

Duration: 3 Hours

Total Marks- 80

- NB:
- 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 types of gates .
 - b) Differentiate between soldering and brazing.
 - c) Explain selection of grinding wheel.
 - d) Explain Internet of Things.
 - e) Discuss Electro-chemical machining.
 - f) Various steps involved in powder metallurgy.
- Q. 2** a) Draw and explain Geometry of a Single Point Cutting Tool. **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) Draw and explain significance of various elements of gating system in sand casting. **10**
- Q. 4** a) Draw and explain in brief the various welding defects their causes and remedies. **10**
b) Describe the types of drilling machine and their application. **10**
- Q. 5** a) Explain working of Submerged Arc Welding with its applications, advantages. and limitations. **10**
b) Draw and explain in brief the various rolling defects their causes and remedies. **10**
- Q. 6** Write short notes on (Any four) **20**
- a) Compare wood and metal as pattern materials.
 - b) Classify Production Processes..
 - c) Quick return mechanism on shaper.
 - d) Open die and Closed die forging.
 - e) CO₂ Shell Moulding Process.
 - f) Cloud manufacturing.