

- Q.26 What is the main characteristic of ATF?
- Q.27 What is the reason of icing on aircrafts?
- Q.28 What are the main components of a starting system?
- Q.29 Explain the different types of fluids used in engine?
- Q.30 Draw thermodynamic cycle of gas turbine engine.
- Q.31 How the propeller is attached to the engine?
- Q.32 Describe engine rigging briefly.
- Q.33 How is functional check of nozzle guide vanes done?
- Q.34 Write down the requirements of a power booster.
- Q.35 What is the effect of engine exhaust on environment?

#### SECTION-D

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

- Q.36 Explain in detail the various types of aircraft engine and technologies and their relative use and characteristics
- Q.37 Explain the need for overhaul and maintenance of engine and step by procedure of doing it
- Q.38 Explain the process of dressing of a Gas turbine Engine. Describe the main features of PIGA engine.

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#### 6th Sem / AME

#### Subject:- Turbo Propeller and Turbo Jet Engine - II

Time : 3Hrs.

M.M. : 100

#### SECTION-A

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

- Q.1 The combustion process in combustion chamber is at constant \_\_\_\_\_  
a) Temperature                      b) Volume  
c) Pressure                              d) Density
- Q.2 Which of the following statement is true?  
a) mass flow rates of gases at engine inlet and exit are same  
b) the pressure at inlet and exit of engine are ambient pressures  
c) Both of the mentioned  
d) None of the mentioned
- Q.3 What is the fuel used in airplanes.  
a) JP 10                                      b) Petrol  
c) ATF                                        d) a and c
- Q.4 Water is injected into the engine to \_\_\_\_\_.  
a) Cool the engine                      b) Stop the engine  
c) To enhance thrust                      d) All of the above

- Q.5 Anti-icing system works to
- Remove accumulated snow and ice
  - Prevent formation of ice
  - To melt-ice
  - None of the above
- Q.6 Do pollutants from aircraft have a bad impact on human beings?
- Yes
  - No
  - Can not say
  - Some times
- Q.7 What is an Afterburner?
- Extra fuel burn in the nozzle to increase the thrust .
  - Burning after the engine
  - Combustion between the compressor stages
  - Burner after the propellers.
- Q.8 Which of the following is used to interchange fuel in the tanks?
- Fuel control valve
  - Fuel selector valve
  - Fuel transfer pump
  - Fuel shutoff valve
- Q.9 What is bleed air ?
- Air drawn from compressor
  - Leaking air
  - Air with bleed
  - None of the above
- Q.10 Thrust reversal is used in airplanes at the time of
- During Cruise
  - After Landing
  - Before descend
  - None of the above

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## SECTION-B

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

- Q.11 What are the main parts of a gas turbine engine?
- Q.12 Is ignition a part of starting system?
- Q.13 What are lubricants used in an engine?
- Q.14 What is thrust reversal used for?
- Q.15 What happens on water injection in the engine?
- Q.16 What PIGA stand for?
- Q.17 Name two engine controls.
- Q.18 Which engine does not have rotating parts?
- Q.19 What is pre-whirl?
- Q.20 What is the meaning of engine trimming?

## SECTION-C

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

- Q.21 Briefly discuss fuel system of PIGA engine.
- Q.22 What are the inspection steps in turbine?
- Q.23 How is inspection of combustion chamber done?
- Q.24 How the thrust can be augmented?
- Q.25 What do you mean by ground running?

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