SECOND DIET

Programme: B. Sc (Honours) in Telecommunication Engineering

Session: 2010 – 11
Level: 4
Date: 16 January 2012

Semester: A
Duration: Three Hours
Max. Marks: 75

ENGE 434 Telecommunication Applications - 4

Candidates Should Attempt Any THREE Full Questions

Please read the Questions carefully

Materials to be Supplied/Allowed:
Question paper (Supplied)
Blank Examination Script (Supplied)
Non-programmable calculator (Allowed)
Q1(a) Holloway, C.L and Perini, P.L in their paper titled 'Angle and space diversity comparisons in different mobile radio environments' have presented the angle diversity performance of two types of high-gain multibeam antennas: 24 vertically polarized 15° beams and 12 vertically polarized 30° beams. Discuss briefly the work presented by the authors in this paper.

(b) Discuss the radio wave propagation in a mobile environment using Rayleigh and the Rician wave propagation models.

Q2(a) Spread Spectrum technique is widely used in wireless communications. Enumerate the benefits that can be reaped from spread spectrum technique.

(b) Pseudo Noise (PN) sequences form the base of Spread Spectrum communication. Discuss the characteristics of these sequences that shall form better sequences for the systems.

(c) Discuss briefly any two methods of generating the PN sequences for the Spread Spectrum systems.

Q3(a) Discuss the role of the header fields of an Asynchronous Transfer Mode (ATM) cell. With the aid of a suitable cell structure diagram show the respective positions of the header fields.

(b) Asynchronous Transfer Mode (ATM) service are available in distinctions like the constant / variable bit rate or real / non-real time services. Discuss the various categories of the services with example of specific type uses it may cater.