(Pages : 3) **A – 4172**

Reg. No. : .....

Name : .....

Fourth Semester B.Tech. Degree Examination, June 2016
(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 are the properties of a good moulding sand ?
2. What are the types of cores ?
3. Enumerate the various types of moulding machines used in a foundry.
4. Why are risers not as useful in die casting as they are in sand casting ?
5. Why does die casting produce the smallest cast parts ?
6. What are ceramic-matrix composites ?
7. What are the advantages and limitations of forging ?
8. What is known as extrusion ?
9. What is an arc blow ?
10. How do you classify the electrodes ? How is weld quality achieved through electrodes ?

(10×2=20 Marks)

P.T.O.

PART – B

Each question carries **20** marks.

Module – 1

11. a) Briefly describe the step by step procedure for CO_2 moulding process.

    b) Explain the shell moulding process with neat sketches.

OR

12. a) Explain the design principles of gating system.

    b) Explain with a neat sketch CO_2 process for core making with advantages and limitations.

Module – 2

13. a) Describe centrifugal casting process. What are its applications ?

    b) Explain with sketch die casting. State its advantages and disadvantages.

OR

14. a) Discuss the advantages and limitations of powder metallurgy.

    b) Explain the process plastic blow moulding.

Module – 3

15. a) Sketch and explain various types of rolling mills.

    b) Explain rolling of channels and rail sections.

OR

16. a) Explain in detail about various forging operations.

    b) With the help of neat sketch explain the tube drawing process.

Module – 4

17. a) Explain briefly with sketch

    i) Metallic arc welding ii) Shielded are welding.

    b) Explain with neat sketch the components of oxy-acetylene gas welding equipment.

OR

18. a) Briefly explain the principle of operation, advantages and limitations of electron beam welding.

    b) What are the defects that are generally found in welding ? Describe their causes and remedies.

(4×20= 80 Marks)