

- Q.18 Why propeller pitch is changed?  
Q.19 What is special about aircraft piston engines?  
Q.20 Which fuels can be used in aircraft engines?

### SECTION-C

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

- Q.21 What is the use of a propeller?  
Q.22 What are the different engine mounting methods?  
Q.23 Describe characteristics of engine oil and fuel.  
Q.24 What is electrical resistance thermometer and its use?  
Q.25 What are the features of superchargers?  
Q.26 Explain the working of exhaust system of an engine.  
Q.27 Describe the common sources of oil and fuel contamination?  
Q.28 Explain the theory of superchargers.  
Q.29 Explain fuel flow indicator.  
Q.30 Write a brief note on engine instruments.  
Q.31 How does a manifold pressure gauge work?  
Q.32 What is a feathered propeller and its application?  
Q.33 Differentiate between Propeller and Jet Engine  
Q.34 How is run out check of a crank shaft done?  
Q.35 Explain thermocouple and its use?

### SECTION-D

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

- Q.36 What are the various faults that can come up in a typical engine system? Mention ways to identify them and control them.  
Q.37 Briefly explain all the subsystem of a typical aircraft reciprocating engine.  
Q.38 Explain the working of engine starters and RPM indicators.

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**4th Sem / Branch : AME**

**Subject:- Aircraft Reciprocating Engine**

Time : 3Hrs.

M.M. : 100

### SECTION-A

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

- Q.1 A pilot notices that the engine performance decreases at higher altitudes. Which part of the engine system is most likely affecting this performance?  
a) Cooling system      b) Exhaust system  
c) Induction system      d) Engine mounting
- Q.2 What is the primary function of the cooling system in a piston engine?  
a) To increase engine speed  
b) To reduce friction between moving parts  
c) To maintain an optimal operating temperature and prevent overheating  
d) To enhance fuel efficiency
- Q.3 During a pre-flight check, a pilot finds that the feathering mechanism of a propeller is not functioning. What immediate issue could this cause in flight?  
a) Inability to start the engine  
b) Increased fuel efficiency  
c) Inability to Minimize drag in the event of an engine failure  
d) Enhanced propeller Performance

- Q.4 Which component of the propeller system is primarily responsible for controlling the pitch of the blades?
- The propeller hub
  - The control lever in the cockpit
  - The governor
  - The spinner
- Q.5 A mechanic finds small particles in the engine oil during an inspection. What is the best method to check for contamination in the oil system?
- Smelling the oil for unusual odors
  - Visually inspecting the oil for color changes
  - Performing an oil analysis for metal particles and other contaminants
  - Checking the fuel system for similar particles
- Q.6 A pilot reports difficulty in starting the engine, suspecting an issue with the ignition system. Which component should the mechanic check first?
- The oil filter
  - The fuel tank
  - The spark plugs and magnetos
  - The exhaust manifold
- Q.7 How does a supercharger improve the performance of an aircraft engine at high altitude?
- By reducing the engine's weight
  - By increasing the amount of oxygen available for combustion
  - By lowering the fuel temperature
  - By decreasing the engine's RPM

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- Q.8 What does a manifold pressure gauge measure in an aircraft engine?
- The temperature of the exhaust gases
  - The pressure of the fuel entering the engine
  - The pressure of the air/fuel mixture in the intake manifold
  - The oil pressure in the lubrication system
- Q.9 During a pre-flight check, a mechanic finds that the mechanical tachometer is not displaying the correct engine RPM. Which of the following is a likely cause?
- A faulty manifold pressure gauge
  - A broken or disconnected drive cable
  - An inaccurate oil pressure gauge
  - A malfunctioning fuel flow indicator
- Q.10 Why is it important to monitor the oil pressure gauge during flight?
- To ensure the aircraft is maintaining a constant speed
  - To verify the oil is being properly circulated and preventing engine wear
  - To check the level of fuel in the tanks
  - To adjust the mixture of air and fuel

### SECTION-B

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

- Q.11 Which one is better two or four stroke engine?
- Q.12 Where are fuel flow indicators used?
- Q.13 Where is feathering of propellers?
- Q.14 How are the faults detected in an engine?
- Q.15 Where are tachometers used?
- Q.16 How the fuel and air is mixed?
- Q.17 Where are pressure gauges used?

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