Printed Pages : 1 **Roll No.** | | | | | | | | | | | **NME063**

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 bioplottter.

(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?