

FIFTH SEMESTER B.Tech DEGREE EXAMINATION

(2013 Scheme)

Branch: MECHANICAL PRODUCTION ENGINEERING.

13.504 PRODUCTION PROCESS-I (P)

Time: 3 Hours

Max. Marks: 100

Part –A

Answer all questions (10x2=20 Marks)

1. What are the ingredients of moulding sand?
2. Explain the functions of cores in casting process?
3. Enumerate the functions of gating system.
4. Explain CO₂ moulding.
5. Define weldability of metals, what are the factors affecting weldability?
6. Explain the importance of edge preparation in gas welding.
7. What are the functions of fluxes in welding?
8. Explain the significance of polarity in arc welding.
9. How welding electrodes are classified?
10. What are the applications of arc welding process?

Part –B

Answer one full question from each module (20x4= 80 Marks)

Module-I

11. a) Explain sand moulding process with neat sketches.
- b) What are the desirable properties of moulding sand? .Explain

OR

12. a) Explain different types of cores with sketches.
- b) Explain the mechanism of dendritic growth in solidification.

Module-II

13. a) What are the defects in casting? Explain the causes and remedies.
- b) With neat sketch explain permanent mould casting.

OR

14. a) Explain investment casting process.
- b) Explain centrifugal casting methods.

13.504 PRODUCTION PROCESS-I (P)

Module-III

15. a) Explain the principle of electrical resistance welding, what are the different types of it?
b) Explain with sketches, different flames used in gas welding.

OR

16. a) Explain different techniques used in gas welding.
b) Briefly explain about the equipments used in gas welding.

Module-IV

17. a) Explain the principle of arc welding. What are the power sources of arc welding?
b) What are the advantages and disadvantages of arc welding process?

OR

18. a) Explain submerged arc welding process with neat sketches.
b) Differentiate between TIG and MIG welding process..

(4 x 20 = 80 Marks)