Q.23 How inertial navigation done?
Q.24 What is the application of data buses? Give some examples
Q.25 Describe one of the typical avionics subsystems.
Q.26 Describe the functioning of Multi-Function display.
Q.27 How does fire control system work?
Q.28 Describe briefly the system integration process.
Q.29 Represent all basic logic gates using any of the universal gates.
Q.30 What is the method of aircraft identification?
Q.31 What is the importance of multi-functiondisplay?
Q.32 What are the features of FBW?
Q.33 What are the common mode of failures of flight control?
Q.34 What are the benefits of fibre optic buses?
Q.35 Describe various displays?

Section-D

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

Q.36 Explain the working of antenna, receiver, amplifier, oscillator and compass.
Q.37 What do you mean by navigation? What are the various methods of navigation? Describe inertial alignment and interface system.
Q.38 Explain the functioning of
a) Cathode Ray tube
b) Light Emitting Diode
c) Plasma Panel

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6th Sem. /AME
Sub : Aircraft Avionics

Time : 3 Hrs. **M.M. : 100**

SECTION-A

Note: Multiple Choice Questions. All Questions are compulsory. (10x1=10)

Q.1 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

Q.2 What is the failure probability figure of a commercial aircraft?
a) 1×10^{-4}/hr b) 1×10^{-6}/hr
C) 1×10^{-11}/hr d) 1×10^{-20}/hr

Q.3 Which of the following are not controled by HUD processor ?
a) Power supply of HUD
b) Brightness level and contrast level
c) Symbol and font generation
d) Computing flight parameter

Q.4 Which of the following does not come under air data computer?

a) Pressure ports
b) Pressure transducers
c) Computer
d) Output drivers for interfacing

Q.5 What is the IFOV for a collimating lens of diameter 100mm, the distance between the collimating lens and combiner glass = 50 mm, the distance between pilot eyes and combiner glass = 400 mm?

a) 25.0^0 b) 12.6^0
c) 28.0^0 d) 14.2^0

Q.6 Which one of the following is not a true with respect to integrated modular avionics architectures?

a) Reduces weight
b) Easy maintenance
c) Hardware independent software
d) Increased life cycle

Q.7 Which one of the following is not true with respect with centralized architecture?

a) Complex design
b) Software can be written easily
c) Requires long data buses
d) Computers are in readily accessible bay

Q.8 Why both electrical and hydraulic systems are used in the same aircraft?

a) To generate more force
b) Quick deflections
c) As a fail-safe

d) Hydraulics for more force and electric for quick deflections.

Q.9 What is the role of eye trackers in cockpits?

a) Improve concentration
b) Improve accuracy for targeting
c) Monitor pilot health
d) Assists in high g maneuvers.

Q.10 What is the full form of HUD?

a) Head Up Display b) Head Up Digital
c) Head us digital d) Hands up display

Section-B

Note: Objective type questions. Attempt all ten question. (10x1=10)

Q.11 What are the various Avionic subsystems used?
Q.12 What do you mean by Avionics packaging?
Q.13 What is integrated modular Avionics?
Q.14 What is LRU?
Q.15 What is the use of Cooper Harper scale?
Q.16 What do you mean by compass swing?
Q.17 What are the benefits of fiber optic buses?
Q.18 What are various displays?
Q.19 What is multi-function keyboard?
Q.20 What is HUD?

Section-C

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

Q.21 Explain failure survival.
Q.22 Describe the effect analysis for failures in FCS?