Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VIII (NEW) - EXAMINATION – SUMMER 2018

Subject Code: 2181914 **Date: 30/04/2018**

Subject Name: Rapid Prototyping(Department Elective II)

Time: 10:30 AM to 01:00 PM **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Classify a Rapid Manufacturing Processes.	**03**
	(b)	Write a Various applications of 3D Printer.	**04**
	(c)	Differentiate Subtractive Prototyping process and Additive Prototyping process.	**07**
Q.2	**(a)**	Which type of Part building errors in SLS?	**03**
	(b)	Explain Tool path generation in Rapid Prototyping.	**04**
	(c)	Explain in detail the structure of .STL file format and Enlighten the importance of .STL file format in RP.	**07**
		OR	
	(c)	Differentiate between Traditional Prototyping Vs. Rapid Prototyping.	**07**
Q.3	**(a)**	Explain Generic RP process with neat sketch.	**03**
	(b)	Comparison of RP Process with various rapid manufacturing processes.	**04**
	(c)	Describe a Laminated Object Manufacturing (LOM) process.	**07**
		OR	
Q.3	**(a)**	Write a Drawback of Rapid Prototyping Process.	**03**
	(b)	Explain in brief Stereo-lithography process.	**04**
	(c)	Explain Importance of part orientation in RP process in detail with neat sketch.	**07**
Q.4	**(a)**	Explain silicon rubber tooling.	**03**
	(b)	Give the classification of slicing procedure.	**04**
	(c)	Explain the procedure of slicing with flowchart.	**07**
		OR	
Q.4	**(a)**	Explain a Direct Metal Deposition (DMD) in RP Processes.	**03**
	(b)	What is Material and technological aspects in RP Processes?	**04**
	(c)	List the various types of solid models and write the advantages and disadvantages of B-Rep models with neat sketch.	**07**
Q.5	**(a)**	List out the different errors occurs in RP processes	**03**
	(b)	Comparison between Selective laser Sintering (SLS) and 3D Printer.	**04**
	(c)	Explain Pre-Processing and Post-Processing Error in RP Process.	**07**
		OR	
Q.5	**(a)**	What are the different Rapid Tooling techniques?	**03**
	(b)	Explain in briefly Fused Deposition Modeling process	**04**
	(c)	Explain Beam Deposition (LENS) Rapid Prototyping process in detail with neat sketch.	**07**

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