DR.KALAM POLYTECHNIC COLLEGE, AVANAM
DEPARTMENT OF MECHANICAL ENGINEERING
COMPUTER INTEGRATED MANUFACTURING
UNIT-I

INTRODUCTION CIM AND COMPUTER AIDED DESIGN &
ANALYSIS

ONE MARKS:

1. Define: CIM (APR-2014) (OCT-2015) (OCT-2011)
2. State any two CIM software. (APR-2015)
3. Define CAD. (OCT-2014) (OCT-2012)
4. List out the activities of CAD. (OCT-2015) (OCT-2013)
5. What are the benefits of CAD? (APR-2016) (OCT-2013)
6. What is graphic workstation? (OCT-2012)
7. List the benefits of CIM. (APR-2012) (OCT-2011)
8. State the types of geometric modeling. (OCT-2015)
9. State the types of 3D Models. (APR-2014) (OCT-2012)
10. Mention the entities used for wireframe model. (APR-2014)
11. What is graphic standard? (OCT-2015) (APR-2014)
12. Expand GKS and IGES. (OCT-2012) (APR-2014)
13. State the basic steps in FEA. (APR-2016)
14. Mention the advantages of FEA. (OCT-2012)
15. State the advantages of surface model. (OCT-2013)

SIX MARKS:

1. Explain the activities (stages) of CAD. (OCT-2009) (APR-2014)
2. State the benefits of CAD. (APR-2011) (APR-2014)
3. Explain wire frame model with suitable examples. Also state the advantages and disadvantages. (OCT-2014)
4. State the comparisons between CSG and B-rep. (OCT-2015)
5. State any six comparisons between wire frame, surface and solid modeling. (APR-2014)

TWELVE MARKS:

1. Explain the Shigley's design process. (OCT-2010)
2. Explain the geometric modeling techniques with their (APR-2011) (OCT-2014) (APR-2015)
3. Examples, and also state the advantages and disadvantages. (APR-2012)
4. Explain GKS method of graphic standard? (OCT-2013)
5. Explain the IGES graphic standard. (APR-2013)
6. Explain the organization of DXF file. (OCT-2015)

UNIT-II

COMPUTER AIDED MANUFACTURINGAND RAPID PROTOTYPING

ONE MARKS:

1. Define CAM(APR-2011) (OCT-2012)
2. State the functions of CAM. (OCT-201(OCT-20142)
3. List the benefits of CAM? (APR-2014)
4. What is group technology (GT)?(OCT-2014)
5. What are the benefits of group technology? (APR-2012)
6. State the types of coding structure. (APR-2014) (OCT-2015)
7. What is process planning? (OCT-2014)
8. What is CAPP? (APR-2012) (OCT-2013)
9. What is MPS? (APR-2014) (OCT-2015)
10. What is capacity planning? (OCT-2014)
11. What is JIT? (OCT-2012) (OCT-2014)
12. What are the benefits of JIT? (APR-2012) (OCT-2013)
13. What is Concurrent engineering? (OCT-2014)
14. What is the expansion of MRP and MRP-II. (APR-2011)
15. What is Sequential engineering? (OCT-2014) (APR-2013)

SIX MARKS:

1. State the benefits of CAM. (APR-2011)
2. Explain the variant type CAPP. List its advantages and disadvantages. (OCT-2012)
3. Write briefly about product development cycle. (APR-2014)
4. Write briefly about Material Requirement Planning (MRP). (OCT-2011) (APR-2014) (OCT-2015)
5. Write briefly about Enterprise Resource Planning (ERP). (OCT-2011) (APR-2013)

TWELVE MARKS:

1. Briefly explain the OPTIZ coding system. (OCT-2010) (APR-2014) (OCT-2015)
2. Write briefly about the Shop Floor Control with a line diagram. (APR-2010) (OCT-2013)
3. Explain the computer integrated production management system. (OCT-2011) (APR-2012)
4. What is CAPP? Explain the generative method of CAPP. (OCT-2012) (APR-2013)
5. What is RPT? Explain the working of stereo lithography. (APR-2012) (OCT-2013)

UNIT-III

CNC MACHINES AND COMPONENTS

ONE MARKS:

1. Define NC. (APR-2012)
2. State the components of NC system. (OCT-2009)
3. What do you understand by DNC system? (APR-2012)
4. What is meant by CNC system? (OCT-2008)
5. State any two differences between NC and DNC. (APR-2011)
6. State the advantages of CNC system. (APR-2011)
7. Classify the turning centers. (OCT-2008)
8. What is CMM? (APR-2008)
9. What is the function of spindle drive? (APR-2007)
10. What are the requirements of slide-ways? (OCT-2009)
11. Mention the types of slide ways. (APR-2010)
12. What is the purpose of ATC? (OCT-2012)
13. What is tool magazine? (APR-2011)
14. What is encoder? (OCT-2009)
15. State the types of feedback devices. (APR-2010)

SIX MARKS:

1. Write briefly about adaptive control system. (APR-2010)
2. Explain the working of ATC. (APR-2009)
3. Explain the special features of CNC machines. (OCT-2012)
4. Compare NC with CNC system. (APR-2013)
5. Explain the working of linear motion bearings with simple sketch. (APR-2012)

TWELVE MARKS:

1. Explain the working principle of CNC system with neat sketch. (APR-2011) (OCT-2012)
2. Explain the components and working principle of CMM with a neat sketch. (APR-2014) (OCT-2015)
3. Explain the working of linear and rotary transducers with sketches. (APR-2014) (OCT-2014)
4. Explain any two types of turning centres with a neat sketch. (OCT-2012) (OCT-2013) (APR-2014)
5. What are the various types of machining centres? Explain briefly. (OCT-2010) (APR-2012)
6. Explain circuit for wire cut EDM with a neat sketch. State its merits and demerits. (APR-2010) (OCT-2011)

UNIT-IV

PART PROGRAMMING

ONE MARKS:

1. What is NC part programming? (APR-2011) (OCT-2013)

2. State the data required for manual part programming. (APR-2014) (OCT-2014)

3. Mention the different formats of part program. (APR-2012)

4. What is machine zero? (OCT-2010) (APR-2012)

5. What is G90 code in lathe? (OCT-2008) (OCT-2010)

6. What is the meaning of code M06? (OCT-2011)

7. Define: M code. (APR-2012)

8. What is G02? (OCT-2013)

9. What are G codes? (OCT-2011) (APR-2014)

10. What is a reference point? (APR-2012)

11. What is tool offsets? (APR-2010)

12. What is sub program? (OCT-2012)

13. What is linear interpolation? (APR-2012) (OCT-2014)

14. Define Macros. (APR-2012) (OCT-2012)

SIX MARKS:

1. Explain the APT languages used in part programming. (APR-2010) (OCT-2012)

2. Explain machine zero and work piece zero. (APR-2012)

3. Write short notes on i) Mirror command, ii) APT programming. (OCT-2009) (OCT-2010) (APR-2014)

4. Write the procedure to create CNC manual part program. (OCT-2010) (APR-2012)

5. Explain the types of motion control in CNC machine. (APR-2012) (OCT-2013)

TWELVE MARKS:

1. Write a part program to create a mirroring image in a CNC milling machine using a sub program. (OCT-2008) (APR-2014) (OCT-2015)

2. Write a part program to make M20 X 1.5 thread in CNC lathe. (APR-2011) (OCT-2012)

3. Write a part program for stock removal in turning. (APR-2010) (OCT-2015)

UNIT-V

FMS, INTEGRATED MATERIAL HANDLING AND ROBOT

ONE MARKS:
1. What are the components, of FMS. (APR-2013)
2. What is meant by FMS Layout? (OCT-2012)
3. List the different types of FMS layout. (APR-2010)
4. Define flexible manufacturing cell. (APR-2010)
5. Define AGV. (OCT-2010)
6. Define Robot. (APR-2014)
7. Give different configuration of Robot. (APR-2012)
8. What are the different types of sensors? (OCT-2010)
9. State the function of a sensor on the Robot. (OCT-2013)
10. Name different Robot Programming methods.
   (APR-2011) (OCT-2014)

SIX MARKS:

1. Explain about the FMS components.(APR-2014) (OCT-2014) (APR-2015)

2. Explain the intelligent manufacturing system. (APR-2010) (APR-2012) (OCT-2014)

3. Explain the working principle of AGV. (APR-2014) (OCT-2015)

4. Explain any two industrial applications or Robot.
   (APR-2011) (APR-2014)

5. Explain flexible manufacturing cell. (OCT-2012) (APR-2014) (OCT-2015)

6. Describe basic robot motion. (APR-2014) (OCT-2014)

TWELVE MARKS:

1. Explain about the components of FMS. (APR-2012) (APR-2014) (OCT-2014)

2. Explain the working principle of AGV. (OCT-2014) (APR-2014) (OCT-2015)

3. Explain the configuration of Robot. (APR-2014) (OCT-2014)

4. Explain the various types of FMS layouts. (APR-2012)

5. Explain the different methods of programming for a Robot. (APR-2012) (APR-2014) (APR-2015)