

TISHK INTERNATIONAL UNIVERSITY



Question Bank

Avionics

MCO

1. The three critical flight dynamics parameters are?
 - a) Roll, pitch and yaw
 - b) Roll, pitch and yaw
 - c) Roll, play and yaw
 - d) Roll, play and jaw
2. What happens if an aircraft yaws about its center of gravity?
 - a) A sideslip angle arises
 - b) Aircraft will crash
 - c) Aircraft will start descending
 - d) Angle of attack increases
3. Which of the following is not an aerodynamic coefficient?
 - a) Pressure coefficient
 - b) Absolute temperature
 - c) Lift coefficient
 - d) Drag coefficient
4. Which of the following is not true about yaw?
 - a) About the vertical body axis
 - b) Positive with the nose to starboard
 - c) Measured in Hertz
 - d) Type of rotation
5. Which is the most dominant force in spacecraft flight dynamics?
 - a) Gravitational force
 - b) Nuclear force
 - c) Air resistance force
 - d) Lift and drag
6. Control systems adjust the orientation of a vehicle about its _____
 - a) Pitch
 - b) Wheels
 - c) Centre of mass
 - d) Centre of gravity
7. Spacecraft flight dynamics does not involve which of the following forces?
 - a) Propulsive force
 - b) Gravitational force
 - c) Electromagnetic force
 - d) Lift and drag
8. Which of the following aircraft systems includes an actuator?
 - a) Hydraulic systems
 - b) Electronic systems
 - c) Communication systems
 - d) Control systems

9. Landing gear systems are the _____ of an aircraft.
 - a) Left carriage
 - b) Over carriage
 - c) Undercarriage
 - d) Right carriage
10. Landing gears fold away during the flight to reduce _____.
 - a) Drag
 - b) Thrust
 - c) Airspeed
 - d) Altitude
11. An aircraft engine generates _____ power.
 - a) Electrical
 - b) Mechanical
 - c) Thermal
 - d) Hydraulic
12. The Rolls-Royce Trent 900 is one of the power plant options for which of the following?
 - a) Airbus A380
 - b) Boeing 747
 - c) Airbus A320
 - d) Airbus A350
13. Which is the largest jet engine in the world?
 - a) GE90
 - b) Trent 800
 - c) PW4000
 - d) GE9X
14. The aircraft fly based on which principle _____.
 - a) Newton's third law
 - b) Conservation of mass
 - c) Bernoulli's principle
 - d) Gravity
15. Bernoulli's equation is applicable only for _____.
 - a) Irrotational flow
 - b) Viscous flow
 - c) Inviscid, incompressible flow
 - d) Compressible flow
16. The primary control of yaw is with the _____.
 - a) Aileron
 - b) Elevator
 - c) Rudder
 - d) Elevon
17. What is the full form of UAVs?
 - a) Unmanned air vehicles
 - b) Uncharted aerial vehicles
 - c) Uncharted air vehicles
 - d) Unmanned aerial vehicles
18. Which of the following is not a secondary control?
 - a) Slats
 - b) Ailerons
 - c) Spoilers
 - d) Air brakes
19. Head up display is a _____ display.
 - a) Translucent
 - b) Transparent

c) Reflective

d) Opaque

20. Which of the following aircraft has HUDs as standard equipment?

a) Airbus A320

b) Boeing 737MAX

c) Boeing 787

d) Airbus A380

21. FMS stands for?

A. fan management system

B. flight management speed

C. flight monitor system

D. flight management system

The Airbus A380 is fitted with glass cockpits consisting of _____ units.

A. LED

B. LCD

C. CRT

D. UHD

22. How is fly by wire system implemented in an aircraft?

a) By using control rods and linkages connecting stick to control surfaces

b) By using high power radio transmitters and receivers

c) By using computers and actuators to control surfaces

d) Artificial intelligence

Short Answer

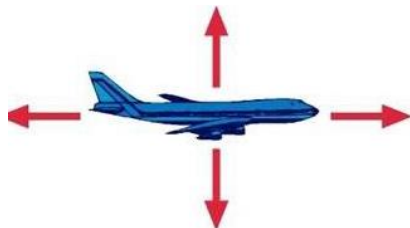
1) What are the Main Parts of a Plane.

2) What is the use of Flaps?

3) What is Elevators?

4) What are the types of power plants?

5) Mention the different forces acting on Aircraft.



6) Write Primary flight control.

7) What are input systems of Auto pilot?

8) What are the out put systems of auto pilot?

9) Mention some Autopilot manufacturers.

10) What are Auxiliary flight controls?

11) WHAT IS AIR TRAFFIC CONTROL ?

12) What are the FUNCTIONS OF AIR TRAFFIC CONTROL DEVICES.

13) List the Enroute Aids.

14) Mention some Visual Aids.

15) What are landing aids?

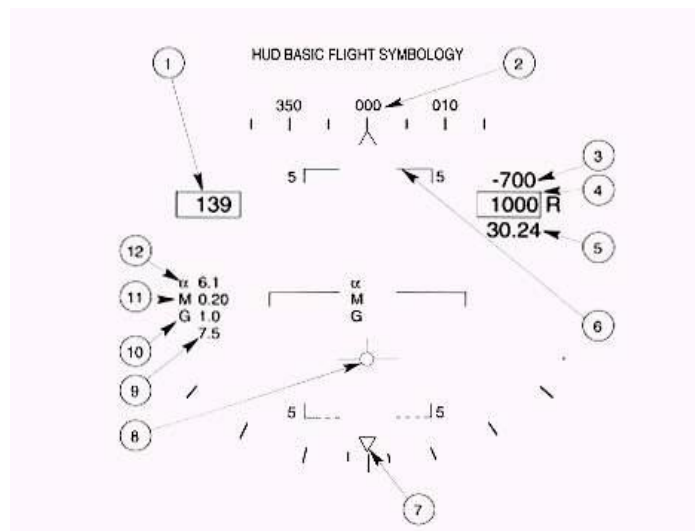
16) What are the Six Basic Aircraft Instruments?

17) Types of Air speed.

- 18 Why altitude is important for aircraft?
- 19 What is the normal climb rate for a heavy such as Boeing 737?
- 20 What is VSI?
- 21 What is VOR?
- 22 What is ILS?
- 23 What are the benefits of VOR station?
- 24 What are the three MARKER BEACONS.
- 25 What is the maximum range of VOR?

Detail Answer

1. Explain about pitot tube instruments with neat sketch .
2. Write short notes on VOR and its benefits.
3. Write the symbols name as mentioned circled number in below figure.



4. Discuss the working principle of Air speed indicator with neat sketch.
5. Briefly discuss about ILS, marker beacons and glide slope.
6. Draw the flow chart of typical FBW design.
7. Explain Altimeter with neat sketch.
8. Explain with neat sketch about Inertial Navigation system.
9. Differentiate between UAV and Drone.
10. Write the working principle of vertical speed indicator with neat sketch.
11. Briefly describe the following terms.
 - i. DME
 - ii. ADF
12. What is HUD? and draw its circuit diagram.

