Q.22 With a neat diagram, explain aircraft communication system

Q.23 Describe briefly, what do you mean by Avionics packaging?

Q.24 Demonstrate the working of electronic Flight system

Q.25 How is Data Bus integrated in Business Jets?

Q.26 How does circuit controller work?

Q.27 What is the role of avionics equipment fit?

Q.28 How are line Replaceable Units used?

Q.29 Describe a stable navigation system?

Q.30 What are the difference between Transmitter and Receiver ?

Q.31 How do you find frequency response of FBW system?

Q.32 What is dead reckoning navigation system and explain any one in detail.

Q.33 Describe the term failure revival.

Q.34 Explain DVI?

Q.35 Explain electronic warefare.

SECTION-D

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

Q.36 Name the various avionic components and explain the various layers of Avionics systems used in a aircraft.

Q.37 Draw and explain the function of HDD, HUD and MFD.

Q.38 What do you mean by avionics equipment fit? Explain MIL STD 1553 B data bus in detail bring out clearly the bus architecture.

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6th Sem / AME

Subject:- Aircraft Avionics

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 Which team within an aircraft manufacturing company is primarily responsible for coordinating avionics system integration efforts?

a) Marketing team
b) Engineering team
c) Finance team
d) Human Resources team

Q.2 What does avionics system integration primarily involve in the context of aircraft design and development?

a) Combining different avionics components into a single unit
b) Ensuring compatibility and seamless operation of various avionics systems within the aircaft
c) Performing routine maintenance on avionics systems
d) Developing new avionics technologies

Q.3 Which of the following avionics subsystems is responsible for maintaining communication between the aircraft and air traffic control?

a) Flight Management System (FMS)
b) Communication System
c) Navigation System
d) Flight Control System

Q.4 What is the primary function of the Inertial Measurement Unit (IMU) in aircraft electronic subsystems?
a) Monitoring engine parameters
b) Providing weather data
c) Measuring aircraft attitude and orientation
d) Controlling cabin pressurization

Q.5 Which of the following microelectronic devices is responsible for temporarily storing data and instructions that the CPU needs during operation?
a) EEPROM b) Flash Memory
c) RAM d) ROM

Q.6 Which component of a microprocessor is primarily responsible for performing arithmetic and logical operations?
a) Control Unit
b) ALU (Arithmetic Logic Unit
c) Registers
d) Cache Memory

Q.7 Which navigation system utilizes signals from satellites to determine an aircraft's position, velocity, and time information?
a) Inertial Navigation System (INS)
b) Doppler Radar Navigation System
c) Global Positioning System (GPS)
d) Radio Direction Finding (RDF)

Q.8 Which radar system is specifically designed to detect and track weather phenomena such as rain, snow, and thunderstorms?
a) Ground Surveillance Radar
b) Airborne Collision Avoidance System (ACAS)
c) Weather Radar
d) Synthetic Aperture Radar (SAR)

Q.9 What is the advantage of using fly-by-wire technology in an EFCS?
a) Reduced weight of aircraft
b) Improved fuel efficiency
c) Increased reliability of flight controls
d) Enhanced maneuverability and control responsiveness

Q.10 In an EFCS, what is the purpose of redundancy in the system design?
a) To reduce system complexity
b) To increase system weight
c) To improve system performance
d) To enhance system reliability and safety

SECTION-B

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

Q.11 Name any one avionic sub system?
Q.12 What are different memory devices?
Q.13 What do you mean by LRU?
Q.14 What is the principle of inertial navigation?
Q.15 What is Flyby wire system?
Q.16 What is the use of oscillator?
Q.17 What is compass swing?
Q.18 What is HUD?
Q.19 What is multifunction keyboard?
Q.20 What is avionics packaging?

SECTION-C

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

Q.21 Explain one of the most versatile electronic circuit.