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## Seventh Semester B.E. Degree Examination, July/August 2022

### Global Navigation Satellite Systems

Time: 3 hrs.

Max. Marks: 100

*Note: Answer any FIVE full questions, choosing ONE full question from each module.*

#### Module-1

- 1 Describe about the basic architecture of GPS with neat diagram. (20 Marks)

OR

- 2 Explain about the GAGAN architecture with clear diagrams. (20 Marks)

#### Module-2

- 3 Write notes on:

- i) GPS signal structure
- ii) Anti spoofing
- iii) Selective Availability
- iv) Differential GPS.

(20 Marks)

OR

- 4 Describe in detail about Galileo and compass satellite navigation construction with necessary diagrams. (20 Marks)

#### Module-3

- 5 Give detail notes on: i) GPS Orbital Parameters ii) RINEX (20 Marks)

OR

- 6 Explain about the GPS observation data, navigation data and GPS position determination with required figures. (20 Marks)

#### Module-4

- 7 Explain in detail about: i) Ionospheric Error ii) Tropospheric Error. (20 Marks)

OR

- 8 Describe about the following:

- i) Clock and Multipath Error
- ii) Ionospheric Error estimation using dual frequency.

(20 Marks)

#### Module-5

- 9 Describe about the Navigation with Indian constellation by suitable figures. (20 Marks)

OR

- 10 Give detail explanation on:

- a. IRNSS Frequencies
- b. Data structure
- c. Frame structure
- d. Ionosphere correction coefficients.

(20 Marks)