

17456

21819

3 Hours / 100 Marks

Seat No.

--	--	--	--	--	--	--	--	--

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

Marks

1. Attempt any TEN :

2 × 10 = 20

- (a) Define precision and accuracy.
- (b) Why standards are required ?
- (c) Give principle of spirit level.
- (d) What is block square ?
- (e) Explain use of V-block for roundness measurement.
- (f) Enlist four materials used for templates.
- (g) Give two advantages of thermal methods of straightening.
- (h) What are limitations of manual straightening ?
- (i) Why stiffening is required ?
- (j) Classify various composite materials.
- (k) Enlist various methods of surface cleaning in fabrication.
- (l) Define factory layout.
- (m) What are advantages of machine straightening (any two) ?
- (n) Enlist thermal methods used for straightening.

2. Attempt any FOUR :**4 × 4 = 16**

- (a) Enlist various tools used in marking and explain marking of large size plate.
- (b) Explain chalk line method for making long straight line. Give two limitations of this method.
- (c) Describe plotting ellipse using trammels.
- (d) How holes are marked in angle sections and channel sections ?
- (e) How bolt holes are marked on flanges ?
- (f) Explain shop method of drawing a circle.

3. Attempt any FOUR :**4 × 4 = 16**

- (a) Explain the sources of errors in measurement on shop floor.
- (b) Describe the angular standards of measurements.
- (c) How alignment testing is carried out ?
- (d) Explain straightness testing by straight edge method.
- (e) How roundness of big tank is measured ?
- (f) Explain use of heat strips and triangles for straightening.

4. Attempt any TWO :**8 × 2 = 16**

- (a) (i) Explain use of templates for setting out sheet metal fabrications.
(ii) How templates are useful for checking accuracy ?
- (b) Describe the use of templates in press work with example.
- (c) How stiffening of large panels is carried out ?

5. Attempt any TWO :**8 × 2 = 16**

- (a) (i) Explain stiffening of sheet metal.
- (ii) Why web stiffeners are required ?
- (b) Why coating and cleaning is required ? Explain chemical method of cleaning.
- (c) Compare mechanical method and thermal method of surface cleaning with example.

6. Attempt any TWO :**8 × 2 = 16**

- (a) Give composition of composites. How they are joined ? Give two applications of composites.
 - (b) Enlist various types of plant layout. Explain any one with sketch.
 - (c) (i) Enlist four factors influencing workshop layout.
 - (ii) What is dynamics of plant layout ? Give example.
-

