

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-IV (NEW) EXAMINATION – WINTER 2024

Subject Code:3140111

Date:29-11-2024

Subject Name: Avionics

Time:02:30 PM TO 05:00 PM

Total Marks:70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

MARKS

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|------------|---|-----------|
| Q.1 | (a) What is GPS? | 03 |
| | (b) Explain the advantage of using avionics in civil aircraft. | 04 |
| | (c) Explain Instrument landing system in brief with proper sketch. | 07 |
| Q.2 | (a) Enlist the avionics instruments which can be located in cockpit. | 03 |
| | (b) Write a short note on Radar altimeter. | 04 |
| | (c) Explain role of Black Box after air crash. | 07 |
| | OR | |
| | (c) What is radar display? Classify and explain its operating mode. | 07 |
| Q.3 | (a) Explain wave propagation of HF wave. | 03 |
| | (b) Briefly explain function of AWACS. | 04 |
| | (c) Shortly explain need of SATCOM. | 07 |
| | OR | |
| Q.3 | (a) Shortly explain importance of speech recognition synthesis. | 03 |
| | (b) What is Doppler radar? | 04 |
| | (c) Explain Flight Data Recorder and Cockpit Voice Recorder with respect to function. | 07 |
| Q.4 | (a) What is an auto pilot? | 03 |
| | (b) Explain Traffic Collision Avoidance System. | 04 |
| | (c) Enumerate function of primary ground radar. | 07 |
| | OR | |
| Q.4 | (a) Why does DME collocate with glide slop? | 03 |
| | (b) Describe IRNSS in brief. | 04 |
| | (c) Differentiate between TCAS-1 and TCAS-2. | 07 |
| Q.5 | (a) Write an application of Night vision goggles. | 03 |
| | (b) Explain Head-up display with neat sketch. | 04 |
| | (c) Explain airborne early warning system. | 07 |
| | OR | |
| Q.5 | (a) What is FBW? | 03 |
| | (b) What are the types of ELT and why it is required on aircraft? | 04 |
| | (c) Describe in brief about Airborne Weather radar. | 07 |
