CAD / CAM & AUTOMATION

TH-05

BRANCH-AUTOMOBILE ENGINEERING

SEMESTER-6th

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CHAPTER-01

INTRODUCTION TO CAD /CAM

QUESTION FOR 2MARK

1. Draw the CAD/CAM product cycle with neat sketch

2. Explain the product cycle and CAD/CAM product cycle?

3 With neat sketch explain the main elements of CIM system

4 a) Explain the various types of display devices?

b) List the Evaluation criteria CAD standards

5 Briefly explain the term scaling, translation and rotation used in Graphics.

6 a) Explain briefly about the elements of a CAD system.

CHAER-02

GEOMETRPTIC MODELING

QUESTION FOR 2 MARK

1. **Define geometric modeling?**

2. Classify geometric modeling.

3. Define sculptured surface.

4. What is meant by lofted surface?

5. List the common entities of a typical surface modeler?

6. Name the two basic approaches followed in solid modeling

7.Explain detail about analytic representations.

8.Short notes about synthetic representations.

9. Define the solid modeling and Explain any one type of solid modeling

10. Compare 2-D and 3-D wire frame models.

11.Describe briefly the following methods of surface modeling with a few application examples:

12. Explain about boundary representation approach.

13. What are the Fundamentals of solid modeling

14. Explain detail solid modeling and their representation.

QUESTION FOR 10MARK

1.Discuss various types of geometric modeling with neat sketches.

2 Explain the Constructive Solid Geometry (CSG) method to create models.

3 Write a short notes Methods of Creating Solid Models

4 Compare Parametric and non Parametric representations.

5 Explain detail surface modeling and their representation.

CHAPTER-03&4

QUESTION FOR 10MARK

1.Explain linear and circular interpolations used in turning. Draw a neat sketch of circular interpolation

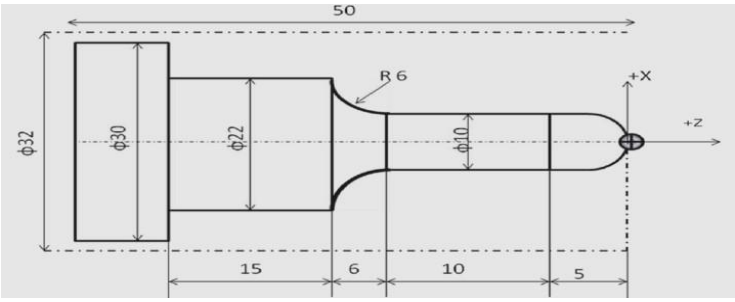
2.Which are formats used for manual part programming? Write word address format.

3.Explain with neat sketch, axis designation for CNC turning center and CNC vertical milling machine

4.What are canned cycles? Discuss how a canned cycle is useful in writing a part program?

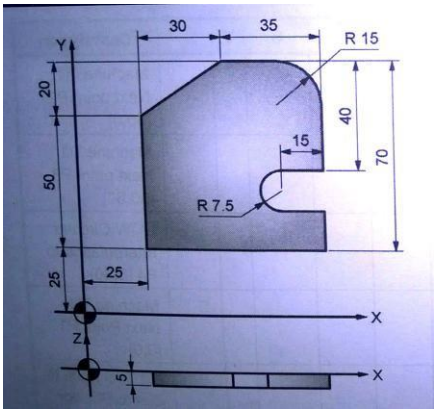
5.Explain cutter radius compensation and tool length compensation.

6.Write a CNC program using appropriate G and M code to turn component as Shown in figure (1). Raw material: MS Φ32 X 50 mm, cutting speed V= 40 m/min and feed=0.1, Assume suitable data for depth of cu



7.Develop a CNC program, using G and M code, to cut a slot the component shown in fig.1 by using an end mill of diameter 6mm. slot The depth for

of is 5mm. Assume suitable data for speed, feed, etc.



8. State various automated programmed tool languages
9. Explain types of statements used in APT language

CHAPTER-05

INDUSTRIAL ROBOTICS

QUESTION FOR 2 MARK

1.what is robot
2.write the configuration of industrial robot
3.wite down the basic robot motion
4.write down the robot sensor
5.what is material transfer

QUESTION FOR 10MARK

1. Define robot. Enlist and explain different elements of robot.
2. Explain any two grippers in detail
3. What are the different used in robots? types of actuators
4. Explain visual and tactile sensors used in robot
5. Explain with neat sketch, basic configuration of robots
6. Discuss various applications of robots
7. Explain on-line programming method and off-line programming method ofrobots in detail