

CBCS SCHEME

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18RA825

Eighth Semester B.Tech. Degree Examination, June/July 2024 **Additive Manufacturing**

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Define Additive manufacturing and write the difference between Additive manufacturing and CNC machining. (10 Marks)
b. Explain the steps involved in Generic AM process. (10 Marks)

OR

- 2 a. List the other associated technologies of AM and explain any one. (10 Marks)
b. Mention the classification of AM process and explain reverse engineering technology. (10 Marks)

Module-2

- 3 a. With a neat sketch, explain stereolithography process. (10 Marks)
b. Explain with a neat sketch Selective Laser Sintering. (10 Marks)

OR

- 4 a. With a neat sketch, explain electron beam melting. (10 Marks)
b. Explain with a neat sketch Fused deposition modeling. (10 Marks)

Module-3

- 5 a. With a neat sketch, explain ultrasonic consolidation. (10 Marks)
b. With a neat sketch, explain laminated object manufacturing process and mention its advantages. (10 Marks)

OR

- 6 a. Explain Thermal bonding and Ink-based direct write technology. (10 Marks)
b. With a neat sketch, explain thermal spray direct write technology. (10 Marks)

Module-4

- 7 a. Explain software issues for Additive manufacturing. (10 Marks)
b. Explain decision theory. (10 Marks)

OR

- 8 a. List the post processing techniques of AM and explain any one technique. (10 Marks)
b. Explain production planning and control of AM. (10 Marks)

Module-5

- 9 a. Explain the use of AM in medical models. (10 Marks)
b. Explain discrete multiple material process. (10 Marks)

OR

- 10 a. Explain Align Technology. (10 Marks)
b. Explain Life Cycle Costing. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.