

SECTION-C

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

- Q.21 Describe a on board fire extinguishing system.
- Q.22 How does indication system work?
- Q.23 What is the design principle involved in landing gears?
- Q.24 What is the function of cleaning agents?
- Q.25 Describe the properties of lubricants and their applications.
- Q.26 What are the principles of automatic control?
- Q.27 How does Seat safety system work?
- Q.28 What is the role of plumbing in fuel system?
- Q.29 Explain retracting mechanism.
- Q.30 What is the role of indications in landing gear? How do they work?
- Q.31 What are the different types of fire protection systems?
- Q.32 What are the disadvantages of Pneumatic systems?
- Q.33 How does steering system work in landing gears?
- Q.34 What is a flow integrators and its application?
- Q.35 How does a anti-icing system work?

SECTION-D

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

- Q.36 Draw and explain a typical hydraulic system in detail.
- Q.37 Write a brief about capsules, bellows and force feedback.
- Q.38 How are windows and emergency exits designed in accordance with Seat Safety instruments? How the shape of windows is determined?

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5th Sem. / AME

Subject:- Aircraft Systems

Time : 3Hrs.

M.M. : 100

SECTION-A

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

- Q.1 What is the primary function of accumulators in hydraulic systems?
 - a) To regulate fluid flow
 - b) To store energy and maintain pressure
 - c) To filter contaminants from the fluid
 - d) To control the direction of fluid flow
- Q.2 Which of the following is the body's most common response to hypoxia?
 - a) Hyperventilation b) Hypoxia
 - c) Barotrauma d) Sinus
- Q.3 What is the primary purpose of contamination control filters in hydraulic systems?
 - a) To regulate fluid flow rate
 - b) To prevent fluid leakage
 - c) To remove impurities and particles from the fluid
 - d) To control the direction of fluid flow

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- Q.4 What is the primary purpose of a position feedback system in a servo-control system?
- To regulate fluid flow
 - To provide stability and response
 - To convert electrical signals to hydraulic signals
 - To provide information about the actual position of the controlled mechanism
- Q.5 In an electro-hydraulic servo system, what component is responsible for converting electrical signals into hydraulic power?
- Pump
 - Actuator
 - Servo valve
 - Reservoir
- Q.6 What is the disadvantage of bladder fuel tank?
- Loss of available fuel volume
 - Self sealing
 - No loss in fuel volume
 - Thrust loading
- Q.7 Which characteristic of a servo-control system determines its ability to accurately follow rapid changes in input signals?
- Stability
 - Frequency response
 - Position feedback
 - Force feedback
- Q.8 Which component of a pneumatic system is responsible for removing moisture and contaminants from the air before it enters the system?
- Valves
 - Filters
 - Capsules
 - Bellow

- Q.9 What is the primary function of oxygen regulators in oxygen systems?
- To store oxygen for emergency use
 - To convert liquid oxygen to gaseous oxygen
 - To regulate the flow of oxygen to the user
 - To indicate the oxygen level in the system
- Q.10 Which retracting mechanism is commonly used in modern commercial aircraft, where the landing gear folds into the fuselage during flight?
- Screw-jack mechanism
 - Hydraulic actuator mechanism
 - Rotary actuator mechanism
 - Lever-operated mechanism

SECTION-B

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

- Q.11 What are the major components of a hydraulic system?
- Q.12 What are the types of fire detection system?
- Q.13 What is a servo response?
- Q.14 What is the principle of automatic control?
- Q.15 What are the different warning lights in fuel system?
- Q.16 What are the cold air units?
- Q.17 What do you mean by a survival pack?
- Q.18 Where anti-skid system is installed?
- Q.19 What is flame proofing?
- Q.20 What is a life raft?