Sai Nath University

Assignment For B.TECH in Electronics and Telecommunication Engineering 7TH Sem.

The Assignment will consist of two parts, A and B. Part A will have 5 short answer questions(40-60 words) of 4 marks each. Part B will have 2 long answer questions of 10 marks each

All questions are compulsory.

These Assignments should be completed and submitted in written form by the student to his/her respective Faculty/Examiner . Assignment Submission Dates are:

- Nov-17

List Of Suggested Questions

The list of suggested questions are for students to practice. Although optional, we recommend that students solve these questions, as they will help them in preparing for exams as well as in clearing the important concepts of the subject.

List of Practicals and suggested practicals

The list of practical's should be done by the students in their Lab Sessions. These are the basic practical's, which each student should be able to do himself independently. While the list of suggested practicals are optional, but it is recommended that students should perform those practical so as to have a thorough knowledge of the subject

Education Delivery Schedule (EDS)

As per University Semester scheme, the minimum contact hours of each paper has been Divided into two hours theory and practical class.
The faculty will maintain this attendance paper wise for his/her batch.

Subject Code	Subject Name
BTECE -701	**Mobile Communication Systems**
BTECE -702	**RF & Microwave Engineering**
BTECE -703	**Micro Electronics**
BTECE -704	**Computer Communication Network**
BTECE -705	**Computer Communication Network Practical**

SAI NATH UNIVERSITY

Cover page of Assignment

ID NUMBER ……

NAME ……

COURSE ……

STREAM ……

SEMESTER ……

SUBJECT CODE ……

SUBJECT NAME ……

Assignments will be completed by the Student in his/her own handwriting.

BTECE-701

Mobile Communication Systems

Part A

1. Discuss non-linear effects in FDMA.
2. Explain cell dragging and dwell time.
3. Explain handoff strategies for 1G to 3G cellular system.
4. Discuss about frequency reuse in cellular system.
5. Explain signal of processing in GSM.

Part B

6. Compare SDMA,TDMA,CDMA and FDMA system.
7. Explain handoff in 3G system.

BTECE -702

RF & Microwave Engineering

Part A

1. Name the properties of S-parameters.
2. Draw the equivalent circuit of a practical capacitor.
3. What are the considerations in selecting a matching network?
4. Define power gain of amplifier in terms of S-parameters and reflection coefficients.
5. Draw the diagram of H-plane Tee junction.

Part B

1. Formulate scattering matrix for a n-port microwave network.
2. Explain the properties of magic Tee and derive scattering matrix for it.

BTECE -703
Micro Electronics

Part A

1. Derive the equation for finite output resistance of a MOSFET.
2. What is threshold voltage and mention its range.
3. Derive the voltage gain and overall voltage equations of a source follower using MOSFET.
4. What is MOSFET scaling? Mention the benefits of scaling.
5. What is cascade amplifier? Explain the operation of a MOS cascade amplifier.

Part B

1. Explain the effect of feedback on the amplifier poles.
2. What are the properties of negative feedbacks? Explain in detail.

BTECE -704
Computer Communication Network

Part A

1. Discuss the TCP/IP model with functionalities of each layer. Consider source destination and intermediate modes for discussion.
2. Explain the different services provided by telephone networks.
3. Describe four levels of addressing used in internet (TCP/IP) with examples.
4. What is HDLC? Explain different frame formats with control field used by HDLC
5. What is NAT? Explain how address translation is done in NAT.

Part B

1. Explain distance vector routing with an example.
2. How is TCP better than UDP? Explain services offered by TCP.

BTECE -705
Computer Communication Network Practical
Part A

1. For three marks each dene the following general terms used when discussing protocols Peers IDU SDU PDU
2. Describe the token bucket mechanism for congestion control
3. For three marks each dene the following general terms used when discussing protocols
   Peers IDU SDU PDU
4. Give a definition of a Service and a Protocol Use these definitions or any other discussion to illustrate the fundamental difference between a Service and a Protocol.
5. Provide the formal definition of a Petri-Net and describe each of the variables/operators in the 5 entries in the 5 tuple

Part B

1. Discuss the use of formal analysis techniques for protocols Comment on why such techniques are used in analyzing protocols and give some examples of the types of problems that such an analysis can reveal
2. It has been claimed that state machines are a natural tool for protocol analysis since protocol implementations can be derived directly from the state transition tables Discuss this assertion and argue for or against the implementation of protocols using this approach