

**FOURTH SEMESTER B.TECH. DEGREE EXAMINATION
NOVEMBER/DECEMBER 2004**

PRODUCTION PROCESS—I (P)

(1998 Scheme)

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.

Each question carries 4 marks.

1. What are the advantages of casting processes ?
2. Give an account of different pattern materials.
3. Sketch and explain a core box.
4. Describe the solidification of castings.
5. What are the considerations to be made in the design of risers ?
6. Describe, briefly, permanent mould casting process.
7. List the steps involved in shell moulding.
8. Describe, briefly, a planetary rolling mill.
9. Describe the following forging operations :—
 - (a) Fullering.
 - (b) Upsetting.
10. What is stretch forming ? Explain.

(10 × 4 = 40 marks)

Part B

Answer one question from each module.

Each question carries 20 marks.

MODULE I

11. (a) Explain the sand moulding process.
(b) Give an account of defects in castings and its remedies.
12. (a) What are the requirements of moulding sand ? Describe the ingredients and their functions of moulding sand.
(b) Explain different types of core making.

MODULE II

13. (a) Describe the centrifugal casting process.
(b) How are structural steel sections produced by rolling ?
14. (a) Explain, with suitable diagrams, investment casting method known as lost-wax method.
(b) Describe the production of tubes by rolling.

MODULE III

15. (a) Describe the drop forging.
(b) Discuss the principle, process and advantages of hot extrusion.
16. (a) Describe, with the help of sketches, a forging press for closed die forging.
(b) Describe the metal spinning. What are its applications ?

(3 × 20 = 60 marks)