Register Number:……..

KUMARAGURU
college of technology
character is life

B.E DEGREE EXAMINATIONS: APRIL / MAY 2023

(Regulation 2018)

Seventh Semester

AERONAUTICAL ENGINEERING

U18AEI7203: Avionics

COURSE OUTCOMES

CO1: Demonstrate the working of simple digital circuits using logic gates.
CO2: Create assembly language programs with microprocessor for simple applications
CO3: Demonstrate the integration of avionic systems with data buses.
CO4: Explain the working of aircraft communication and navigation systems
CO5: Discuss the autopilot systems in aircraft
CO6: Describe the components and working of aircraft landing systems

Time: Three Hours **Maximum Marks: 100**

Answer all the Questions:-
PART A (10 x 2 = 20 Marks)
(Answer not more than 40 words)

1.	What is meant by a 'bus' in microprocessor-based systems?	CO1	[K_3]
2.	List out the functional areas of Pave Pillar avionics architecture	CO1	[K_3]
3.	What is the primary advantage of High Frequency communication?	CO2	[K_3]
4.	State the importance of data bus in avionics system architectures	CO2	[K_2]
5.	Differentiate between HF and VHF communication systems	CO3	[K_2]
6.	What is meant by Weather radar?	CO3	[K_2]
7.	List the various inertial sensor systems used in aircraft.	CO4	[K_2]
8.	Compare the advantages and disadvantages of inertial navigation and satellite navigation systems.	CO4	[K_2]
9.	Differentiate between ILS and MLS	CO5	[K_2]
10.	Explain the radar altimeter	CO6	[K_2]

Answer any FIVE Questions:-
PART B (5 x 16 = 80 Marks)
(Answer not more than 400 words)

11.		With a neat block diagram, explain the typical avionics systems in detail	16	CO1	[K_3]
12.	a)	Explain the internal components of Von Neumann digital computer with a neat block diagram	8	CO1	[K_3]
	b)	Discuss the Integrated Modular Avionics architecture in detail	8	CO1	[K_3]
13.	a)	Explain the message format of MIL-STD-1553B data bus in detail	8	CO2	[K_3]
	b)	Bring out the six important points about ARINC 629 messages	8	CO2	[K_3]
14.		Explain the principle and working of secondary surveillance radar for air traffic control.	16	CO3	[K_4]
15.	a)	Explain the basic principle and operation of VOR navigation system	8	CO4	[K_3]
	b)	Discuss the principle of satellite navigation systems	8	CO4	[K_3]
16.	a)	Explain the various features of FBW system	8	CO5	[K_3]
	b)	Describe in detail the principle and operation of autopilot system with a neat sketch	8	CO5	[K_3]

****