Register Number: ……..

M.E DEGREE EXAMINATIONS: JUNE 2013

Second Semester

CAD / CAM

CCM563: Rapid Prototyping, Tooling and Manufacture

Time: Three Hours **Maximum Marks: 100**

Answer all the Questions:-

PART A (10 x 2 = 20 Marks)

1. State the significance of Time Compression Technology in product development.
2. What do you meant by detail design?
3. Define the term Tessellation.
4. What is the main limitation of SLA?
5. Mention any four materials used in FDM process.
6. Give any two advantages of Solid Ground Curing
7. Specify the materials used in Z Corp 3D printer.
8. How do you prevent the distortion of final workpart in LENS?
9. List down some application area of RPT.
10. Distinguish between rapid tooling with conventional tool.

PART B (5 x 16 = 80 Marks)

11.	a)	i)	Justify "Rapid prototyping – an enabling technology for time compression engineering "	(6)
		ii)	What is meant by Rapid Prototyping? Elaborate its various stages.	(10)
			(OR)	
	b)	i)	Enumerate in detail about the current limitations of RPT.	(12)
		ii)	List down product data exchange formats used in RP.	(4)
12.	a)	i)	What do you meant by steriolithography? Explain the process with neat sketch.	(12)
		ii)	List the factors that affect the part accuracy of RP model.	(4)
			(OR)	
	b)	i)	With a neat sketch explain the Selective Laser Sintering (SLS) process.	(10)
		ii)	Distinguish between SLA and SLS	(6)

13. a) Enumerate in detail about the Fusion Deposition Modeling (FDM) with process parameters also its applications using sketch.

(OR)

b) i) What is meant by Solid Ground Curing (SGC)? With neat sketch discuss its process. (12)

ii) List out some specifications of SGC cubital systems. (4)

14. a) With neat sketch elaborate the Laminated Object Manufacturing (LOM) process also list its Process parameters.

(OR)

b) What is meant by concept modeler? Categorize it and explain any of its two types in detail.

15. a) i) Why the RTV tools used in fabricating prototypes? explain in detail (8)

ii) Discuss the advantages & disadvantages of prototype software. (8)

(OR)

b) Enumerate in detail about the various application of Rapid Prototyping technology in medical field.

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