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Question Paper Code	12213
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M.E. / M.Tech. - DEGREE EXAMINATIONS, NOV / DEC 2023

Third Semester

M.E. - CAD / CAM

20PCDEL305 - ADDITIVE MANUFACTURING

(Regulations 2020)

Duration: 3 Hours

Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

- | | <i>Marks,
K-Level, CO</i> |
|---|-------------------------------|
| 1. List the benefits of Additive Manufacturing. | <i>2,K1,CO1</i> |
| 2. Define rapid tooling. | <i>2,K1,CO1</i> |
| 3. Define Wire Frame Modeling. | <i>2,K1,CO2</i> |
| 4. List the topological problems in Reverse Engineering. | <i>2,K1,CO2</i> |
| 5. Define photo polymerization. | <i>2,K1,CO3</i> |
| 6. What is the principle of laminated object manufacturing process? | <i>2,K1,CO3</i> |
| 7. Define Laser engineered net shaping process. | <i>2,K1,CO4</i> |
| 8. List down the post processing done Selective laser sintering. | <i>2,K1,CO4</i> |
| 9. Write down the applications of ballistic particle manufacturing process. | <i>2,K1,CO5</i> |
| 10. List the limitations of electron beam melting process. | <i>2,K1,CO5</i> |

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11. a) Discuss the Impact of Additive Manufacturing on Product Development. *13,K2,CO1*
- OR**
- b) Explain in detail about various types in rapid tooling. *13,K2,CO1*
12. a) Explain the Digitization techniques used in Reverse Engineering. *13,K2,CO2*
- OR**
- b) Explain the basic concepts of reverse engineering in product development. *13,K2,CO2*
13. a) Explain in detail about part quality and process planning of Stereo lithography process. *13,K2,CO3*

OR

b) Explain in detail about the working process of solid ground curing process. *13,K2,CO3*

14. a) Discuss in detail about laser engineered net shaping (LENS) method. *13,K2,CO4*

OR

b) Discuss the importance of powder structures, post processing and process accuracy in SLS method. *13,K2,CO4*

15. a) Explain in detail on various 3-dimensional printing systems. *13,K2,CO5*

OR

b) Discuss the shape deposition manufacturing process in detail. *13,K2,CO5*

PART - C (1 × 15 = 15 Marks)

16. a) Discuss the various modeling process on Selective Laser Sintering. *15,K2,CO4*

OR

b) With a case study explain the procedure involved in production of complicated product. *15,K2,CO5*