Q.22 Explain one of the most modern reliable communication system with a sketch.
Q.23 What do you mean by failure survival?
Q.24 Explain the difference between gyroscopic and inertial platform.
Q.25 Explain the function of a rader?
Q.26 Differentiate between volatile and non-volatile members?
Q.27 How is fly by wire different from conventional system?
Q.28 Explain Electromagnetic Interference.
Q.29 Describe one of the typical avionics subsystems.
Q.30 Describe the functioning of Multi Function display.
Q.31 With a neat diagram. Explain the navigation process.
Q.32 What are the essential component of an Avionics system?
Q.33 What is electronic warfare?
Q.34 How inertial navigation done?
Q.35 What are various displays used in aircrafts?

SECTION-D

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

Q.36 Explain MIL STD 1553 B data bus in detail bring out clearly the bus architecture, protocol word ad message formats and coupling methods.
Q.37 Describe inertial navigation in detail with an example .
Q.38 Explain
a) CVR
b) HDD

Roll No. .....

6th Sem / Branch : AME
Sub.: Aircraft Avionics

Time : 3Hrs. 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) Bu using computers and actuators to control surfaces
d) Artificial intelligence

Q.2 The main reason for using a collimated display in HUD is _____
a) More information can be displayed
b) Wide view of display
c) Information displayed is focused at infinity
d) Fast screen refresh rates

Q.3 What is the failure probability figure of a commercial aircraf?
a) 1×10^{-4}/hr b) 1×10^{-6}/hr
c) 1×10^{-11}/hr d) 1×10^{-20}/hr

Q.4 What is called a quadruplex system?
a) System with 4 channels
b) System with 8 channels
c) System which does not fail
d) System with 4 times the speed

Q.5 How is failure detected in a quadruplex system?
a) Cross comparing signals and voting
b) Monitoring signals
c) Adding signals
d) Subtracting signals

Q.6 Which one of the following is not a true with respect to integrated modular avionics architecture?
a) Reduces weight
b) East maintenance
c) Hardware independent software
d) Increased life cycle

Q.7 Which one of the following is not true with respect with centralize 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 generated 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) Assist in high & maneuvers

Q.10 Where is HUD seen?
a) ON the wind screen
b) On the stick
c) Side windows of aircraft
d) All of the above

SECTION-B

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

Q.11 What is the meaning of Avionics?
Q.12 Name two subsystems in Avionics?
Q.13 What are different memory devices?
Q.14 What is the meaning HUD?
Q.15 What is integrated modular avionics?
Q.16 Name one circuit controlling device?
Q.17 What is compass swing?
Q.18 What do you mean by command and response?
Q.19 What is fly by wire?
Q.20 What is the use of DVI?

SECTION-C

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

Q.21 Explain the various layers of avionics systems used in a typical aircraft.