



B. TECH.

THEORY EXAMINATION (SEM-VIII) 2016-17

ADDITIVE MANUFACTURING

Time : 3 Hours

Max. Marks : 100

Note : Be precise in your answer. In case of numerical problem assume data wherever not provided.

SECTION – A

1. Attempt all parts of the following questions:

10 x 2 = 20

- (a) Classify additive manufacturing.
- (b) Differentiate between additive engg and CNC machining.
- (c) What is a STL file?
- (d) What is AM process chain?
- (e) Define sheet lamination processes
- (f) What are DED systems?
- (g) Define quality of additive manufacturing
- (h) What are engg design rules of additive manufacturing.
- (i) What are the applications of additive manufacturing
- (j) What are the future directions in additive manufacturing?

SECTION – B

2. Attempt any five parts of the following questions:

5 x 10 = 50

- (a) Explain the evolution of rapid prototyping to additive manufacturing
- (b) Why post processing is required in powder based AM process.
- (c) What for is aerosol printing and bioplotter.
- (d) Discuss the design of AM systems.
- (e) What are the hybrid technologies used in AM process.
- (f) What is the potential and resulting prospectus of AM design?
- (g) What are the major software issues AM?
- (h) Explain secondary rapid prototyping process.

SECTION – C

Attempt any two parts of the following questions:

2 x 15 = 30

- 3 Explain the impact of AM on new product development.
- 4 Explain:
 - (i) Powder based fusion process
 - (ii) Material Jetting
 - (iii) Direct energy deposition process
- 5 What are the eight steps in additive manufacturing?

