LESSON PLAN

Subject Name- Rapid Manufacturing Processes	**Branch- Production Engineering**
Subject Code- BPEPE805	**Semester- 8th**

S/N	Module	Topic(s)	Period/ Hours
1	I	**Introduction:** Definition of GMP and Rapid Prototyping, Types of prototype	1
2	I	Issues related to GMP, Classification of RP systems.	2-3
3	I	*Stereolithography Systems:* Principle, Process parameter, process details.	4-5
4	I	Data preparation, data files and machine details.	6-7
5	I	Physical layer Model Development, Applications.	8-9
6	II	**Selective Laser Sintering:** Introduction	10
7	II	Type of machine, Principle of operation, process parameters, Data preparation for SLS.	11-12
8	II	Applications.	13
9	II	Fusion Deposition Modeling: Principle, Process parameter.	14
10	II	Path generation, Applications.	15
11	II	Solid Ground Curing: Principle of operation.	16-17
12	II	Machine details, Applications.	18
13	II	Laminated Object Manufacturing: Principle, LOM materials process details, application.	19-20
14	III	**Concepts Modelers:** Principle	21
15	III	Thermal jet printer, 3-D printer.	22-23

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16	III	Genisys Xsprinter HP system 5.	24-25
17	III	Object Quadra systems, Laser Engineering Net Shaping (LENS).	26
18	IV	**Rapid Tooling:** Indirect Rapid tooling -Silicon rubber tooling- Aluminum filled epoxy tooling Spray metal tooling.	27-28
19	IV	Cast kirksite, 3D keltool.	29
20	IV	Direct Rapid Tooling- Direct, AIM, Quick cast process.	30
21	IV	Copper polyamide, Rapid Tool, DMILS.	31
22	IV	Pro Metal, Sand casting tooling, Laminate tooling.	32-33
23	IV	Soft Tooling vs. Hard tooling.	34
24	V	**Software for RP:** STL files, Overview of Solid view, magics, mimics, magic communicator.	35-36
25	V	Rapid Manufacturing Process Optimization: factors influencing accuracy, data preparation errors, Part building errors.	37-38
26	V	Surface generation from point cloud.	39
27	V	Surface modification- data transfer to solid models.	40

Signature of the teacher