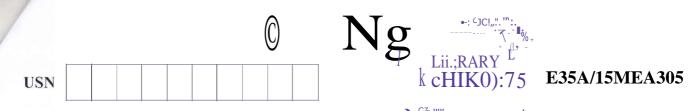
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# Third Semester B.E. Degree ExaminaticiRi<sup>1</sup>D0,2019/Jan.2020 Metal Casting and Welding

Time: 3 hrs. Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

## Module-1

- 1 a. Define Manufacturing Process. Briefly explain the classification of Manufacturing Processes. (07 Marks)
  - b. Explain different pattern allowances with neat sketches.

#### OR

2 a. Explain the different properties of Moulding Sand.

(06 Marks)

(09 Marks)

- b. Explain the following processes:
  - (i) Sweep Moulding
  - (ii) Sand Slinger

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(10 Marks)

#### Module\_2

- 3 a. With a neat sketch, explain coreless induction furnace and mention its merits and demerits.
  - (08 Marks)

b. Sketch and explain construction and operation of Cupola.

(08 Marks)

(08 Marks)

# OR

- 4 a. Explain Gravity die casting with neat sketch.
- .
- b. With neat sketches, explain thixo casting and slush casting.

(08 Marks)

# Module-3

- 5 a. Explain Mechanism of Solidification.
- (08 Marks)
- b. Explain the different types of Nucleation.

(08 Marks)

#### OR

- 6 a. Define the term Defect. Explain the different defects in casting. What are the causes and remedies? (08 Marks)
  - b. Define the term degasification. With neat sketch explain any two methods of degasification.

(08 Marks)

#### Module-4

a. With neat sketches explain T1G and MIG welding.

(10 Marks)

b. With neat sketch explain Thermit welding process. Mention its merits and demerits.

(06 Marks)

#### OR

- 8 a. Explain Projection welding process with a neat sketch, list out advantages and disadvantages. (08 Marks)
  - b. Explain briefly the following:
    - (i) Seam Welding
- (ii) Explosive Welding.

(08 Marks)



# 15M E35A/15M EA3k.,

#### **Module-5**

- 9 **a.** What is meant by HAZ? Explain the various regions of HAZ in low carbon steel during welding. (08 Marks)
  - b. Discuss the various types of welding defects their causes and remedies.

### (08 Marks)

- OR
- 10 a. Differentiate between soldering and Brazing list out merits, demerits and applications of these two processes. (08 Marks)
  - b. Explain ultrasonic inspection method to test welded part with advantages and disadvantages.

    (08 Marks)

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