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

CLASS: ME **SEMESTER : II**
BRANCH: MECHANICAL **SESSION : SP/2025**

SUBJECT: ME512 REVERSE ENGINEERING AND RAPID PROTOTYPING

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.

			CO	BL
Q.1(a)	What are the four stages of Reverse engineering? Explain why do we need RE in the current scenario.	[5]	1	1
Q.1(b)	Enumerate the two methods of Reverse Engineering. Explain with proper advantages and disadvantages	[5]	1	2
Q.2(a)	Define Triangulation for a photosensitive device given the Focal length and the image coordinate of the illuminated point. What is Triangulation and its importance	[5]	2	2
Q.2(b)	What do you understand by QFD. Give one example with reference to design of a steering.	[5]	3	2
Q.3(a)	Explain Destructive method of Reverse Engineering. Where is it used ?	[5]	2	3
Q.3(b)	What are the fundamental reverse engineering operations? Explain Data Registration,Data Optimization,Sampling Points,Primitives	[5]	2	3
Q.4(a)	What is rapid prototyping? Give its advantages and limitations.	[5]	2	2
Q.4(b)	Explain the working principle and details of process parameters of an FDM machine	[5]	2	2
Q.5(a)	With neat sketch explain the process of selective laser sintering process and its advantages, disadvantages and applications	[5]	2	3
Q.5(b)	Discuss about photo polymerization.What are the limitations of material chosen for SLS.	[5]	2	3

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