

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER– VI (New) EXAMINATION – WINTER 2019****Subject Code: 2160106****Date: 12/12/2019****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.

MARKS

- Q.1** (a) What is the reason DME is collocated with glide slope transmitter? **03**
(b) Shortly differentiate between ILS and MLS. **04**
(c) Draw azimuth and elevation of ILS. Explain function of each components of ILS. **07**
- Q.2** (a) In which cases MLS should be installed instead of ILS? **03**
(b) Explain importance of radials in air navigation with reference of VOR station. **04**
(c) With neat sketch explain VOR flying and TO-FROM indication. **07**
- OR**
- (c) Explain NDB-ADF flying with respect to Homing. **07**
- Q.3** (a) Differentiate between TCAS-1 and TCAS-2. **03**
(b) Explain VOR-DME integration. **04**
(c) Briefly explain color coding of Airborne Weather Radar. Explain Iso-Echo. **07**
- OR**
- Q.3** (a) Define- Skip Distance, Dead Space with respect to HF wave navigation. **03**
(b) **04**
Explain function, principle and errors of radio altimeter.
(c) In which cases GPWS warns pilot after take off? Explain with block diagram. **07**
- Q.4** (a) Shortly explain advantages of secondary radars over primary radars. **03**
(b) Shortly explain need of SATCOM. **04**
(c) Shortly explain screen of Secondary surveillance radars. **07**
- OR**
- Q.4** (a) List out military avionics systems. **03**
(b) Shortly explain advantages of Fly by Wire system over hydraulic system. **04**
(c) Explain GPS with respect to air navigation. **07**
- Q.5** (a) Explain principle of night vision goggles. **03**
(b) What are the reasons Air borne Early Warning System is installed overhead aircraft fuselage? **04**

- (c) Which factors will you consider to design flight deck? Discuss with respect to instrumentation. **07**

OR

- Q.5** (a) Only enlist military avionics systems and write down applications of each. **03**
- (b) Explain principle of night vision goggles. **04**
- (c) Explain principle of Doppler VOR. What are advantages of DVOR over VOR? **07**

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