Q.28 What is a spoiler and its use?

Q.29 Write a brief note on helicopter controls.

Q.30 What is phugoid mode?

Q.31 What is the use of area rule?

Q.32 Explain 5 series NACA airfoils

Q.33 Explain flyover concept?

Q.34 What are the characteristics of airfoil used in Supersonic flight?

Q.35 What decides the rate of climb for an aircraft?

SECTION-D

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

Q.36 What is Boundary Layer? How does it affect the performance of aircraft? What are various methods to control it?

Q.37 What is stability? What are various types? What are the parts providing stability of the airplane?

Q.38 Explain the primary and secondary controls and control surfaces. What are various control systems?

No. of Printed Pages : 4 187736/147736
Roll No. .....

3rd Sem / Aircraft Maintenance Engg
Subject:- Theory of Flight

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 Which of the following do not cross each other?

a) Streakline
b) Streamline
c) Path line
d) Streamline and pathline

Q.2 What is stability ?

a) The aircraft has initial tendency to return to its original equilibrium position after being disturbed
b) The aircraft does not get disturbed.
c) The aircraft changes the route in level flight
d) None of the above

Q.3 Which of the following is correct?

a) Lift is perpendicular to flight direction
b) Lift is always same as weight
c) Static stability is similar to dynamic stability
d) All the aircrafts are statistically stable

Q.4 Which of the following is related to the troposphere?

a) Temperature is constant
b) Temperature reduces with altitude
c) Pressure increases with height
d) Density is constant

Q.5 Vortex flow occurs at_____ part of the wing.

a) Leading edge b) Trailing edge
c) Tips d) Roots

Q.6 What is the thickness of NACA 0012 airfoil?

a) 24% b) 1.2%
c) 6% d) 12%

Q.7 The following is a secondary control surface

a) Elevator b) Trim Tab Control
c) Aileron d) Rudder

Q.8 Lift to drag ratio is maximum in ?

a) Big Airplane b) Fighter Plane
c) Glider d) Kite

Q.9 The temperature is Stratosphere

a) Decreases with height
b) Increases with height
c) Remain constant
d) Is random

Q.10 The Drag Divergence Mach number is

a) Between 0 and I b) Between 0.7 to 1.0
c) Between 1.0 to 1.2 d) Between 0.8 to 1.0

SECTION-B

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

Q.11 Define a boundary layer?

Q.12 Which one is stable Sweepback or sweep forward winged airplane?

Q.13 What is induced drag?

Q.14 What do you mean by super-cruise?

Q.15 What is the condition for Stalling?

Q.16 How does stalled affect aircraft behave?

Q.17 What is standard Atmosphere?

Q.18 What is the use of a Venturi Tube?

Q.19 What is wave drag?

Q.20 What is the significance of aspect ratio?

SECTION-C

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

Q.21 List the various Aerodynamic forces is aircrafts ?

Q.22 Describe drag divergence Mach number.

Q.23 What are supercritical airfoils?

Q.24 How turbofan is better than turbojet engine?

Q.25 How do you find speed of an aircraft?

Q.26 Describe the use of flaps.

Q.27 Describe different structural components of a wing?