		Basavarajeswari Group of Institutions						
<b>BALLARI INSTITUTE OF TECHNOLOGY &amp; MANAGEMENT</b> (Autonomous Institute under Visvesvaraya Technological University, Belagavi)								
USN	N [	Course Code	2 1	M E 3 2				
Third Semester B.E. Degree Examinations, April/May 2023								
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								
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		<u>MODULE – 1</u>						
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)				
OR								
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)				
MODULE – 2								
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)				
4.	a.	<b>OR</b> 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)				
<u>MODULE – 3</u>								
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)				
OR								
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)				

		<u>MODULE – 4</u>					
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 dis advantages.	10	(2:4:1.6.1)			
9.	a.	Explain the following terms: $\underline{MODULE - 5}$	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)			

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