



17456

16172

3 Hours / 100 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 :

20

- a) Define:
 - i) Precision
 - ii) Accuracy
 - iii) Repeatability
 - iv) Calibration
- b) Differentiate between line standard and end standard.
- c) Explain shop method of drawing an ellipse.
- d) What is alignment testing ? Explain use of tensioned wire.
- e) How composite materials are classified ? Write their applications in fabrication.
- f) Compare manual V/s machine straightening method.
- g) Define 'Error'. Explain various sources of errors in measurement.

2. Attempt any two :

16

- a) State the need of surface cleaning and coating. Explain 'Thermal' method.
- b) State necessity of stiffening sheet metal. Explain stiffening methods of large panel.
- c)
 - i) Explain the principle of hot straightening for structural 'T' section
 - ii) Describe the use of heat strips in straightening.

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- 3. Attempt any two :** **16**
- a) Explain with sketches :
 - i) Procedure for marking out instrument panel.
 - ii) Marking of holes in channel section and T-sections.
 - b) Explain roundness measurement by
 - i) Circumferential confining gauge
 - ii) Roundness measuring machine.
 - c) State need of templates. Explain templates as a means of checking.
- 4. Attempt any two :** **16**
- a) Explain use of angle stiffeners and web stiffeners.
 - b) Explain processing and joining of composites.
 - c) What is factory layout ? Describe factors influencing layout.
- 5. Attempt any two :** **16**
- a) State various types of layout ? Select layout for 'pressure vessel fabrication work' and justify your answer.
 - b) Explain templates as a guide for cutting process. How tools and templates are protected for its long life ?
 - c) Enlist tools used for marking. Explain method of marking out bolt holes for flanges.
- 6. Attempt any four :** **16**
- a) Explain chemical method of surface cleaning.
 - b) Explain mechanical surface cleaning method and its advantages.
 - c) Describe dynamics of plant layout.
 - d) Compare between direct marking and use of template.
 - e) Describe Engineer's square and its use.
 - f) How chalk line method is used for marking long straight line ?
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