01197

BACHELOR OF TECHNOLOGY IN MECHANICAL ENGINEERING (COMPUTER INTEGRATED MANUFACTURING)

Term-End Examination

June, 2010

BME-023 : ADVANCED MANUFACTURING TECHNOLOGY

Time : 3 hours *Maximum Marks : 70*

Note : *Answer **any seven** questions. Use of calculator is allowed.*

1. (a) Describe the methods of near net shape manufacturing. **5+5**

(b) Explain the two different applications of near net shape manufacturing in AMT.

2. (a) What do you understand by "nano-technology" ? List the various applications of Nano-Materials. **5+5**

(b) List down the different types of carbon nano-tube manufacturing processes. Explain any one of them.

3. (a) What are the various principles of concurrent Engineering (CE) ? Describe in detail any one of them. 5

(b) Explain the guidelines for implementation of CE projects. 5

4. Describe different phases of QFD in detail. 10

5. Describe the following in detail :

(a) Relationship Matrix of House of Quality. 5

(b) Correlation Matrix of House of Quality. 5

6. List down commercial Rapid Proto-typing technologies. Explain any one of them in detail. 10

7. What do you understand about Rapid tool production ? How do you classify rapid tooling ? Explain. 10

8. What is reverse engineering ? What are the different uses of reverse engineering ? Explain. 10

9. (a) Highlight the important Web. Portals that can be used for an e-manufacturing environment. 5

(b) Explain the e-maintenance architecture. Also describe the benefits of e-maintenance systems. 5

10. (a) Differentiate between Parallel Kinematic Machine's (PKM's) and Serial Machines. 5

(b) Write a brief note on condition index mapping. 5