

- 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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#### 6th Sem / Mech. Mechatronics, 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)
- Science & Engineering
  - Manufacturing and marketing
  - Design and manufacturing
  - Design and marketing
- Q.2 In modern CNC Machines the backlash has been eliminated by? (CO5)
- Rack and pinion
  - Cam
  - Lever
  - Preloaded ball screw
- Q.3 The axes of turning machines are (CO3)
- X and Z
  - X, Y and Z
  - X and Y
  - None of the above
- Q.4 It is easy to construct a precise solid model out of regular solid primitives by \_\_\_\_\_ (CO2)
- Adding the material
  - Subtracting the material
  - Intersecting the components
  - All of the above
- Q.5 A cylinder can be created by drawing a rectangular shape by using the \_\_\_\_\_ tool: (CO2)
- Revolve
  - Extrude
  - Sweep
  - Blend

- 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) Fillet                              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 fillet 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)