

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION MO/2023)**

**CLASS: B.TECH.
BRANCH: PRODUCTION ENGINEERING**

**SEMESTER: VII
SESSION: MO/2023**

**SUBJECT: PE407 ADVANCED MANUFACTURING PROCESSES
TIME: 02 Hours**

FULL MARKS: 25

INSTRUCTIONS:

1. The question paper contains 5 questions each of 5 marks and total 25 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Tables/Data handbook/Graph paper etc., if applicable, will be supplied to the candidates
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		CO	BL
Q.1(a)	Why Slush casting is an important Casting process? Justify with suitable example.	[2]	1 2
Q.1(b)	Explain the Plaster mold casting process with suitable industrial applications.	[3]	1 2
Q.2(a)	Distinguish between Thixo-Casting and Rheo-Casting Processes.	[2]	1 2
Q.2(b)	Explain the ceramic shell investment casting processes. What are the advantages over other casing processes?	[3]	1 3
Q.3(a)	Summarize the advantages and limitations of Forge welding process.	[2]	2 2
Q.3(b)	Explain the Cold-welding processes with suitable applications.	[3]	2 2
Q.4(a)	Summarize the advantages and limitations of Solid-State Welding process.	[2]	2 2
Q.4(b)	Explain the Diffusion-welding processes with suitable applications.	[3]	2 2
Q.5(a)	Illustrate the application of Super plastic forming processes.	[2]	3 2
Q.5(b)	Briefly describe the High Energy Rate Forming (HERF) techniques.	[3]	3 3

:::21/09/2023 M:::