

- Q.24 Explain the principle and process of ECM (Electrochemical Machining) with figure and state its limitations. (CO3)
- Q.25 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)

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Roll No.

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**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)

- 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 of 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)