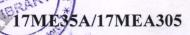
CBCS SCHEME





(08 Marks)

(04 Marks)

(08 Marks)

Third Semester B.E. Degree Examination, Dec.2019/Jan.2020 Metal Casting and Welding

Time: 3 hrs. Max. Marks: 100

b. Explain the different steps involved in shell molding process and mention advantages. (10 Mark Module-2 3 a. Describe with a neat sketch, Thixo casting process and mention its merits, limitation applications. b. What is die casting? With neat sketch explain the hot die casting process. OR 4 a. Classify melting furnaces. Explain with a neat sketch the working of a direct-arc elect furnace. (10 Mark OR b. What are the zones in cupola? With a neat sketch, explain cupola furnace. (10 Mark Module-3 5 a. Define solidification and explain the methods available to achieve directional solidification with sketches. b. Explain different sand casting defects, its causes and remedies. OR	1 11	ne:	onrs. Max. M	arks: 100	
Module-1 a. What is casting? Briefly discuss steps involved in making of castings. b. What is pattern? List the types and explain the following with neat sketches: (i) Match plate pattern OR a. Enumerate the desirable properties of molding sand. b. Explain the different steps involved in shell molding process and mention advantages. (10 Mark black) Module-2 3 a. Describe with a neat sketch, Thixo casting process and mention its merits, limitation applications. b. What is die casting? With neat sketch explain the hot die casting process. OR 4 a. Classify melting furnaces. Explain with a neat sketch the working of a direct-arc elect furnace. b. What are the zones in cupola? With a neat sketch, explain cupola furnace. Module-3 5 a. Define solidification and explain the methods available to achieve directional solidification with sketches. b. Explain different sand casting defects, its causes and remedies. OR (10 Mark black) (10 Mark b		N	ote: Answer any FIVE full questions, choosing ONE full question from each mo	dule.	
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OR				(12 Marks)	
OR		b.	Explain different sand casting defects, its causes and remedies.	(08 Marks)	
C I I I I C I			Opp		
6 a. Explain melting of aluminum using stir casting setup. (10 Mar	6	a.	Explain melting of aluminum using stir casting setup.	(10 Marks)	
b. What is Degasification in liquid metals? Explain the methods of degasification with no					
				(10 Marks)	
9			9.		
Module-4	7			700	
7 a. Sketch and explain metal arc inert gas welding and its advantages and disadvantages.	/	a.	sketch and explain metal arc mert gas welding and its advantages and disadvantage	(10 Marks)	
b. What is the principle of resistance welding? Explain projection welding with sketch.		6	What is the principle of resistance welding? Explain projection welding with sket		
(10 Mar		9	y man is the principle of resistance wearing. Exprining projection wearing	(10 Marks)	
OR					
8 a. With a neat sketch explain the principle, process of LASER welding and mention	8	a.			
				(10 Marks)	
b. Explain the Thermit welding with a neat sketch. (10 Mar		b.	Explain the Thermit welding with a neat sketch.	(10 Marks)	
Module-5					
Miduic-5	9	a.	With neat sketch, explain Heat Affected Zone (HAZ) and its various zones.	(10 Marks)	
		b.	What are welding defects? Explain the methods to detect the welding defects.	(10 Marks)	
	9				
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OR

Explain with a sketch, principle of oxy-acetylene gas welding.

Explain the methods used for inspection of casting and welding.

Differentiate between Soldering and Brazing.

Important Note: 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. 2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

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