

Total Marks- 80

Duration: 3 Hours

- 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) Differentiate between Hot working and Cold working.
- b) Discuss the different types of flames in gas welding.
- c) Explain gear hobbing process.
- d) Explain Internet of Things.
- e) Discuss electric discharge machining.
- f) Classify Production Processes.

Q. 2 a) In a cutting test with 0.3mm flank wear as tool failure criterion, a tool life of 10 min was obtained at a cutting velocity of 20 m/min taking tool life exponent as 0.25, tool life in min at 40 m/min find cutting velocity. **08**

b) Draw and explain plunger type injection moulding process with its advantages, Limitations and applications. **12**

Q. 3 a) Explain working, advantages and limitations of laser beam 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) Draw and explain various operations perform on lathe machine. **10**

Q. 5 a) Differentiate between TIG and MIG welding. **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) Various pattern allowances.
- b) Various steps involved in powder metallurgy.
- c) Knee type horizontal milling machine.
- d) Open die and Closed die forging.
- e) Investment Casting.
- f) Cloud manufacturing.
