Q.19 What fuel is used for piston prop engines?
Q.20 What is the common fault in the engine?

Section-C

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

Q.21 What do you mean by efficiency, what are the factors affecting it?
Q.22 Describe engine fire detection and control process.
Q.23 What is the effect of pitch on the thrust of the engine/ propeller?
Q.24 What do you mean by Thrust augmentation?
Q25 Why the propeller blades are twisted?
Q.26 How does a fire detection system work?
Q.27 What are the various methods used to check contamination in fuel system?
Q.28 What are the different factors affecting engine performance?
Q.29 Describe the principle of operation in fuel content gauges?
Q.30 Explain the common characteristics of aviation fuel.
Q.31 Write an explanatory note on engine Instruments.
Q.32 What is the method of cooling system in aircraft piston engine?
Q.33 How the rpm of the engine is measured?
Q.34 What are the causes of faults in engines?
Q.35 Explain the engine fire detection process.

Section-D

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

Q.36 Explain the working of engine system with the help of a diagram. Describe the various sub systems.
Q.37 Describe fuel system for reciprocating engine. Explain the various types of engine starters?
Q.38 What are the factors affecting engine performance? How each parameter is controlled?

No. of Printed Pages : 4
Roll No. .....

4th Sem. / Branch : Aircraft Maintenance
Subject : Aircraft Reciprocating Engine

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Multiple type Questions. All Questions are compulsory. (10x1=10)

Q.1 Which of the following is a key difference between two-stroke and four-stroke engines?

a) Two stroke engines complete a power cycle in two strokes of the piston, while four-stroke engines complete it in four strokes.
b) Four-stroke engines do not use valves, whereas two-stroke engines do.
c) Two-stroke engines have a separate lubrication system, while four-stroke engines do not
d) Four-stroke engines requires a fuel mixture of oil and gasoline, whereas, two-stroke engines do not

Q.2 How does the efficiency of a four-stroke engine generally compare to that of a two-stroke engine?

a) Four-stroke engines are less efficient that two-stroke engines because they have more moving parts
b) Four stroke engines are more efficient than two-stroke engines due to better fuel combustion and fewer emissions.
c) Both engines have the same efficiency, but four-stroke engines are larger
d) Two stroke engines are more efficient because they complete cycles faster

Q.3 Which of the following is the wrong statement?

a) In the exhaust, retarded timing causes burning of the hydrocarbons
b) The retarded timing improves fuel economy
c) The retarded timing requires the small opening for correct burning of the fuel
d) The exhaust gas temperature becomes higher due to retarded time

Q.4 During a maintenance check, a technician finds that the fire detection system in the engine compartment is malfunctioning. What is the immediate implication of this issue?

a) The engine will consume more fuel
b) The engine may overheat more frequently
c) The aircraft will not meet safety regulations and could be at risk of undetected engine fires.
d) The engine will produce more noise

Q.5 What is the primary purpose of a propeller on an aircraft?

a) To stabilize the aircraft
b) To generate thrust by converting rotational motion into linear motion
c) To provide electrical power to the aircraft systems
d) To control the aircraft's altitude

Q.6 What is the primary function of a magneto in an aircraft ignition system?

a) To provide electrical power to the avionics
b) To generate a high voltage for spark plugs independently of the aircraft's battery
c) To cool the engine during operation
d) To mix fuel and air for combustion

Q.7 Why are dual magneto systems used in most aircraft engines?

a) To increase the power output of the engine
b) To ensure redundancy and improve reliability of the ignition system

c) To reduce fuel consumption
d) To simplify maintenance procedures

Q.8 What is the primary purpose of a supercharger in an aircraft engine?

a) To decrease fuel consumption
b) To increase the engine's power output by compressing the intake air
c) To reduce engine noise
d) To cool the engine

Q.9 A pilot reports that the engine exhibits a significant drop in power during takeoff. The supercharger is suspected to be malfunctioning. Which specific supercharger-related component should be inspected first?

a) The oil filter
b) The fuel injector
c) The drive belt or gear mechanism
d) The spark plugs

Q.10 Why is it important to monitor the oil pressure gauge during flight?

a) To ensure the aircraft is maintaining a constant speed
b) To verify the oil is being properly circulated and preventing engine wear
c) To check the level of fuel in the tanks
d) To adjust the mixture of air and fuel

Section-B

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

Q.11 How the strokes are named in two stroke engines primarily?
Q.12 Why engine cooling is done?
Q.13 For which control, collective pitch is used?
Q.14 What do you mean by feathering?
Q.15 How contamination is checked?
Q.16 What are the types of engine starters?
Q.17 What is the principle of fuel flow indicator?
Q.18 What is the rigging procedure for engine control?