

22228

23124

3 Hours / 70 Marks

Seat No. 

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- Instructions* – (1) All Questions are *Compulsory*.
- (2) Illustrate your answer 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) List any four types of hand tools.
- b) Define Brazing.
- c) State any two application of shearing in plastic cutting and forming process.
- d) State any two uses of solar heating system.
- e) State any two safety precautions for material handling equipment.
- f) State the heat transfer mode in plastic processing.
- g) State any two types of heat exchangers.

P.T.O.

- 2. Attempt any THREE of the following:** **12**
- a) Enlist the types of spanners used in the plastic processing machines.
  - b) Compare between brazing and soldering with any four point.
  - c) List the components of solar PV. Draw sketch and state function of any two components.
  - d) State any four points to be considered in selection of material handling equipment.
- 3. Attempt any THREE of the following:** **12**
- a) Explain with sketch the working principle of Milling machine.
  - b) Explain large wind turbine with its working principle.
  - c) Enlist conveying equipment used in plastic processing. Explain working alongwith sketch of any one-equipment.
  - d) Explain the mode of heat transfer in the extrusion plastic processing.
- 4. Attempt any THREE of the following:** **12**
- a) Explain with sketches the power tools used in plastic processing machines.
  - b) Explain the safety precautions to be taken during soldering and brazing in plastic joining processes.
  - c) Differentiate between large wind turbines and small wind turbine with four major points.
  - d) Explain any four troubleshooting and remedies for any material handling equipment.
  - e) Explain need of cooling towers in plastics processing units.
- 5. Attempt any TWO of the following:** **12**
- a) Enlist different types specification and uses of pipe fitting with neat sketch.
  - b) Explain with sketch the working principle of Lathe machine.
  - c) Explain with sketch the working principle of biomass power plant. State its applications.

**6. Attempt any TWO of the following:****12**

- a) State safety norms to be followed for preventive and breakdown of power transmission system.
  - b) Enlist overhead material handling equipments. Draw and state applications of any one overhead equipment.
  - c) Enlist types of heat exchanger. Explain with neat sketch the parallel flow and counter flow heat exchanger.
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