BME-023

B.Tech. MECHANICAL ENGINEERING (COMPUTER INTEGRATED MANUFACTURING)

00373   Term-End Examination

December, 2016

BME-023 : ADVANCED MANUFACTURING TECHNOLOGY

Time : 3 hours   *Maximum Marks : 70*

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

1. (a) What are the various steps involved in near net manufacturing ?   5

    (b) What methods are used to achieve near net shapes during forging ?   5

2. (a) What are the various properties of Nano materials ?   5

    (b) Write various applications of Nano materials.   5

3. Describe in detail the foundation model of concurrent engineering.   10

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4. (a) Explain why design for environment has become important in the present day scenario. *5*

   (b) Discuss the importance of design for Assembly. *5*

5. (a) Explain how Quality Function Deployment (QFD) helps in achieving long-term goals for an organisation. *5*

   (b) Write the approaches used by organisations to gather the voice of customers. *5*

6. Write short notes on any *two* of the following : *2×5=10*

   (a) Selective Laser Sintering

   (b) Application of Rapid Prototyping in Engineering

   (c) Limitations of Rapid Prototyping

7. (a) Describe the Epoxy tooling process. What are its advantages ? *3+2=5*

   (b) Explain the process of production of metal parts using 3DP process. *5*

8. (a) What are the problems encountered while acquiring usable data ? Discuss in detail. *5*

   (b) Explain the steps involved in transforming laser scan images to CAD models with the help of a block diagram. *5*

9. (a) Give various benefits of open modular architecture control. *5*

    (b) What are the various critical issues related to information handling ? *5*

10. (a) Explain in brief the Condition Index Mapping. *5*

    (b) What are the various competencies which help to achieve e-manufacturing strategy ? *5*