



Reg. No. :

Name :

**Fourth Semester B.Tech. Degree Examination, February 2016
(2013 Scheme)**

**13.402 : MANUFACTURING PROCESS
(MN)**

Time : 3 Hours

Max. Marks : 100

Instruction : Answer **all** questions in Part **A** and **any one full** question from **each** Module in Part **B**.

PART – A

Each question carries **2** marks.

1. How cores are correctly positioned in the mould ?
2. Brief the term 'Shrinkage allowance'.
3. What is the method of testing moisture in sand ?
4. Explain the term 'Sprue'.
5. Brief any one casting defect.
6. Write a note on metal forming.
7. What is rotary swaging ?
8. Explain how flashes in forgings are removed.
9. Explain carburising flame and its application.
10. Explain the welding of plastics in brief. (2×10=20 Marks)



PART – B

Each question carries 20 marks.

MODULE – I

11. a) Sketch and explain a typical sand mould with its elements. (Component Pulley)
b) Explain patterns and its colour coding.

OR

12. a) Detail the properties of moulding sands.
b) Explain ceramic mould casting.

MODULE – II

13. a) With a neat sketch explain hot chamber die casting.
b) What are the three centrifugal casting types and explain.

OR

14. a) Explain the various cycles in compacting.
b) What are the advantages and limitations of powder metallurgy ?

MODULE – III

15. a) Explain Von-Mises yield criterion.
b) Explain strain rate effects in plastic flow.

OR

16. a) With a neat sketch explain extrusion process.
b) How rolling processes are classified ? Discuss.

MODULE – IV

17. a) Write a note on metallurgy of welding.
b) With a neat sketch explain electron beam welding.

OR

18. a) Explain TIG welding with a sketch. What are its advantages and applications ?
b) Explain any two inspection methods to test the quality of weld. (4×20=80 Marks)