

- Q.28 Why the fuel is stored in wings?
 - Q.29 What are the basic steps in aircraft design?
 - Q.30 Describe various wing components.
 - Q.31 How does hydraulic control system work?
 - Q.32 What is the use of pneumatic system in aircraft?
 - Q.33 Briefly describe about the various types of drags and drag polar.
 - Q.34 Describe the working of rate of climb indicator?
 - Q.35 Describe any one gyro based instrument.

SECTION-D

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

- Q.36 Describe the working of hydraulic system in an aircraft with the help of a neat sketch.

Q.37 Describe the basic criterion for the material selection for various aircraft parts, describe the properties of each material as well.

Q.38 Explain in detail the Aircraft Stability in static and dynamic mode. How do you compare elevator and canard type of control surfaces?

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3rd Sem / Aircraft Maintenance Engg. Subject:- Introduction to Aeronautics

Time : 3Hrs.

M.M. : 100

SECTION-A

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

- Q.1 Major development in aircraft field took place in?

 - a) 1920s
 - b) 1940s
 - c) 1990s
 - d) 2000s

Q.2 In which of the flight attitude coefficient of lift is minimum?

 - a) Landing
 - b) Takeoff
 - c) Cruise
 - d) Climbing

Q.3 Power is defined for

 - a) Propeller engines
 - b) Jet Engines
 - c) Rocket Engines
 - d) None of the above

Q.4 Which Aircraft has maximum L/D?

 - a) Glider
 - b) Transport airplane
 - c) Fighter
 - d) Trainer

- Q.5 What is camber?
- a) The distance between chord and mean line
 - b) Difference between area of upper and lower surface.
 - c) Span divided by Chord
 - d) None of the above
- Q.6 What is flight control system?
- a) Autonomous flight system
 - b) Air traffic control system
 - c) Engine throttle control
 - d) System to move the control surfaces
- Q.7 Induced drag is increases if?
- a) Lift is increased b) Lift is decreased
 - c) Span is increased d) None of the above
- Q.8 What is a chord?
- a) Distance between leading edge and chord
 - b) Distance between chord and chamber
 - c) Distance between leading edge and trailing edge
 - d) Distance between trailing edge and chord
- Q.9 What is bleed air?
- a) The air around the tail
 - b) Leaking air of the engine
 - c) Air taken from compressor
 - d) None of the above
- Q.10 Which engine has the highest efficiency?
- a) Turbo Jet Engine b) Turbo Fan Engine
 - c) Rocket Engine d) Turbo Shaft Engine

SECTION-B

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

- Q.11 Name two secondary control surfaces?
- Q.12 What is aerodynamic force?
- Q.13 Can we use Ramjet Engine for takeoff?
- Q.14 What is vertical speed of aircraft?
- Q.15 What is critical Mach number?
- Q.16 Which drag is called lift dependent drag?
- Q.17 What is voltage of electric system of an airplane?
- Q.18 What is the purpose of de-icing system?
- Q.19 What is DGCA?
- Q.20 Describe 23012 NACA airfoil.

SECTION-C

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

- Q.21 Discuss push pull rod system?
- Q.22 State the aviation status before 20th century.
- Q.23 What are the primary movements of an aircraft?
- Q.24 Discuss the purpose of swept back wings.
- Q.25 Draw a typical stress strain diagram.
- Q.26 What are the basic instruments related to avionics?
- Q.27 How does rain protection system work?