Code No: RT32037D (R13) (SET - 1)

## III B. Tech II Semester Supplementary Examinations, November - 2018 RAPID PROTOTYPING

(Mechanical Engineering)

Time: 3 hours Maximum Marks: 70

Note: 1. Question Paper consists of two parts (Part-A and Part-B)

- 2. Answering the question in **Part-A** is compulsory
- 3. Answer any THREE Questions from Part-B

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## PART -A

1	a)	Explain the usage of LOM Tools	[3M]	
	b)	Discuss any four limitations of laminated object manufacturing.	[4M]	
	c)	Write the advantages of selective laser sintering process	[3M]	
	d)	Discuss the benefits and limitations of stereo lithography system.	[4M]	
	e)	Write about Magics software in RP.	[4M]	
	f)	How does aerospace technology make use of rapid tooling applications?	[4M]	
	PART -B			
2	a)	With example, explain the historical development of rapid protyping technology.	[4M]	
	b)	Describe the benefits and limitations of Rapid Prototyping.	[8M]	
	c)	List and explain the different process parameters of SLA technique.	[4M]	
3	a)	How FDM used in Rapid prototyping. What are the applications of FDM models	[8M]	
	b)	What are the merits and demerits of Laminated object manufacturing process	[8M]	
4	a)	What are different types of materials available for the SLS system? What are their respective applications?	[8M]	
	b)	List out technical specifications of 3D printing machine	[8M]	
5	a)	What is rapid tooling? Compare rapid tooling with conventional tooling.	[8M]	
	b)	Which rapid tooling techniques are best suited for production of ceramic parts. Explain any one.	[8M]	
6	a)	Differentiate between core STL file and fine STL file.	[8M]	
	b)	Write a short note on Solid View, View Expert software.	[8M]	
7	a)	Explain the application of RP in i) Forensic Science and Anthropology	[8M]	
		ii) Visualization of Bimolecular fields	503.63	
	b)	Explain with a suitable example the application of Rapid Prototyping in Automotive Industry	[8M]	
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