What are the factors that affect the free space loss ? *

- [x] gain of transmitting antenna
- [x] gain of receiving antenna
- [x] effective area of transmitting antenna
- [x] effective area of receiving antenna
- [ ] distance between the receiving and transmitting antennas

Which one of the following OSI layers is responsible for sending frames with the necessary synchronization, error control, and flow control? *

- (•) Data link
- ( ) Network
- ( ) Transport
- ( ) Application
- ( ) Session

Television channels are 6 MHz wide. How many bits/sec can be sent if four–level digital signals are used? Assume a noiseless channel. *

- (•) 24 Mbps
- ( ) 12 Mbps
- ( ) 6 Mbps
- ( ) 24 Kbps
- ( ) 12 Kbps

We want to send data word 100100 by using CRC error detection scheme. The predetermined divisor pattern is 1101. What is the sent data bit stream T? *

- ○ 001100100
- ○ 100100011
- ● 100100101
- ○ 100100001
- ○ 100100111

Five signals, each requiring 10KHz, are multiplexed on to a single channel using FDM. How much minimum bandwidth is required for the multiplexed channel? Assume that the guard channel is 500Hz wide. *

- ○ 52000 Hz
- ○ 50000 Hz
- ○ 49500 Hz
- ○ 48000 Hz
- ● 50500 Hz

In a GSM network handover decision is made by .... *

- ● BSC
- ○ VLR
- ○ HLR
- ○ BTS
- ○ MSC

What are the subsystems of GSM architecture? *

- ☑ RSS
- ☑ NSS

Blocked calls cleared formula is also known as .... formula. *

○ Erlang D

○ Erlang C

○ Erlang A

◉ Erlang B

○ Erlang E

What is the unit for the measure of traffic intensity? *

○ Ohm

◉ Earlang

○ Minute

○ Shannon

.... is the maximum value or strength of the signal over time. *

◉ Peak amplitude

○ Frequency

○ Period

○ Angle

○ Phase

A spectrum of 100 MHz is allocated to a cellular system which uses two 100 KHz duplex channels to provide full duplex voice channels. What is the number of channels available per cell for 4 cell reuse factor? *

- ⦿ 250
- ◯ 100
- ◯ 500
- ◯ 1000
- ◯ 200

What happens if we increase the energy per bit (E_b) in a system while keeping the bit rate R same? *

- ⦿ Error rate decreases
- ◯ Error rate increases
- ◯ More users can be allowed in the system
- ◯ Noise increases
- ◯ Co-channel interference increases

In a CDMA system, user A is using the code <1, -1, 1, 1, -1, -1>. Which one of the following codes should be assigned to user B so that A and B can use this CDMA system simultaneously? *

- ◯ -1 -1 -1 1 -1 1
- ◯ -1 -1 -1 -1 -1 1
- ⦿ -1 1 -1 -1 -1 1
- ◯ -1 1 -1 -1 -1 -1

In a GSM network what prevents an eavesdropper from identifying of subscriber? *

- ⦿ TMSI
- ○ IMSI
- ○ SIM
- ○ A5
- ○ A3

Which is the process of encoding information from a message source in suitable manner for transmission? *

- ○ Coding
- ○ Signalling
- ○ Demodulation
- ⦿ Modulation
- ○ Encryption

In a cellular network what happens if we increase the distance between centers of the nearest co-channel cells? *

- ⦿ QoS of the network increases
- ○ QoS of the network decreases
- ○ Capacity of the network increases
- ○ Security of the network decreases
- ○ Security of the network increases

A signal has a fundamental frequency of 100 Hz. What is its period? *

Which one of the followings cannot be eliminated? *

○ Thermal Noise ●

○ Intermodulation noise

○ Crosstalk

○ Impulse Noise

○ Co-channel interference

What is the corresponding Hamming Code for the data "1001101"? *

○ 11011100101

○ 10011100100

○ 10011100110

● 10011100101

○ 10010100101

Co-channel interference is a function of .... *

● Radius of cell

○ Transmitted power

○ Received power

○ Frequency of mobile user

○ Base station height