

17456

21314

3 Hours / 100 Marks

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.
(2) Answer each next main Question on a new page.
(3) Illustrate your answers with neat sketches wherever necessary.
(4) Figures to the right indicate full marks.
(5) Assume suitable data, if necessary.
(6) Use of Non-programmable Electronic Pocket Calculator is permissible.
(7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. **Attempt any FIVE of the following:** **20**
- Define:
 - Precision
 - Repeatability
 - Calibration
 - Readability.
 - Differentiate between line standard and end standard.
 - Explain alignment testing using surveyour's level.
 - Define straightness. How it is tested by straight edge?
 - Write a note on protection and storage of templates and tools.
 - Compare manual straightening with machine straightening.
 - What is composite material? How it is classified?

P.T.O.

- 2. Attempt any TWO of the following:** **16**
- a) Explain any two methods of plotting ellipse in shopfloor.
 - b) List tools used in marking. How will you perform marking of:
 - i) holes in angle section
 - ii) instrument panel.
 - c) Explain marking methods for large size plates. Describe marking out a bracket from a datum surface.
- 3. Attempt any TWO of the following:** **16**
- a) State necessity of roundness measurement. Explain V-block and roundness measuring machine.
 - b) Explain templates as:
 - i) guide for cutting process
 - ii) to provide an economical arrangement of layout for press work.
 - c) What is thermal method of straightening? Explain use of heat strips and heat triangles.
- 4. Attempt any TWO of the following:** **16**
- a) State and explain methods of stiffening sheet metal with neat sketches. How stiffening of large panels is performed?
 - b) Explain processing and joining of composites in fabrication. State its applications.
 - c) State the need for surface coating and cleaning. Explain chemical method.

- 5. Attempt any TWO of the following:** **16**
- a) Explain dynamics of plant layout with examples.
 - b) Differentiate between mechanical method and thermal method of surface cleaning.
 - c) Explain the use of angle stiffeners. State reasons for stiffening.
- 6. Attempt any FOUR of the following:** **16**
- a) Essentials of layout.
 - b) Product layout v/s process layout.
 - c) Horizontal datum - spirit level and its use.
 - d) Materials used for templates.
 - e) Factors influencing layout.
 - f) Dry method of surface cleaning.
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