

**B.Tech. MECHANICAL ENGINEERING
(COMPUTER INTEGRATED
MANUFACTURING)**

00230

Term-End Examination

June, 2016

**BME-023 : ADVANCED MANUFACTURING
TECHNOLOGY**

Time : 3 hours

Maximum Marks : 70

Note : Answer any **seven** questions. All questions carry equal marks.

1. (a) Describe the concept of Near Net Shape manufacturing. 5
- (b) Highlight the important applications of Microfabrication technologies. 5
2. (a) Define Nano-technology. Explain the role of Nano-technology in manufacturing. 5
- (b) Why are hybrid control systems needed in manufacturing environment ? 5
3. (a) Define concurrent engineering. What are the objectives of concurrent engineering ? 5
- (b) Compare the concurrent engineering with sequential engineering in the present market requirements. 5

4. (a) Briefly describe the importance of the concept of design for X. 5
- (b) With the help of a suitable flow chart show the steps in DFMA process. 5
5. With the help of a suitable sketch give the overview of House of Quality (HOQ). Briefly describe its matrices. 10
6. Define Rapid Prototyping. Name the different prototyping technologies. Explain the 3-D printing with the help of neat sketches. 10
7. Describe 3-D Keltool process. What are the advantages, disadvantages and applications of 3-D Keltool process ? 10
8. (a) What is reverse engineering ? What are the different uses of reverse engineering ? 5
- (b) Briefly explain the data acquisition techniques. 5
9. (a) Explain the working mechanism of WAN type network data transmission. 5
- (b) Briefly describe the importance of logistics and supply chain in e-manufacturing. 5
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