

Roll No.

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(Automobile Engineering) (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) Enumerate various types of patterns used in sand castings.
- b) Give the moulding sand composition for green sand moulds.
- c) How dies casting is better than sand casting?
- d) Why coatings are applied on welding electrodes?
- e) Enumerate the thermal effects on welding on base material.
- f) What is friction welding?
- g) Enumerate the types of cutting tool materials used for various machining operations.
- h) Explain the principle of resistance welding process.
- i) Enumerate various plastic moulding processes used in industry.
- j) What is the material removal mechanism in Chemical Machining process?

SECTION-B

2. Why allowances are provided on patterns? Describe various allowances provided in patterns.
3. Briefly describe shell mould casting process with the help of neat sketch giving its applications and advantages.
4. Briefly describe submerged arc process with the help of neat sketch giving its applications and advantages.
5. Give a brief account of various Cylindrical and surface grinding operations giving sketches.
6. Briefly describe Electrochemical Machining process with the help of neat sketch giving its applications and advantages.

SECTION-C

7.
 - a) Briefly explain spinning and deep drawing sheet metal forming operations with the help of neat sketches.
 - b) Describe the reasons and remedies for following casting defects :
 - i) Blow Holes.
 - ii) Cold shut.
 - iii) Misalignment.
8.
 - a) Briefly describe three welding defects, their causes and the remedies.
 - b) Briefly explain various boring operations with the help of neat sketches.
9. Write short notes on **any two** of the following giving neat sketches :
 - a) Laser Beam Machining.
 - b) Indexing in Milling.
 - c) Extrusion.
 - d) Thermit welding.