

- Q.26 How the sealing of gears is done?
- Q.27 What should be the best exhaust temperature in a jet engine?
- Q.28 What is the purpose of cooling Turbine Blades?
- Q.29 Where is propeller engine preferred over jet engine?
- Q.30 What is the use of bleed air ?
- Q.31 What are the different types of compressors?
- Q.32 Write about the thrust of fan in a turbofan.
- Q.33 What are the materials of engine parts?
- Q.34 What are various types of combustion chambers?
- Q.35 Which are the parts of turbine engine working as diffusers.

SECTION-D

- Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)
- Q.36 Describe the air system of turbine engine. Explain how blade cooling is done.
- Q.37 Explain the functioning of centrifugal compressor type with velocity diagrams.
- Q.38 Explain in detail the various type of materials used in Aircraft Engine parts and the latest development of the materials.

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5th Sem / Branch : AME

Subject:- Turbo Propeller and Turbo Jet Engine-I

Time : 3Hrs.

M.M. : 100

SECTION-A

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

- Q.1 Vanless space occurs in?
- Centrifugal compressor
 - Axial compressor
 - Axial turbine
 - None of the above
- Q.2 Which of the following is true for combustion chambers with large volume and diameter?
- Higher heat transfer rates to the walls
 - Smaller total area exposed to the heat
 - Thinner walls
 - Lower wall temperature
- Q.3 What is a free turbine?
- Turbine which drive the compressor
 - Turbine which drives the propeller
 - Free not to produce power
 - Provides power for the internal systems

- Q.4 What is the old thumb rule to design a propeller?
- Keep it as long as possible
 - Keep it as short as possible
 - Keep it as short and wide as possible
 - Keep it as half of diameter always
- Q.5 Supercharger is used to improve _____
- intake manifold pressure
 - outlet pressure
 - to increase charging capacity of an electric charger
 - expansion of exhaust velocity
- Q.6 What can be the overall air fuel ratio in a turbojet engine?
- 15
 - 1
 - 20
 - 60
- Q.7 In a turbojet engine, the maximum temperature occurs at?
- Compressor Inlet
 - Turbine inlet
 - Exhaust
 - Combustion chamber inlet
- Q.8 Jet engine works on _____ Brayton cycle.
- Closed
 - Complete
 - Open
 - None of the above
- Q.9 Magnesium _____ fuel efficiency
- maintains
 - reduces
 - improves
 - does not affect
- Q.10 Free vortex flow occurs in
- Inlet
 - Vanless space in centrifugal compressor
 - Axial flow compressor
 - Impeller

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SECTION-B

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

- Q.11 What is the thermodynamic cycle for gas turbine engines?
- Q.12 What is by-pass air?
- Q.13 What is the material of turbine blades?
- Q.14 Why is cooling needed in turbine engines?
- Q.15 Name the various jet engines.
- Q.16 The combustion in the combustion chamber takes place at _____.
- Q.17 What is the role of gearbox in an aircraft engine?
- Q.18 Where Turboshaft engine is used?
- Q.19 What do you mean by rotating stall?
- Q.20 What are the demerits of Pistonprop Engines?

SECTION-C

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

- Q.21 Draw a reheat cycle.
- Q.22 What is the difference between a turbojet and turbofan engine?
- Q.23 Draw the velocity profile in a stage of axial flow compressor.
- Q.24 What is the purpose of secondary and tertiary air?
- Q.25 How does reduction gear system work?

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