

Printed Pages – 4

Roll No.

B037414(037)

**B. Tech. (Fourth Semester) Examination,
Nov.-Dec. 2021**

(AICTE Scheme)

mechanical Engg. Branch

MANUFACTURING PROCESS

Time Allowed : Three hours

Maximum Marks : 100

Minimum Pass Marks : 35

Note : Attempt all questions. Part (a) of each question is compulsory and carries 4 marks. Solve any two parts from part (b), (c) & (d) and carries 8 marks each.

Unit-I

1. (a) Broadly classify manufacturing process.

[2]

- (b) Define pattern. Explain types of pattern with neat sketch.
- (c) Define allowancy and discuss the various types of allowances.
- (d) What is core? What are the characteristics of a good core? Illustrate different types of core with their application.

Unit-II

- 2. (a) Define weldability and explain principle of welding.
- (b) Briefly explain type of flames. Also explain flame characteristics.
- (c) Write short notes on :
 - (i) Atomic Hydrogen welding
 - (ii) Submerged arc welding
- (d) Write short notes on :
 - (i) Differentiate forward and backward gas welding techniques
 - (ii) Types of welding electrodes

B037414(037)

[3]

Unit-III

- 3. (a) What are various types of welding defects?
- (b) Explain any two resistance welding process.
- (c) Write short notes on :
 - (i) Ultrasonic welding
 - (ii) Thermit welding
- (d) Briefly explain spot and seam welding process with their advantages disadvantages and application.

Unit-IV

- 4. (a) Name various parts of carriage in Lathe with diagram.
- (b) Calculate the suitable gear train for cutting 10 mm pitch three start thread on lathe with a lead screw having 6.25 mm pitch.
- (c) Explain the principle of operation of shaper with neat sketch.
- (d) Explain the principle of operation of planner with neat sketch.

B037414(037)

PTO

Unit-V

5. (a) Classify milling process. Differentiate broaching reaming and drilling.
- (b) What is milling machine? Explain up milling and down milling with neat diagram and also write application of each.
- (c) Explain different types of reamers with neat sketch.
- (d) Determine the cutting time for cutting a 125 mm long keyway using HSS end-mill of 20 mm diameter having four cutting teeth. The depth of keyway is 4.5 mm. Feed per tooth is 0.1 mm and the cutting speed is 40 m/min. Assume approach and over travel distances half of the diameter of the cutter and a depth of 4.5 mm can be cut in one pass.