B. E. (Mech) (Sem-VIII) CCBCGS)
Rapid Prototyping (DLOC)

University of Mumbai

Examinations Summer 2022

Time: 2hour 30 minutes

Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1	What is the full name of SLS?
Option A:	Selective Laser Simulator
Option B:	Sintering Laser Simulator
Option C:	Stereolithography Laser Sintering
Option D:	Selective Laser Sintering
2.	Silicon Rubber Molding is _____ .
Option A:	Indirect Soft Tooling
Option B:	Indirect Hard Tooling
Option C:	Direct Soft Tooling
Option D:	Direct Hard Tooling
3.	Which one of the processes is NOT using a laser?
Option A:	LOM
Option B:	SLA
Option C:	SLS
Option D:	FDM
4.	Process of converting STL file model in to layers is called_____in RP.
Option A:	chopping
Option B:	trimming
Option C:	slicing
Option D:	cutting
5.	Which of the following is the process of the pre-processing stage?
Option A:	Remove support
Option B:	De-powdering loose material
Option C:	Checking 3D CAD data
Option D:	Dip in a binder to strengthen the part
6.	Choose the correct sequence to generate prototype.
Option A:	3D CAD data - STL file - CAD solid model - RP prototype
Option B:	STL file - 3D CAD data - CAD solid model - RP prototype
Option C:	CAD solid model - 3D CAD data - RP prototype - STL file
Option D:	3D CAD data - CAD solid model - STL file - RP prototype
7.	Which one of the process is subtractive prototyping?
Option A:	5 axis CNC Milling
Option B:	Fused Deposition Modeling
Option C:	Multi-Jet Modeling
Option D:	Stereolithography Apparatus

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8.	In the process of Selective Laser Sintering, raw material used is in the form of
Option A:	Machining wax
Option B:	Foam core
Option C:	Powder
Option D:	Rubber
9.	Which kind of laser is used to cut the sheets in LOM
Option A:	Ruby laser
Option B:	Carbon dioxide Laser
Option C:	HE-ne Laser
Option D:	Ti-O2 laser
10.	Solid Ground Curing is
Option A:	Solid Based RP System
Option B:	Liquid Based RP System
Option C:	Powder Based RP System
Option D:	Gas Based RP System

Q.2	Explain any Two Questions out of Three 10 marks each
A	Explain various stages of Rapid prototyping process.
B	Describe laminated object manufacturing process and discuss the principle and effect of process parameters on qualities of final product.
C	Explain in details stereo lithography with respect to following parameters; Working principle, process steps, advantages, limitations and applications

Q3.	Explain any Two Questions out of Three 10 marks each
A	With neat sketch explain the process of selective laser sintering process and its advantages, disadvantages and applications.
B	Explain rapid tooling, List out the various indirect rapid tooling methods and explain about the silicon rubber tooling.
C	Explain Virtual reality (VR) and Augmented reality(AR) .

Q4.	Explain any four out of six Questions 05marks each
A	Solid Ground Curing.
B	3DP.
C	Explain working principle of FDM process.
D	Epoxy Tooling.
E	Reverse Engineering
F	Distinction Between AM and CNC Machining