



Reg. No. :

Name :

**Fourth Semester B.Tech. Degree Examination, May 2015
(2013 Scheme)**

13.402 : MANUFACTURING PROCESS (MN)

Time : 3 Hours

Max. Marks : 100

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

PART – A

(Each question carries 2 marks)



1. What is a gate ? What is a gating system ?
2. Give the classifications of moulding sands based on clay content.
3. What are the various allowances used in pattern making ?
4. List the various casting defects.
5. Differentiate between impregnation and infiltration.
6. What is meant by upsetting ?
7. What is known as twinning ?
8. What is HAZ in a fusion weld ?
9. What are the methods available for arc initiation ?
10. What is the characteristic appearance of an oxidized weld ? **(10×2=20 Marks)**

PART – B

(Each question carries 20 marks)

Module – 1

11. a) Explain various properties required for moulding sand.
b) Briefly explain various steps in sand preparation.
- OR
12. a) Explain with neat sketches different types of core boxes.
b) Explain briefly about pressurized and unpressurised gating system.

**Module – 2**

13. a) Explain any one centrifugal casting with a neat sketch.
b) Discuss the common casting defects and the methods to be adopted to minimize it.

OR

14. a) Explain the various finishing operations used in powder metallurgy.
b) Explain plastic blow moulding with sketch.

Module – 3

15. a) Describe the factors involved in precision forging.
b) Briefly explain open-die forging.

OR

16. a) Briefly describe the spinning process. What are its applications ?
b) Explain various extrusion processes with neat sketches.

Module – 4

17. a) Explain three types of oxyacetylene of flames with neat sketches.
b) Explain briefly the fluxes and filler rods used in gas welding.

OR

18. a) Describe the forge welding with application, advantages and limitations.
b) Explain the principle of resistance welding.

(4×20=80 Marks)