

- Q.27 Name different flight control systems?
 Q.28 What are the methods of glider climbing?
 Q.29 Enumerate the major components of a rocket engine.
 Q.30 How are different types of Aircrafts classified?
 Q.31 Explain the different parts of the wing.
 Q.32 What is the advantage of monocoque construction?
 Q.33 What is the need of turbine in turbojet engine?
 Q.34 What are the components of a hydraulic system?
 Q.35 What is Navigation and instruments used for it?

SECTION-D

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

- Q.36 Describe about the various types of drags acting on aircraft in all the flying conditions and draw a drag polar. What is a drag bucket?
 Q.37 Describe how the aerodynamic force gets transferred to the wing fuselage attachment? Why fuel is stored in wings?
 Q.38 Explain the detailed functioning of components of a Turbojet Engine.

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3rd Sem.
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Sub.: Introduction to Aeronautics

Time : 3 Hrs. M.M. : 100

SECTION-A

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

- Q.1 The lift and drag coefficient are dependent on _____.
 a) Shape of the airplane
 b) Flight Mach number
 c) Overall weight
 d) Speed of the aircraft
 Q.2 The efficiency is maximum in case of
 a) Turbojet Engine b) Turboprop engine
 c) Turbofan engine d) Turboshaft engine
 Q.3 Which of the following is not an aircraft
 a) Hang glider b) Flying soccer
 c) Balloon going up d) Kite
 Q.4 Rate of climb depends _____.
 a) Thrust of engine
 b) Excess thrust available
 c) Drag
 d) L/D ratio

- Q.5 If an airplane is cruising at maximum Mach no of 0.80 then it operating at _____.
 a) Maximum Mach Number
 b) Supersonic Mach number
 c) Critical Mach Number
 d) Drag diverge Mach Number
- Q.6 DGG stands for _____.
 a) Director General of Civil Aviation
 b) Director General of Civil Administration
 c) Directed guidelines of Civil Aviation
 d) None of the above
- Q.7 What is the basic criterion for stability
 a) The aircraft will cruise in undisturbed condition
 b) It easily change its orientation and flies straight
 c) It comes back to original position after being disturbed
 d) None of the above
- Q.8 Horizontal tail contribution is _____.
 a) Stabilizing b) Un stabilizing
 c) Neutral d) Disturbing
- Q.9 Which of the following is not pitot instrument?
 a) Altimeter b) Air speed indicator
 c) Turn indicator d) VSI
- Q.10 What is thermodynamic cycle for gas turbine engine?
 a) Carnot cycle b) Reverse Brayton cycle
 c) Brayton cycle d) Rankine cycle

SECTION-B

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

- Q.11 What is the first attempt of man to fly?
 Q.12 What is the direction of lift?
 Q.13 What is elevon?
 Q.14 What is VTOL?
 Q.15 What is worthiness?
 Q.16 Name the system related to icing.
 Q.17 Name different gas turbine engines.
 Q.18 What is a drag polar?
 Q.19 What is autogyro?
 Q.20 Which aircraft type has maximum L/D ratio.

SECTION-C

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

- Q.21 What are the main efforts of mankind to fly?
 Q.22 Show the various forces acting on airplane in climbing attitude?
 Q.23 Explain Wing loading.
 Q.24 What is the working of trim tab control?
 Q.25 What is longitudinal stability of an airplane?
 Q.26 What are the different pitot based instruments in an aircraft?