

314342

24225

3 Hours / 70 Marks

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.
(2) Illustrate your answers with neat sketches wherever necessary.
(3) Figures to the right indicate full marks.
(4) Assume suitable data, if necessary.
(5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any FIVE of the following : 10
- a) Enlist surface hardening processes (Any Four)
 - b) Draw neat sketch of tumbling process.
 - c) State the applications of thermosetting plastics.
 - d) State the meaning of following
 - i) G00
 - ii) M04
 - e) State any four applications of powder metallurgy.
 - f) State any four advantages of CNC machines.
 - g) Define phase.

P.T.O.

- 2. Attempt any THREE of the following :** **12**
- a) Enlist common heat treatments with their applications.
 - b) Describe the effect of alloying elements on the properties of steel (Any four)
 - c) Define the term – surface processing operations. State any two advantages of surface processing operations.
 - d) Draw Fe-Fe₃C equilibrium diagram with all necessary meanings.
- 3. Attempt any THREE of the following :** **12**
- a) Describe TTT diagram with neat sketch.
 - b) Give detail classification of CNC machines.
 - c) Justify the necessity of surface processing operations in automotive industry.
 - d) Describe extrusion blow molding with the help of neat sketch.
- 4. Attempt any THREE of the following :** **12**
- a) Classify engineering material on the basis of any four parameters.
 - b) Differentiate between automatic tool changer and automatic pallet changer of CNC machines.
 - c) Describe steps involved in automotive painting procedure.
 - d) Describe the atomization process used for the production of the metal powder.
 - e) ‘Use of plastics in automobile industry increasing day by day’
Justify your answer.

