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Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(AE) (2011 Onwards) (Sem.-3)

**MANUFACTURING PROCESSES**

Subject Code : BTAE-304

Paper ID : [A1149]

Time : 3 Hrs.

Max. Marks : 60

**INSTRUCTIONS TO CANDIDATES :**

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

**SECTION-A****1. Write briefly :**

- a. On what principle, the resistance welding works?
- b. How the electrodes are specified?
- c. What is the significance of pattern allowances?
- d. Define rolling.
- e. What is boring?
- f. What are etchants and maskants?
- g. On what principle the electrochemical machining works?
- h. Write down the functions of coolants.
- i. Define slotting operation.
- j. What is the principle of abrasive flow machining?

### SECTION-B

2. Describe the different types of pattern and materials used for making them in brief.
3. What are the applications and limitations of TIG welding?
4. Differentiate between simple and compound indexing.
5. What is the principle of electro discharge machining? Explain the process of machining of EDM process.
6. Differentiate between up and down milling.

### SECTION-C

7. With the help of neat sketches, explain the geometry of a single point cutting tool. Also explain what is tool signature?
8.
  - a) Differentiate between spot and seam welding.
  - b) What is directional solidification? Discuss the methods to make the solidification directional.
9.
  - a) Explain the following :
    - i) Deep drawing
    - ii) Spinning
    - iii) Bending and extrusion
  - b) Differentiate between surface and centre less grinding.