

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

Term-End Examination

December, 2019

**BME-023 : ADVANCED MANUFACTURING
TECHNOLOGY**

Time : 3 hours

Maximum Marks : 70

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

1. With the help of a neat sketch, explain the LIGA Micro-fabrication process. Discuss the advantages and disadvantages of the LIGA process. 10
2. Define Concurrent Engineering. Write the objectives of Concurrent Engineering. Discuss the advantages and limitations of Concurrent Engineering approach. 10
3. What are the different Rapid Prototyping Technologies ? With neat diagram, explain any one of them. 10

4. (a) Describe briefly, Micro-milling and Micro-drilling, with suitable examples. 5
- (b) What are the different methods of nano-tube manufacturing ? Briefly explain any one of them. 5
5. (a) What is 'Sequential Engineering Approach' ? Discuss its limitations. 5
- (b) Explain the principles of 'Design for production' with the help of an example. 5
6. (a) Write about 'Topographic Shape Formation (TSF)'. Discuss its advantages and disadvantages. 5
- (b) Describe with the help of a block diagram, the conversion of 3-D scanner data into CAD model. 5
7. What is Reverse Engineering ? Explain the complete process chain and discuss the various applications of reverse engineering. 10
8. Write short notes on the following : 10
- (a) Spray Metal Deposition
- (b) Shell Investment Casting
- (c) CNC Internetworking
- (d) e-Manufacturing Strategy