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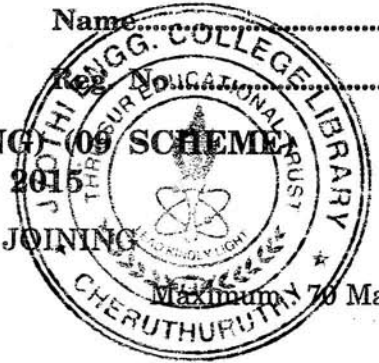
Name

Reg. No.

**FOURTH SEMESTER B.TECH. (ENGINEERING) (09 SCHEME)
DEGREE EXAMINATION, APRIL 2015**

ME 09 404/PTME 09 403—CASTING AND JOINING

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. How is shell-mould casting different than conventional sand casting ?
4. What are the three flames used in gas 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 casting of single crystal components.
9. Discuss inspection and testing of welded joints.
10. Explain thermit welding with neat sketch.
11. Explain different filler materials used in brazing.

(4 × 5 = 20 marks)

Part C

Answer all 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 ceramic mould casting and low pressure casting processes with all details and also state its merits and demerits.

Or

15. Describe centrifugal casting and die casting processes with sketches and write its salient features and limitations.

Turn over

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 submerged arc welding and oxyacetylene welding. List its applications and limitations.
18. Explain the following :—
- (a) Theory of soldering ;
 - (b) Polyamide and polyurethane melt adhesives.

Or

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

(4 × 10 = 40 marks)