

Basavarajeswari Group of Institutions  
**BALLARI INSTITUTE OF TECHNOLOGY & MANAGEMENT**  
(Autonomous Institute under Visvesvaraya Technological University, Belagavi)

USN 

--	--	--	--	--	--	--	--	--

Course Code 

2	1	M	E	3	2
---	---	---	---	---	---

Third Semester B.E. Degree Examinations, September/October 2024

**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>
<b><u>MODULE – 1</u></b>			
1.	a. Sketch and explain the production processes classified based on force applied.	10	(2 : 1 : 1.6.1)
	b. What is allowance? Explain shrinkage and draft allowances provided on patterns.	06	(2 : 1 : 1.6.1)
	c. Write a short note on importance of binders and additives in sand moulding.	04	(2 : 1 : 1.6.1)
<b>OR</b>			
2.	a. Define casting. Explain the steps involved in casting process with flow chart.	08	(2 : 1 : 1.6.1)
	b. What are patterns? List out the different type of patterns.	04	(2 : 1 : 1.6.1)
	c. Sketch and explain the steps involved in Investment moulding process.	08	(2 : 1 : 1.6.1)
<b><u>MODULE – 2</u></b>			
3.	a. With a neat sketch explain working of coreless induction furnace. Mention its advantages.	10	(2 : 2 : 1.6.1)
	b. With a neat sketch explain the working of cupola furnace.	10	(2 : 2 : 1.6.1)
<b>OR</b>			
4.	a. Sketch and explain the working of centrifuging casting process. Mention the advantages and disadvantages.	10	(2 : 2 : 1.6.1)
	b. Explain the continuous casting process with the neat sketch.	10	(2 : 2 : 1.6.1)
<b><u>MODULE – 3</u></b>			
5.	a. Explain with a neat sketch any three types of rolling mills.	10	(2 : 3 : 1.6.1)
	b. Explain with a neat sketch (i) wire drawing and (ii) tube drawing operation.	10	(2 : 3 : 1.6.1)
<b>OR</b>			
6.	a. With neat sketches explain the (i) Compound die and (ii) Progressive die.	10	(2 : 3 : 1.6.1)
	b. With a neat sketch explain working of electro-hydraulic forming. Mention its advantages and disadvantages.	10	(2 : 3 : 1.6.1)

#### **MODULE – 4**

7. a. Explain with a neat sketch, gas welding operation and its different flame characteristics with sketches. **10** (2 :4 : 1.6.1)
- b. With a neat sketch explain working of atomic hydrogen welding process. Mention its applications. **10** (2 :4 : 1.6.1)

**OR**

8. a. Describe the working of Thermit welding process with figure. Mention its advantages. **10** (2 :4 : 1.6.1)
- b. Discuss the working of laser beam welding process with a sketch. Mention its advantages and disadvantages. **10** (2 :4 : 1.6.1)

#### **MODULE – 5**

9. a. Explain the following terms: **10** (2 :5 : 1.6.1)  
i) Residual stresses ii) HAZ iii) shrinkage and distortion iv) thermal effects e)structure of weld
- b. List the different types of foundry and forging tools and their uses. (Atleast major five in each and their specific uses) **10** (2 :5 : 1.6.1)

**OR**

10. a. Sketch and explain the x-ray Radiographic method of inspection. Mention the advantages. **10** (2 :5 : 1.6.1)
- b. Explain the step by step procedure to obtain butt and lap joints using arc welding process. **10** (2 :5 : 1.6.1)

**\*\* \*\* \***