

**PARUL UNIVERSITY**  
**FACULTY OF ENGINEERING & TECHNOLOGY**  
**B. Tech. Summer 2018 - 19 Examination**

**Semester: 6**  
**Subject Code: 03113351**  
**Subject Name: Manufacturing Processes II**

**Date: 11/05/2019**  
**Time: 10:30 am to 01:00pm**  
**Total Marks: 60**

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**Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

**Q.1 Objective Type Questions - (All are compulsory) (Each of one mark) (15)**

1. Which of the following is not the allowance provided on patterns during casting process?
  - A. Shrinkage allowance
  - B. Distortion allowance
  - C. Welding allowance
  - D. Machining allowance
2. Which of the following non-conventional machining method requires presence of vacuum?
  - A. Laser beam machining
  - B. Electron beam machining
  - C. Ultrasonic machining
  - D. Abrasive jet machining
3. Which of the following flames in gas welding generates maximum temperature?
  - A. Oxidizing flame
  - B. Neutral flame
  - C. Reducing flame
  - D. Arcing flame
4. In metal forming process material is deformed \_\_\_\_\_ .
  - A. Elastically
  - B. Plastically
  - C. Beyond ultimate tensile point
  - D. In the presence of vacuum
5. To avoid aspiration effect in casting, sprue should be
  - A. Tapered
  - B. Straight
  - C. Containing multiple holes on walls
  - D. None of the above
6. \_\_\_\_\_ is the ability of the material to withstand high temperature.
7. \_\_\_\_\_ is the ability of the material to get welded with the relative ease.
8. In which extrusion process, fluid is present between ram and billet?
9. What is the working principle of electric discharge machining?
10. What is the purpose of core in casting?
11. Write down two functions of risers in casting operation.
12. List down various manufacturing processes used in industries.
13. What is the function of filler metal in welding?
14. What is drawing operation?
15. What is cold shut in casting?

**Q.2 Answer the following questions. (Attempt any three) (15)**

- A) Explain pressurized and non-pressurized gating system with necessary figures.
- B) Explain working principle of Submerged Arc Welding (SAW) with necessary figures.
- C) What is hot forming (hot working) process? Mention the advantages and disadvantages of the same in detail.
- D) List essential properties of moulding sand. State the effect of each property on casting.

- Q.3** A) Explain top and bottom gating system in detail. Draw the necessary figures. (07)  
B) Explain working principle, setup, working procedure, advantages and disadvantages of Laser Beam Machining (LBM) with necessary figures. (08)
- OR**
- B) Explain working principle, setup, working procedure, advantages and disadvantages of Ultra Sonic Machining (USM) with necessary figures. (08)
- Q.4** A) Explain principle of resistance welding and explain seam welding process with neat sketch. Mention Advantages, disadvantages and applications of the same. (07)
- OR**
- A) Discuss the principle and working procedure of arc welding with neat sketch. Mention advantages and disadvantages of the same. (07)  
B) What is the principle and working procedure of rolling? Explain with neat sketch (1) Two-high rolling mill (2) Four high rolling mill (3) Planetary rolling mill. (08)