40943

Name : .....

Reg. No: .....

FOURTH SEMESTER B.TECH (ENGINEERING) DEGREE EXAMINATION, APRIL 2013
(2009 Scheme)

ME 09 404 / PTME 09 403 – CASTING AND JOINING

Time : Three Hours **Maximum : 70 Marks**

PART-A (Answer All Questions)

1 What are the primary functions of riser in casting?

2 What is slush casting and give one application?

3 Describe the coding of electrode with one example.

4 List out the advantages and disadvantages of EGW.

5 What is capillary action? What is its effect in welding? **(5×2 =10 Marks)**

PART-B (Answer any Four Questions)

1. Explain about the design considerations of gating system in casting.
2. Explain about squeeze casting in detail with a neat diagram.
3. Explain submerged arc welding and list out its advantages and its applications.
4. Explain about TIG with a neat diagram and give its advantages and disadvantages.
5. Explain the differences between brazing and welding.
6. Explain about the polyamide and polyurethane metal adhesives. **(4×5 =20 Marks)**

PART-C

1. What is gating? and explain about the different types of gating systems with a neat sketch.
2. Explain about the different types of patterns used in casting with a neat sketch.
3. Explain the following with a neat sketch and give its advantages and disadvantages:
   a. Squeeze Casting
   b. Shell Moulding.
4. Explain any two types of die casting machines and list out its advantages and disadvantages.
5. Explain about RW with neat sketches and give its advantages and disadvantages.
6. Explain about electron beam welding and laser beam welding with neat diagram.
7. Explain the following in detail:
   a. Surface Energy and contact angle
   b. Capillary action
8. Explain the following:
   a. Surface Energy and Contact Angle
   b. Metal/Ceramic joints and Ceramic/Ceramic joints **(4×10 =40 Marks)**

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