

- Q.27 Write a simple finishing cut program for a rod of a diameter 50 mm for 100 mm length (CO4)

Q.28 Write the different types of tools used in CNC. (CO5)

Q.29 Discuss the techniques of tool path generation? (CO6)

Q.30 Write any five advantages of a flexible manufacturing system (FMS)? (CO7)

Q.31 Write any five applications of Robots. (CO8)

Q.32 Write a short note on Robotic sensors. (CO8)

Q.33 Explain parametric surfaces in AutoCAD. (CO3)

Q.34 Differentiate absolute and incremental dimensioning methods in CNC. (CO4)

Q.35 Discuss job flexibility and machine flexibility. (CO7)

SECTION-D

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

- Q.36 Explain in detail the various steps involved in CAM operation. (CO1)

Q.37 Explain the various types of FMS layouts with neat sketches. (CO7)

Q.38 Describe briefly the following methods of surface modeling with a few application examples (CO2)

a) Bicubic Surface b) Bezier surface

Note : Course outcome CO is for office use only.

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181761C/171761C
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No. of Printed Pages : 4 181761C/171761C/062463
Roll No.

6th Sem / Mech. Mecatronics, CNC
Sub.: CAD/CAM/CAD CAM & FMS

Time : 3Hrs. M.M. : 100

SECTION-A

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

- Q.1 CAD/CAM is the relationship between (CO1)
a) Science & Engineering
b) Manufacturing and marketing
c) Design and manufacturing
d) Design and marketing

Q.2 In modern CNC Machines the backlash has been eliminated by? (CO5)
a) Rack and pinion b) Cam
c) Lever d) Preloaded ball screw

Q.3 The axes of turning machines are (CO3)
a) X and Z b) X, Y and Z
c) X and Y d) None of the above

Q.4 It is easy to construct a precise solid model out of regular solid primitives by _____ (CO2)
a) Adding the material
b) Subtracting the material
c) Intersecting the components
d) All of the above

Q.5 A cylinder can be created by drawing a rectangular shape by using the _____ tool: (CO2)
a) Revolve b) Extrude
c) Sweep d) Blend

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- Q.6 Point-to-point systems are used for _____ (CO4)
 a) Reaming b) Parting
 c) Grooving d) Facing
- Q.7 Which of the following codes will give linear interpolation? (CO4)
 a) G71 b) G02
 c) G70 d) G01
- Q.8 Industrial robots are designed to carry which of the following coordinate systems? (CO8)
 a) Polar coordinates system
 b) Cartesian coordinate system
 c) Cylindrical coordinate system
 d) All of the above
- Q.9 Which one is the simplest type of FMS layout? (CO7)
 a) Loop layout b) Ladder layout
 c) Open field layout d) in line layout
- Q.10 To obtain parallel lines, concentric circles and parallel curves _____ Command is used (CO2)
 a) Filet b) Array
 c) Mirror d) Offset

SECTION-B

- Note:** Objective type questions. All questions are compulsory. (10x1=10)
- Q.11 Write the expanded form of CAD? (CO1)
- Q.12 _____ command in AutoCAD is used as a shortcut for making a polyline. (CO2)
- Q.13 _____ code is used in programming in incremental coordinates? (CO4)

- Q.14 Many machine tools can be controlled simultaneously in _____. (CO6)
- Q.15 The robot design with _____ Coordinate system has three linear movements. (CO8)
- Q.16 Give expanded form of AGV? (CO7)
- Q.17 What do you mean by SE view? (CO3)
- Q.18 Lead out is a straight or curved cut made at the very end of the part of hole which completes the cutting process? T/F. (CO5)
- Q.19 The extension of Auto CAD drawing file is _____. (CO2)
- Q.20 A _____ is software that translates CAD or CAM data to a certain point where it produces output called a 'CL-file'. (CO6)

SECTION-C

- Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)
- Q.21 Write any five applications of CAD/CAM? (CO1)
- Q.22 Explain MIRROR command with an example. (CO2)
- Q.23 Discuss the creation of composite solid by Boolean function in brief? (CO2)
- Q.24 Differentiate filet and chamfer command. (CO2)
- Q.25 Discuss how the objects are viewed in different views? (CO3)
- Q.26 Explain the various types of machining process parameters? (CO5)