Q.30 Define Brittleness. Elasticiticity and Malleability.

Q.31 Which material is chosen for the turbo plant of an aircraft and why?

Q.32 Write in brief about Aircraft Adhesives and where are they used.

Q.33 What are the various grain defects in wood.

Q.34 What are the various refining process for steel?

Q.35 What are the benefits of using composites in aircraft?

SECTION-D

Note : Long Answer type question. Attempt any two questions. (2x10=20)

Q.36 Explain in detail the heat treatment process for light alloys?

Q.37 What are the specifications of Duralumin Alclad and its uses?

Q.38 How is the identification of non ferrous metals done by practical tests? Explain in detail.

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Roll No.....

4th Sem / Aircraft Materials & Material Science-I
Subject : Air Craft Maintenance

Time : 3 Hrs. **M.M. : 100**

SECTION-A

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

Q.1 Which of the following can be used to make seats in an aircraft?

a) Magnesium alloy sheets
b) Graphite
c) Rubber
d) Pure magnesium

Q.2 Which of the following is an economic consideration of a material?

a) Structure b) Appearance
c) Availability d) Strain

Q.3 Pitting of the surface is a kind of aluminium alloy _____

a) Corrosion b) Annealing
c) Strength d) Manufacturing method

Q.4 The tendency of a material to fracture without changing it's shape is known as _____

a) brittleness b) hardness
c) elasticity d) carburizing

Q.5 Copper is a _____ of electricity

a) bad conductor b) good conductor

c) typical insulator d) medium conductor

Q.6 Which heat treatment method is also called as "drawing"?

a) Tempering b) case hardening

c) Annealing d) Normalizing

Q.7 The melting point of aluminium is _____

a) 236^0C b) 1085^0C

c) 660^0C d) 1510^0C

Q.8 Which of the following property of a material is preferred n the construction of an aircraft?

a) Ductility b) Elasticity

c) Hardness d) High density

Q.9 Which of the following materials is used in making aircraft windows?

a) Thick glass b) Plexiglass

c) Graphite d) Plane glass

Q.10 Which of the following are shapes used in the manufacturing of an aircraft:

a) X-section b) U-section & Z-section

c) X-section & Z sectiond) U-section

SECTION-B

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

Q.11 What is the proportional limit of a material?

Q.12 Where are high carbon steels used?

Q.13 What is the purpose of using sealants?

Q.14 Where is Mahogany used?

Q.15 Where are inconnel alloys used?

Q.16 Where are thermo plastics used?

Q.17 What is service life?

Q.18 What is the purpose of Aircraft Adhesives?

Q.19 What is SAE system?

Q.20 What is the use of Plywood in aircraft?

SECTION-C

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

Q.21 Differentiate among themosetting and thermoplastic polymers.

Q.22 State the factors effecting selection of materials for airplane parts,

Q.23 What are the properties dominant in choosing a material chosen for tail and wing?

Q.24 What are the different bending tests?

Q.25 What is meant by a stabilizer and b stabilizer in alloying Titanium?

Q.26 Explain the use of spurce and walnut.

Q.27 How is construction of plywood done?

Q.28 What is tautening and non tautening?

Q.29 Give two examples of each : Nature made composites, polymer composites and ceramic composites.