)
- Q.16 Compare Milling Machine with Engine Lathe. (CO4)
- Q.17 Explain the Face Milling and Side Milling operations. (CO2)
- Q.18 Explain the variation of metal removal rate (MMR) with respect to voltage effect in EDM. (CO4)
- Q.19 Write classification of robot with figure. (CO2)
- Q.20 State the working principle of PAM. (CO2)
- Q.21 Describe NC Words. (CO1)
- Q.22 Write the properties of generator in USM. (CO2)

#### Section-D

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

- Q.23 Explain in Law of Robotics, Anatomy of robot with figure. Also its objectives using Robots. (CO4,5)

(3)

220343