Q.23 How the pilot seat is ejected?

Q.24 Discuss different types of structural arrangements.

Q.25 Write a precautionary measure taken to avoid engine failure

Q.26 What are the types of secondary controls used?

Q.27 Draw and label a wing structure without skin.

Q.28 What are the different periodical check for aircraft maintenance?

Q.29 Describe the function of a swept back wing.

Q.30 How does brake system work in a landing gear?

Q.31 Explain the use of plywood in aircrafts.

Q.32 What is fail safe concept?

Q.33 What is the procedure for balancing of control surface?

Q.34 How the testing of fuel tanks is done?

Q.35 Describe the process done on fabric for aircraft use.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 Draw a tree structure and classify the different types of aircrafts in detail.

Q.37 What are the minor defects occurring on aircrafts? Describe the investigation process and the rectification procedure of the minor defects.

Q.38 What is the use of composites on aircrafts? Describe a light metal construction

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4th Sem./Branch : Aircraft Maintenance

Subject:- General Airframe and aero Modeling

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 What type of aircraft is primarily designed for transporting passengers over long distances?

a) Fighter jet b) Cargo plane
c) Commercial airliner d) Helicopter

Q.2 Which aircraft type is typically used for military combat missions?

a) Cargo plane b) Helicopter
c) Fighter jet d) Commercial airliner

Q.3 What type of load does the landing gear of an aircraft primarily support during take-off and landing?

a) Aerodynamic load b) Torsional load
c) Structural load d) Impact load

Q.4 Which load is associated with the weight of the aircraft itself and the payload it carries?

a) Aerodynamic load b) Structural load
c) Torsional load d) Dynamic load

Q.5 Which concept focuses on designing components to withstand certain levels of stress for their entire service life without the need for periodic inspections or replacements?

a) Fail-safe concept b) Safe-life concept
c) Redundancy concept d) Reliability concept

Q.6 What is the purpose of secondary control systems in aircraft?

a) To assist in controlling the aircraft during emergencies
b) To provide backup control in case of primary system failure
c) To enhance the performance of primary control systems
d) To control non-essential functions such as lighting and entertainment systems

Q.7 Which of the following materials is commonly used for minor structural repairs in metal aircraft?

a) Carbon fibre b) Fiberglass
c) Aluminium d) Kevlar

Q.8 What is a common method for repairing minor dents and scratches in metal aircraft?

a) Bonding b) Welding
c) Riveting d) Sanding

Q.9 The largest load that is expected to be experienced by aircraft is called_____

a) limit load b) Normal stress
c) Normal strain d) Shear stress

Q.10 Which of the following is not true about an airframe made with carbon-fiber composite?

a) Decreases drag
b) Decreases thrust
c) Higher cabin pressurization
d) Higher wing aspect ratio

SECTION-B

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

Q.11 How the wings ate attached to fuselage?
Q.12 How are parts the ribs are constructed?
Q.13 What do you mean by fail safe concept?
Q.14 Give examples of tubular structure.
Q.15 Which type of wing is most commonly used on trainer aircrafts?
Q.16 How is duplicate inspection done?
Q.17 What is the material of aircraft tyres?
Q.18 Where are the sealants used?
Q.19 What are the types of fuel tanks?
Q.20 What is the importance of minor structural repairs in aircraft?

SECTION-C

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

Q.21 Describe Primary control surfaces of an aircraft.
Q.22 Describe the necessity of emergency exits on the aircrafts.