

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)**

**CLASS: M.TECH/PRE-PHD
BRANCH: PIE**

**SEMESTER : II/I
SESSION : SP/2024**

SUBJECT: PE532 ADDITIVE MANUFACTURING

TIME: 3 Hours

FULL MARKS: 50

INSTRUCTIONS:

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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		CO	BL
Q.1(a)	Discuss the classification of additive manufacturing processes.	[5] 1	2
Q.1(b)	Explain the Procedure of product development in additive manufacturing.	[5] 1	2
Q.2(a)	Briefly explain the Liquid-Based Additive Manufacturing Systems.	[5] 2	2
Q.2(b)	Describe the process of Fused Deposition Modeling (FDM).	[5] 2	2
Q.3(a)	Describe the process of Selective Laser Sintering (SLS).	[5] 3	2
Q.3(b)	Explain the process of Electron beam melting (EBM).	[5] 3	2
Q.4(a)	Describe the problems in STL file with suitable example.	[5] 4	2
Q.4(b)	Classify the Direct Rapid Tooling Methods and explain anyone of them.	[5] 4	2
Q.5(a)	Discuss the Application of various Additive Manufacturing systems in Direct and Indirect Tooling.	[5] 5	2
Q.5(b)	Explain the Direct and Indirect Tooling using in Additive Manufacturing.	[5] 5	2

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