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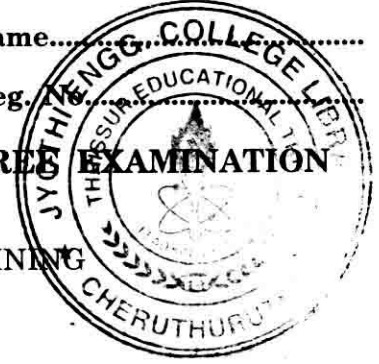
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Name.....

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**FOURTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION
APRIL 2014**

ME 09 404/PTME 09 403—CASTING AND JOINING
(2009 Scheme)



Time : Three Hours

Maximum : 70 Marks

Part A

Answer all the questions.

1. State the advantages of casting over other manufacturing methods.
2. What is slush casting ?
3. Classify the electrodes.
4. What are the effects of preheating and heat input on the width of HAZ in arc welding ?
5. What is braze welding ?

(5 × 2 = 10 marks)

Part B

Answer any four questions.

6. Explain the construction and operation of Cupola furnace with neat sketch.
7. Discuss about inspection and testing of castings.
8. Describe submerged arc welding and state its advantages and applications.
9. Discuss the various welding defects with neat sketches.
10. Give the comparison between soldering and brazing.
11. Explain different filler materials used in brazing.

(4 × 5 = 20 marks)

Part C

Answer all the questions.

12. Give an account of different types of gating systems sketches and its salient features and limitations.
- Or
13. Discuss different types of patterns used in casting with neat diagrams.
 14. Explain investment casting and pressure casting processes with all details and also state its merits and demerits.

Or

Turn over

15. Describe centrifugal casting and die casting processes with sketches and write its salient features and limitations.
16. With the help of neat sketches explain the working principle of ultrasonic welding and electro slag welding. State its advantages.

Or

17. Write notes on FRW and SMAW. List its limitations.
18. Explain the following :—
 - (a) Theory of soldering.
 - (b) Polyamide and polyurethane melt adhesives.

Or

19. Discuss the following :—
 - (a) Metal-ceramic joining.
 - (b) Ceramic-ceramic joining.
 - (c) Diffusion bonding.

(4 × 10 = 40 marks)