PVP 14

Code: EC8T2D

IV B.Tech - II Semester – Regular / Supplementary Examinations
March 2019

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) What is Selective Availability?
b) What is the fundamental frequency of GPS and what are the multiplication factors to obtain L1 and L2 frequencies?
c) Define Kepler's laws of planetary motion.
d) Mention the important four Observation data parameters?
e) What is the predominant source of error in GPS signal and why?
f) What is the difference between single frequency ionospheric delay estimation and dual frequency ionospheric delay estimation?
g) What is tropospheric error in the context of GPS?
h) Briefly describe Cycle slips in the context of data processing?
i) What is the significance of non-equivalent algorithms?
j) Define the three parts of data platform?

k) What are the functions of a Multi-Functional Data Processing Core.

PART – B

Answer any ***THREE*** questions. All questions carry equal marks.
3 x 16 = 48 M

2. a) Explain briefly what do you understand by spoofing and anti-spoofing of GPS signals? 8 M

b) Describe GPS Signal structure with necessary mathematical expression. 8 M

3. a) Describe the procedure to estimate satellite position using keplarian elements. 8 M

b) Bring out the significance of RINEX data format. 8 M

4. a) Describe how GPS satellite clock error can be minimized. 8 M

b) Describe estimation of Ionospheric delay using Klobuchar Model. 8 M

5. a) What is the difference between single point positioning and relative positioning.? 8 M

b) Explain code data single point positioning with necessary mathematical expressions. 8 M

6. a) Describe Multiple Static References for Kinematic Positioning in detail. 8 M

b) Explain the concept of Flight state monitoring in detail. 8 M