

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

- Q.10 What is the purpose Alclad?
a) Prevent corrosion
b) Increase ductility
c) Increase surface toughness
d) 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 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 requires 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 aboney comb structure? Where are they primarily used?
Q.23 What are the different composite materials matrix used?