

# **J.S University**

## **Assignment For B.TECH in electronic and communication Engineering 6<sup>TH</sup> Sem.**

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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/ Examiners. Assignment Submission Dates are:

### **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 Practical and suggested practical's**

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.

# **J.S UNIVERSITY**

## **Cover page of Assignment**

ID NUMBER	.....
NAME	.....
COURSE	B.TECH
STREAM	EC .....
SEM	6 <sup>TH</sup> SEM.....
SUBJECT CODE	.....
SUBJECT NAME	.....

## **ASSIGNMENT FOR B.TECH 6<sup>TH</sup> SEM ELECTRONICS & COMM ENGG**

### **Microwave Engineering**

#### **Part 1**

1. Explain the following term
  - a) Phase shifters
  - B) Wave guide discontinuities
2. What are the various methods for measuring frequency? Discuss them in detail.
3. Discuss cutoff phenomenon in Rectangular wave guide.
4. Compare the propagation characteristics micro strip lines and strip lines.
5. Compare the propagation characteristics Rectangular wave guide and circular wave guide

#### **Part 2**

1. Discuss the condition for sustained oscillation in Reflex Klystron. How frequency of oscillation is varied in this device.
2. Discuss the method for measuring the impedance of the load. Indicate the use of smith chart in this measurement.

## ASSIGNMENT FOR B.TECH 6<sup>TH</sup> SEM ELECTRONICS & COMM ENGG

### Digital Communication

#### Part 1

1. What is differential encoding? with suitable diagram explain DPSK modulator and demodulator.
2. Define linear time invariant system?
3. How source coding is different to that of channel coding explain in detail.
4. With suitable diagram describe match filters? Prove that output signal of match filters is proportional to the shifted version of the autocorrelation function of the input signal to which filter is matched.
5. What is base band and pass band signaling?

#### Part 2

1. Write short notes on
  - i) Gaussian random variables
  - ii) Power spectral density for wide sense stationary and random process.
2. What is minimum shift keying modulation (MSK)? write down the difference between QPSK and MSK.

## **ASSIGNMENT FOR B.TECH 6<sup>TH</sup> SEM ELECTRONICS & COMM ENGG**

### Integrated Circuit Technology

#### Part 1

1. Write in brief the Introduction To IC Technology,
2. Explain the term packaging and testing.
3. Draw and explain VLSI design flow(Y-chart),
4. Why we need a low power VLSI circuit in today's scenario.
5. Write a short note on VLSI testing

#### Part 2

1. Draw and explain the working of CMOS inverter with its transfer characteristics.
2. Explain VLSI Assembly Technologies, and Package Fabrication Technologies.

## **ASSIGNMENT FOR B.TECH 6<sup>TH</sup> SEM ELECTRONICS & COMM ENGG**

### **Digital Signal Processing**

#### **Part 1**

1. What do you mean by All pass filter.
2. Explain the sampling and reconstruction of signals with suitable examples.
3. What is multi rate signal processing?
4. What is non stationary and stationary random signal?
5. Explain discrete fourier transform.

#### **Part 2**

1. Explain the sampling and reconstruction of signals with suitable examples.
2. Explain fourier transform in detail.

## **ASSIGNMENT FOR B.TECH 6<sup>TH</sup> SEM ELECTRONICS & COMM ENGG**

### **Industrial Electronics**

#### **Part 1**

1. What is commutation, state its type.
2. Explain power diode and draw the static characteristics of power diode.
3. Explain the working of SCR and explain its drawback, advantage and applications of SCR.
4. What is IGBT? By the help of neat diagram explain the static characteristics of an IGBT.
5. Explain the operation of single phase current source inverter.

#### **Part 2**

1. With the help of neat circuit diagram and relevant waveform explain the operation of a bridge type cycloconverter.
2. Explain the inverting mode of single phase fully controlled bridge and draw all the waveform.

## **ASSIGNMENT FOR B.TECH 6<sup>TH</sup> SEM ELECTRONICS & COMM ENGG**

### **INDUSTRIAL MANAGEMENT**

#### **Part 1**

1. What are scope of Industrial Management.
2. Discuss the principle of management.
3. Define the concept of Industrial Management and explain its application.
4. Define work study. State its objective and benefits.
5. Define the term production planning. State its objectives in an enterprise.

#### **Part 2**

1. What do you understand by process control? Define control chart and its types.
2. Discuss the role of supply chain. What is the impact of supply chain management decisions on the success of a firm.