

- Q.17 Where is an antiskid system located?  
Q.18 Give an example of a cleaning agent.  
Q.19 What is the windows shape?  
Q.20 What is an autopilot?

### SECTION-C

- Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)
- Q.21 Explain the working of landing gear.  
Q.22 What are the different pumps and motors for hydraulic system?  
Q.23 Explain electro-hydro servos working?  
Q.24 Explain the de-icing system and anti-icing system.  
Q.25 What are the working features of oxygen system?  
Q.26 What is a contamination control filter?  
Q.27 How does ejection seat work?  
Q.28 Explain the working of fire detection systems.  
Q.29 Explain the working of oleo strut.  
Q.30 How does an electro hydraulic servo system work?  
Q.31 Draw a typical fuel system and label it.  
Q.32 What are the various types of lubrication systems and their characteristics.  
Q.33 How different fuels are tested?  
Q.34 Describe the seat ejection system.  
Q.35 What are the different evacuation processes?

### SECTION-D

- Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)
- Q.36 Describe the components and working of air conditioning and pressurization system.  
Q.37 Explain (A) Steering system and fuel system valves.  
Q.38 Describe different types of landing gears and their respective applications and merits.

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**5th Sem./Branch : AME**  
**Subject:- Aircraft Systems**

Time : 3Hrs. M.M. : 100

### SECTION-A

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

- Q.1 Which of the following is an advantage of using hydraulic systems in industrial applications?  
a) High initial cost  
b) Limited power transmission capabilities  
c) High power-to-weight ratio  
d) High risk of fluid leakage.
- Q.2 Which type of hydraulic circuit provides individual control of multiple actuators using a single directional control valve and a common return line?  
a) Parallel circuit      b) Series circuit  
c) Closed-loop circuit      d) Open-loop circuit
- Q.3 Which component of a hydraulic system is responsible for converting hydraulic energy into mechanical motion?  
a) Accumulator      b) Actuator  
c) Reservoir      d) Filter
- Q.4 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.5 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

Q.6 What is the primary function of air bottles in pneumatic systems?

- a) To regulate air pressure
- b) To store compressed air for emergency use
- c) To filter contaminants from the air
- d) To control the flow of air through the system

Q.7 Which component of an oxygen system is responsible for converting liquid oxygen into gaseous oxygen for use?

- a) Breathing masks
- b) Oxygen bottles
- c) Liquid to gas converters
- d) Pressure suits

Q.8 Which type of landing gear is commonly used in small aircraft and consists of two single wheels mounted on a single strut?

- a) Tricycle landing gear
- b) Bicycle landing gear
- c) Tandem landing gear
- d) Tailwheel landing gear

Q.9 Compare and contrast the advantages and disadvantages of foam extinguishing systems and carbon dioxide (CO<sub>2</sub>) extinguishing systems.

- a) Foam extinguishing systems are more effective than CO<sub>2</sub> systems
- b) CO<sub>2</sub> extinguishing systems are environmentally friendly compared to foam systems
- c) Foam extinguishing systems are suitable for both Class A and B fires, while CO<sub>2</sub> systems are not
- d) CO<sub>2</sub> extinguishing systems are less corrosive than foam systems

Q.10 Which type of parachute is specifically designed for emergency use by pilots or aircrew who have ejected from an aircraft?

- a) Cargo parachute
- b) Sport parachute
- c) Emergency parachute
- d) Tandem parachute

## SECTION-B

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

Q.11 What fuel is used in aircrafts?

Q.12 What is the main component for fuel transfer?

Q.13 Where are the lubricants used?

Q.14 How seat is ejected?

Q.15 Whan the life rafts are used?

Q.16 What is the importance of seat belts?