Roll No. | | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(ME) (2012 Onwards) (Sem.–3)

MANUFACTURING PROCESSES-I

Subject Code : BTME-305

M.Code : 59115

Time : 3 Hrs. Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

1. Answer briefly :

a. Define weldability.

b. Explain the functions of core prints and chaplets used in casting process.

c. How arc stability can be improved?

d. Explain the welding technique for overhead welding position.

e. Enumerate design considerations of casting process.

f. What do you understand by directional solidification?

g. Discuss the working principle of X-ray radiography.

h. Enumerate different Non-destructive testing methods.

i. Differentiate between soldering and brazing processes.

j. Explain the significance of visual examination methods.

SECTION-B

2. Describe various factors for selection of manufacturing processes.

3. Explain the construction and working of cupola giving a neat sketch.

4. Explain the working principle, applications, advantages and limitations of AC welding process giving a neat sketch.

5. Explain the elements of gating system giving a neat sketch and explain the significance of various elements.

6. What is dye penetrant test? Explain cleaners, penetrants and developers.

SECTION-C

7. a. Describe the working principle, applications and advantages of investment casting process giving neat sketch.

   b. Explain the working principle of resistance welding process giving a neat sketch. Also explain the spot welding process with the help of neat sketch.

8. a. What do you understand by heat affected zone (HAZ) in welding? How does HAZ affect weld zone performance?

   b. Describe the working principle of thermit welding process giving a neat sketch and also explain its applications.

9. a. Discuss various types of welding defects, their causes and remedies.

   b. Explain principles of Eddy Current Testing (ECT). What do you understand by sensitivity in ECT? Narrate one application of ECT.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.