

- Q.25 How the engine thrust can be augmented?  
 Q.26 What do you mean by engine dressing?  
 Q.27 Explain the role of condition monitoring?  
 Q.28 What is engine trimming?  
 Q.29 What is power assessment?  
 Q.30 What is the special abbot P & WPIGA engines?  
 Q.31 What is engine overhaul?  
 Q.32 Explain the various controls in gas turbine engine.  
 Q.33 Explain the combustion process in the engine.  
 Q.34 Explain the effect of sound pollution due to aircrafts on humans.  
 Q.35 What are the components of starting system?

#### **SECTION-D**

- Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)
- Q.36 Describe Ant icing and deicing systems. Explain the role of an after burner.  
 Q.37 Explain in detail the maintenance, and operation of gas turbine engine.  
 Q.38 What is the amount of pollutants released by aircrafts of different types? What is their effect on humans? Describe air system.

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**6th Sem / Branch : AME**  
**Sub.: 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 How can regeneration be used to improve the efficiency of Brayton cycle?  
 a) The energy of exhaust gas can be used to heat up the air which leaves the compressor  
 b) Heat supplied from external source thus decreases  
 c) The amount of heat rejected also decreases  
 d) All of the mentioned
- Q.2 The thermodynamic cycle for Gas Turbine is \_\_\_\_\_  
 a) Stirling Cycle      b) Brayton Cycle  
 c) Rankine Cycle      d) Carnot cycle
- Q.3 The stage in axial flow compressor is \_\_\_\_\_  
 a) One rotor  
 b) One stator  
 c) One rotor and one stator  
 d) None of the above

Q.4 As the pressure ratio increases the efficiency \_\_\_\_\_.  
(CO4)

- a) Decreases
- b) Increases
- c) Remains constant
- d) None of the mentioned

Q.5 The efficiency of Brayton cycle can be increased by using staged heat supply or by use of staged compression with intercooling  
a) True                  b) False

Q.6 Thrust reversal system is used in Air planes for  
a) STOL                  b) Landing  
c) VTOL                  d) All of the above

Q.7 Why are lubricants needed in engine?  
a) To increase power    b) To decrease losses  
c) To reduce wear        d) None of the above

Q.8 The process in afterburner taking place is  
a) Compression of gases  
b) Reheat and thrust addition  
c) Turbine power enhancement  
d) Heating after compressor

Q.9 The type of aircraft gas turbines include  
a) Turbojet              b) Turbofan  
c) Turboprop              d) All of the mentioned

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Q.10 The blade cooling in turbine is done by  
a) Ram Air                b) Bleed Air  
c) Fresh Air              d) Exhaust Gases

## SECTION-B

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

- Q.11 Which fuel is used in gas turbines?
- Q.12 Name important fuel system components?
- Q.13 What is thrust reversal?
- Q.14 How the engine is started in Air?
- Q.15 What is dressing, in what case it is mentioned?
- Q.16 What are the methods of fixing blades to the disc?
- Q.17 What are the main controls in engine?
- Q.18 What type of engine is PIGA?
- Q.19 What type of inspection is done on turbines?
- Q.20 What is the extent of pollution by Aircrafts?

## SECTION-C

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

- Q.21 How PIGA engine is trimmed?
- Q.22 How turbine section is inspected?
- Q.23 How is dressing of gas turbine engine done?
- Q.24 Draw oil system neatly.

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