

Code: EC8T2D

**IV B.Tech - II Semester – Regular/Supplementary
Examinations – July 2021**

**GLOBAL POSITIONING SYSTEM
(ELECTRONICS AND COMMUNICATION ENGINEERING)**

Duration: 3 hours

Max. Marks: 70

PART – A

Answer *all* the questions. All questions carry equal marks

11x 2 = 22 M

1.

- a) Explain briefly about GPS time.
- b) What do you understand about Spoofing and Anti-Spoofing?
- c) What is the function of various satellite orbits ?
- d) List out GPS orbital parameters.
- e) Write a short notes on Ionospheric error.
- f) Discuss about relative velocity determination in GPS system.
- g) Give a brief description of relative positioning in the GPS system.
- h) List out standard algorithms of GPS data processing system.
- i) What are the different methods of GPS data Processing?
- j) Write the concept of flight-state monitoring of an air craft in the GPS system.
- k) Discuss about future GPS Satellites.

PART – B

Answer any **THREE** questions. All questions carry equal marks.

3 x 16 = 48 M

2. a) Describe the basic concept of GPS system and its architecture with the help of various Segments and neat diagrams. 8 M
- b) Explain about the Signal structure of the GPS signals. 8 M
3. a) Discuss about GPS orbital parameters and the significance of RINEX format used in GPS. 10 M
- b) Discuss about GPS Position determination. 6 M
4. Explain the following terms in GPS system
- a) Clock error 5 M
- b) Multipath ionospheric error 5 M
- c) Tropospheric error 6 M
5. a) Discuss about the parameterization and Algorithms of GPS Data processing. 8 M
- b) Compare single point positioning and relative positioning in GPS data processing. 8 M

6. a) Briefly explain the software development Algorithms for GPS systems. 8 M
- b) Explain the precise kinematic positioning and the Concept of Flight-State Monitoring system. 8 M