

- Q.24 What are the methods to detect corrosion?
- Q.25 What are the applications of chemical films?
- Q.26 Name the different thermal sensors and their applications.
- Q.27 What is the need for high temperature materials?
- Q.28 What is the purpose of curing composites?
- Q.29 Write a brief note on Heat Resistive Paints?
- Q.30 Describe the method used to detect defect in composite material?
- Q.31 What are the different standard screw threads?
- Q.32 What are the factors considered for manufacturing cost of composite?
- Q.33 How is head sensing done?
- Q.34 Name the various NDT techniques with examples.
- Q.35 What are the benefits of honeycomb structure?

SECTION-D

- Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)
- Q.36 Describe the various aircraft parts fabrication techniques and the fabricating components used.
 - Q.37 Describe the various types of composites and their manufacturing method in detail.
 - Q.38 What are the requirements of protective treatment for the aircraft surface and parts and discuss the treatments as well

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Time : 3Hrs.

M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 What is the name of the nut which is a cap nut with spherical dome at the top
 - a) Dome nut
 - b) Wing nut
 - c) Flanged nut
 - d) Cap nut
- Q.2 What is warp and weft?
 - a) Defects in composite material
 - b) Directions of the threads in the matrix
 - c) Twisting and breaking of Components
 - d) None of the above
- Q.3 Leakage of inflammable gas from a corroded pipe can cause _____.
 - a) Acidity
 - b) Alkalinity
 - c) Turbidity
 - d) Fire hazards
- Q.4 The rivets in aircraft are made of _____ alloys
 - a) Steel
 - b) Copper
 - c) Aluminum
 - d) Titanium
- Q.5 Which of the following may alter the mechanical properties of reinforced composite?
 - a) Constituent properties
 - b) Fiber length
 - c) Fiber orientation
 - d) All of the mentioned

- Q.6 Whitworth thread is _____ standard.
- British
 - American
 - Indian
 - Metric
- Q.7 LBW stands for ?
- Leg before welding
 - Laser Beam welding
 - Low beam welding
 - Light beam welding
- Q.8 Select the incorrect statement from the following option.
- Replacement of corroded equipment is time-consuming
 - Corrosion causes contamination of product
 - Corrosion increases the electrical conductivity of metals
 - Corrosion causes leakage of toxic liquid or gases
- Q.9 Which of the following is/are correct regarding creep?
- It is the continuous plastic elongation of metal under constant load
 - It is the high temperature mechanical effect of metal
 - It is the continuous plastic elongation of metal under constant load at high temperature and it can be minimized by the fraction of grain boundaries
 - It can be minimized by reducing the fraction of grain boundaries

- Q.10 What is the purpose Alclad?
- Prevent corrosion
 - Increase ductility
 - Increase surface toughness
 - Hardening

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

- Q.11 Which composite is used in aircraft structure?
- Q.12 What is the technique to weld Aluminum?
- Q.13 What is a thermistor?
- Q.14 Mention two different types of threading of aircraft bolts.
- Q.15 What is a warp?
- Q.16 What is an epoxy resin?
- Q.17 Mention an example of defect in welding.
- Q.18 Which aircraft components require welding?
- Q.19 What is the spring material?
- Q.20 What is the purpose of a washer?

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 What are the advantages of composite materials?
- Q.22 What is a honeycomb structure? Where are they primarily used?
- Q.23 What are the different composite materials matrix used?