

Code: EC8T3D

IV B.Tech - II Semester – Regular Examinations - April 2016

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

Duration: 3 hours

Max. Marks: 70

Answer any FIVE questions. All questions carry equal marks

- 1)
 - a) Explain in detail about the GPS system segments. 7 M
 - b) Explain the principle of operation of GAGAN with the help of diagram. 7 M
- 2)
 - a) Explain the GPS satellite signal generation with BPSK modulation. 7 M
 - b) Discuss about GALILEO and GPS interoperability. 7 M
- 3)
 - a) Distinguish between geodetic and geocentric coordinate systems. 7 M
 - b) Explain WGS-84 reference frame. 7 M
- 4)
 - a) Explain the GPS satellite orbit characteristics. 7 M

- b) Explain briefly how the user position is determined using GPS. 7 M
- 5)
- a) Explain about GPS ephemeris and multipath errors. 7 M
- b) Define the tropospheric delay and explain how it affects the GPS signal. 7 M
- 6)
- a) Explain the method of uncorrelated bias parameterization. 7 M
- b) Explain the correlation analysis in the case of phase code combinations. 7 M
- 7)
- a) Explain the steps in the preparation of GPS data processing. 7 M
- b) Discuss about the Kalman filtering using velocity information. 7 M
- 8)
- a) Explain about the concept of precise kinematic positioning. 7 M
- b) List out and explain the applications of GPS. 7 M