

Duration: 3 Hours

Total Marks- 80

- 1) First Question (Q.1) is Compulsory.
- 2) Attempt any 3 questions from the remaining 5 (Q.2 - Q.6) questions.
- 3) Figures to the right indicate full marks
- 4) Proportionate and labelled free-hand sketches would do

- Q. 1** Solve any Four out of Six. **20**
- a) Explain Gear Shaving process.
  - b) Differentiate between soldering and brazing.
  - c) Explain selection of grinding wheel.
  - d) Explain Internet of Things.
  - e) Discuss Electric-discharge machining.
  - f) Compare wood and metal as pattern materials.
- Q. 2 a)** Draw and explain in brief the various rolling defects their causes and remedies. **10**
- b)** Draw and explain Screw type injection moulding process with its advantages, Limitations and applications. **10**
- Q. 3 a)** Explain working, advantages and limitations of Ultrasonic Machining. **10**
- b)** What is a pattern? Draw and explain types of pattern with neat sketch. **10**
- Q. 4 a)** Differentiate between TIG and MIG welding. **10**
- b)** Explain construction and working of centre lathe. **10**
- Q. 5 a)** Explain working of Submerged Arc Welding with its applications, advantages. and limitations. **10**
- b)** Draw and explain Geometry and nomenclature of a single point cutting tool. **10**
- Q. 6** Write short notes on (Any four) **20**
- a) CO<sub>2</sub> Shell Moulding Process.
  - b) Various steps involved in powder metallurgy.
  - c) Knee type horizontal milling machine.
  - d) Quick return mechanism on shaper.
  - e) Investment Casting.
  - f) Cloud manufacturing.

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