Q.30 Explain the different parts of an Airfoil of the wing.

Q.31 Differentiate Truss type and Semi-Monocoque type of construction

Q.32 Explain about the basic components of a Piston Engine.

Q.33 Enumerate the major components of Jet engine

Q.34 Explain in detail the functioning of temperature control system.

Q.35 What are the basic instruments used in Avionics system?

SECTION-D

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

Q.36 What is the significance of L/D ratio? Briefly describe about the various types of drags acting on aircraft in all the flying conditions and draw a drag polar.

Q.37 Sketch Skeleton of an airplane and label all the components from structural point of view and materials used in these components.

Q.38 Explain the detailed functioning of components of a Turbofan Engine.

No. of Printed Pages : 4 187733/147733
Roll No. .....

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 The lift and drag coefficients are dependent on_____

a) Shape of the airplane b) flight Mach number
c) Overall weight d) Speed of the aircraft

Q.2 The line joining leading and training edge is called _____

a) Camber line b) Aspect ratio
c) Chord d) Wing Span

Q.3 Which of the following is not an aircraft.

a) Kite b) Hot Air balloon
c) Air Balloon d) Glider

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 cruisingat Mach no of 0.95, then it operating in_____

a) Transonic range b) Supersonic range

c) Subsonic range d) Hypersonic range

Q.6 NACA stands for_____

a) National Advisory Committee for Aeronautics

b) National Authorized Committee for Aeronautics

c) National Advisory Committee for Aero models

d) National Advisory Committee for Arithmetic

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 For an ideal rocket, what should be the nature of the working substance?

a) Homogeneous b) Heterogeneous

c) Anisotropic d) Amorphous

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) Striling cycle b) Carnot cycle

c) Brayton cycle d) Rankine cycle

SECTION-B

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

Q.11 What is the role of a tail rotor?

Q.12 What was Wright Bothers invention?

Q.13 Name the primary control surfaces of an airplane.

Q.14 Draw force diagram for a flying airplane.

Q.15 What is meant by air worthiness?

Q.16 Where is Ice Protection system located?

Q.17 What is a drag polar?

Q.18 Where are composites used in an Aircraft?

Q.19 Give an example of gyro-based Instrument.

Q.20 Name different aircraft engines.

SECTION-C

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

Q.21 How does an airplane fly?

Q.22 What are the various forces acting on aircraft?

Q.23 Describe the term Wing loading.

Q.24 Explain longitudinal stability with an example.

Q.25 What are the functions of Altimeter and its types?

Q.26 Describe the function of a trim tab control.

Q.27 What is the purpose of Flight Testing?

Q.28 Draw the Force diagram for an aircraft in climb.

Q.29 How are different types of aircrafts classified?