



**B.Tech IV Semester Regular/Supplementary Examinations, September 2023**

**MANUFACTURING PROCESS**  
(MECHANICAL ENGINEERING)

**Maximum Marks: 70**

Date:24.09.2023 Duration: 3 hours

- Note:
1. This question paper contains two parts A and B.
  2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
  3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
  4. Each question carries 10 marks and may have a, b, c, d as sub questions.

**Part-A**

All the following questions carry equal marks

(10x2M=20 Marks)

- 1 List out any four types of patterns
- 2 What are the desirable properties of moulding sand?
- 3 What are the types of flames used in oxy fuel welding?
- 4 List any three advantages of gas welding over arc welding.
- 5 Differentiate between Welding and soldering
- 6 List the various welding defects.
- 7 Differentiate blanking and piercing?
- 8 Sketch the following: i) Planetary rolling mill ii) Cluster Rolling mill.
- 9 What are the advantages of extrusion process?
- 10 What is swaging?

**Part-B**

Answer All the following questions.

(5X10M=50Marks)

- 11 A. What do you understand by centrifugal casting? How are centrifugal casting methods classified?  
B. What are the advantages and limitations of investment casting? (5M+5M)  
OR
- 12 List out the defects in the casting process. Explain any five with neat sketch. (10M)
- 13 Explain the process of submerged arc welding with neat sketch. What are its advantages. (10M)  
OR
- 14 Explain the process of thermit welding with neat sketch. Write its applications. (10M)
- 15 A. What are the reasons and effects of Heat affected zone in welding?  
B. What are the differences between TIG and MIG welding processes? (5M+5M)  
OR
- 16 With neat sketch, explain the laser beam welding process. Mention advantages and limitations of laser welding also give application. (10M)
- 17 A. Explain about hot spinning and cold spinning applications.  
B. Illustrate wire drawing and Tube drawing. (5M+5M)  
OR

- 18 A. Distinguish between bending and drawing in sheet-metal operations.  
B. Briefly explain various methods available for breakdown passes in rolling. (5M+5M)
- 19 A. Explain forward extrusion and backward extrusion with neat sketches.  
B. Discuss smith forging and roll forging. (5M+5M)
- OR
- 20 A. What are the advantages and limitations of extrusion process?  
B. Discuss impact extrusion. (5M+5M)