

**MANUFACTURING TECHNOLOGY**

(Mechanical Engineering)

Time: 3 hours

Max. Marks: 70

**PART - A**

(Compulsory Question)

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1 Answer the following: (10 X 02 = 20 Marks)

- (a) Define casting.
- (b) List any two factors considered in the selection of patterns.
- (c) List two important effects of using centrifugal force during casting process.
- (d) Clearly define defect.
- (e) How welding processes are basically classified?
- (f) Highlight the principle employed for resistance welding process.
- (g) List any two applications of MIG welding.
- (h) Mention any two destructive tests carried out on weldments.
- (i) List out any two reasons for carrying out surface treatment.
- (j) Mention the two stages involved in flame hardening process for heat treatable steel.

**PART - B**

(Answer all five units, 5 X 10 = 50 Marks)

**UNIT - I**

2 Describe with a flow chart the different steps involved in metal casting process.

**OR**

3 Describe the following with neat sketches:

- (a) Solidification of a pure metal.
- (b) Solidification of an alloy.

**UNIT - II**

4 Sketch and describe the stages involved in investment casting process.

**OR**

5 Describe the working of Cupola with a neat sketch.

**UNIT - III**

6 Write a brief notes on:

- (a) Edge preparation.
- (b) Surface preparation.

**OR**

7 With a neat sketch describe Thermit Welding Process.

**UNIT - IV**

8 Describe MIG welding process with a neat sketch. List any two advantages and limitations of the process.

**OR**

9 Sketch and describe the thermal effects of welding on the parent metal.

**UNIT - V**

10 Explain carburizing process of treating the surfaces. Mention the general characteristics and carburizing methods.

**OR**

11 Write brief notes on the following: [www.ManaResults.co.in](http://www.ManaResults.co.in)

- (a) Metal cladding.
- (b) Metal faced coatings.

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