

CBCS Scheme

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15AU36

Third Semester B.E. Degree Examination, June/July 2017 Manufacturing Process - I

Time: 3 hrs.

Max. Marks: 80

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

Module-1

- 1 a. List and explain the various steps involved in casting process. (08 Marks)
b. Define Pattern. List the materials used for pattern and state the functions of pattern in brief. (08 Marks)

OR

- 2 a. Draw and explain the basic steps involved in fettling and cleaning of castings in brief. (08 Marks)
b. What is necessity of Pattern Allowance? With suitable sketches, elaborate the various types of pattern allowances. (08 Marks)

Module-2

- 3 a. What is a Remetting Furnace? Explain the working principle and constructional features of Cupola furnace, with neat sketches. (10 Marks)
b. Explain the principle of working of Sand slinger, with neat sketch. (06 Marks)

OR

- 4 a. What are Permanent Moulds? Briefly explain the Centrifugal Casting process, with neat sketch and also mention its applications. (10 Marks)
b. Explain the Thixocasting process, with neat sketch. (06 Marks)

Module-3

- 5 a. Define Welding. Classify the various welding processes. (05 Marks)
b. Describe the process of Tungsten Inert gas welding, with neat sketch. (07 Marks)
c. Define Gas welding. Write the chemical reactions involved in gas welding. (04 Marks)

OR

- 6 a. Describe Atomic Hydrogen Welding, with neat sketch. (06 Marks)
b. Explain the advantages, applications and limitations of Arc Welding process. (06 Marks)
c. Draw the construction of gas torch used in gas welding and label the parts. (04 Marks)

Module-4

- 7 a. With suitable sketch, explain the principle of Thermit welding. (08 Marks)
b. Describe any two of the following resistance welding processes, with neat sketch :
i) Seam welding ii) Butt welding iii) Projection welding. (08 Marks)

OR

- 8 a. Explain the explosive welding process, with neat sketch. (08 Marks)
b. What is Heat affected zone? List the parameters affecting it and explain the effect of carbon content on structure and properties of steel. (08 Marks)