Code No: R2021033 **R20** SET - 1

II B. Tech I Semester Supplementary Examinations, July - 2022
PRODUCTION TECHNOLOGY
(Mechanical Engineering)

Time: 3 hours Max. Marks: 70

Answer any **FIVE** Questions each Question from each unit
All Questions carry **Equal** Marks
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1	a)	What are the materials that are generally used for making patterns? Explain the reasons for their choice.	[7M]
	b)	What are the common allowances provided on patterns? Why and how they are provided? Give suitable examples.	[7M]
		Or	
2	a)	What types of geometric features might require the use of cores.	[7M]
	b)	What are different types of gates in sand moulding process?	[7M]
3	a)	With the help of suitable diagrams discuss the following casting methods. (a) True-Centrifugal casting (b) Semi Centrifugal casting (c) Centrifugal Casting.	[14M]
		Or	
4	a)	What are different zones in cupola? Explain.	[7M]
	b)	What are the advantages and applications of die casting?	[7M]
5	a)	Why is it possible for fusion zone to have a chemistry that is different from that of the filler metal? Explain.	[7M]
	b)	Sketch and explain various welding positions.	[7M]
		Or	
6	a)	Why is cleaning of metal important for successful resistance welding? Explain.	[7M]
	b)	What are some of the processes that can be used to cut metal thermally?	[7M]
7	a)	Distinguish between forward extrusion and backward extrusion processes.	[7M]
	b)	What are the various forging hammers? Discuss their advantages and limitations.	[7M]
		Or	
8	a)	Explain the working Principle of explosive forming. Discuss the various applications.	[7M]
	b)	Explain the working Principle of Electromagnetic forming. Discuss the various advantages and applications.	[7M]
9		A cylindrical block of diameter do and height ho is forged to a disc of diameter d_f and height h_f in an open die forging operation: (a) Determine the final disc diameter d_f (b) Determine the true strain in the longitudinal direction (c) Show that the true longitudinal strain is twice the true radial strain.	[14M]
		Or	
10	a)	What property of the lubricant is critical extrusion that might not be required for processes such as forging? Explain in detail.	[7M]
	b)	Give the classification of hot extrusion based on shape or configuration.	[7M]

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