

BALLARI INSTITUTE OF TECHNOLOGY & MANAGEMENT

(Autonomous Institute under Visvesvaraya Technological University, Belagavi)

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Course Code

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Third Semester B.E. Degree Examinations, January 2025

PRODUCTION TECHNOLOGY-I

Duration: 3 hrs

Max. Marks: 100

Note: 1. Answer any FIVE full questions choosing ONE full Question from each Module.
 2. Missing data, if any, may be suitably assumed

<u>Q. No</u>	<u>Question</u>	<u>Marks</u>	<u>(RBTL:CO:PI)</u>
<u>Module-1</u>			
1.	a. Define production. Explain the primary and secondary classification of production process with neat sketches.	10	(2 :1 : 1.4.1)
	b. What is casting? Explain the steps involved in making the casting with process flow chart.	10	(2 :1 : 1.4.1)
(OR)			
2.	a. Sketch and explain the jolting squeeze moulding machine.	10	(2 :1 : 1.4.1)
	b. What is riser? Write the functions of riser.	04	(2 :1 : 1.4.1)
	c. Sketch and explain the CO ₂ moulding.	06	(2 :1 : 1.4.1)
<u>Module-2</u>			
3.	a. Sketch and explain the hot chamber die casting process. Also, mention its advantages and disadvantages.	10	(2 :2 : 1.4.1)
	b. Describe the casting defects with features, causes and remedies.	10	(2 :2 : 1.4.1)
(OR)			
4.	a. Sketch and explain the different zones of cupola.	10	(2 :2 : 1.4.1)
	b. Sketch and explain the centrifuging casting process. Mention the applications.	10	(2 :2 : 1.4.1)
<u>Module-3</u>			
5.	a. Differentiate between hot and cold working process.	06	(2 :3 : 1.4.1)
	b. Explain the variables affecting metal forming processes.	08	(2 :3 : 1.4.1)
	c. Sketch and explain the hydrostatic extrusion process.	06	(2 :3 : 1.4.1)

(OR)

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| 6. | a. | Sketch and explain the compound and progressive dies. | 10 | (2 :3 : 1.4.1) |
| | b. | Explain the electromagnetic forming process with the neat sketch. | 10 | (2 :3 : 1.4.1) |

Module-4

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| 7. | a. | Sketch and explain the types of oxyacetylene flames and their features. | 10 | (2 :4 : 1.4.1) |
| | b. | Explain the MIG welding process with the neat sketch. Mention the advantages and disadvantages. | 10 | (2 :4 : 1.4.1) |

(OR)

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| 8. | a. | Sketch and explain the Thermit welding process. | 10 | (2 :4 : 1.4.1) |
| | b. | Explain the laser welding process with the neat sketch. Mention the applications. | 10 | (2 :4 : 1.4.1) |

Module-5

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| 9. | a. | Explain the factors affect to the weldability of metals. | 06 | (2 :5 : 1.4.1) |
| | b. | Briefly explain the thermal effects in welding. | 04 | (2 :5 : 1.4.1) |
| | c. | Explain the experimental determination of permeability number of a sand sample with neat sketch. | 10 | (2 :5 : 1.4.1) |

(OR)

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|----|----|--|----|----------------|
| 10 | a. | Sketch and explain any 3-types of foundry and forging tools. Mention their uses. | 10 | (2 :5 : 1.4.1) |
| | b. | Sketch and explain the steps involved in magnetic particle inspection. | 10 | (2 :5 : 1.4.1) |

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