

## **J.S University**

### **Assignment For B.TECH in EC Engineering 8<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.

<b>Subject code</b>	<b>Subject name</b>
BTOE-81	Non Conventional Energy Resources
BTOE-81	Digital System Design Using Vhdl
BTEE-82	Wireless And Mobile Communication
BTEE-83	Optical Network
BTEE84P	Project

# **J.S UNIVERSITY**

## **Cover page of Assignment**

ID NUMBER .....

NAME .....

COURSE B.TECH

STREAM EC.....

SEM 8<sup>th</sup> .....

SUBJECT CODE .....

SUBJECT NAME .....

## **ASSIGNMENT FOR B.TECH 8<sup>TH</sup> SEM EC ENGINEERING**

### **Non Conventional Energy Resources**

#### **Part A**

- 1 qus explain the various non-conventional energy resources?
- 2 qus what is the : Theory of solar cells?
- 3 qus what is the flat plate collectors and explain their materials and also applications?
- 4 qus explain Ocean Thermal Energy Conversion (OTEC) with block diagram?
- 5 qus explain the classification of rotors?

#### **Part B**

- 1 qus **explain** Wave and Tidal Wave: Principle of working, performance and limitations?
- 2 qus explain about Wind power and its sources and site selection?

**ASSIGNMENT FOR B.TECH 8<sup>TH</sup> SEM EC ENGINEERING**  
**DIGITAL SYSTEM DESIGN USING VHDL**

**Part A**

- 1 Qus Give The Brief Introduction About VHDL?
- 2 Qus What Is The RTL Design Of VHDL And Also Explain Basic Structure Of VHDL?
- 3 Qus What Is VHDL Signal Model.
- 4 Explain The VHDL Essential Terminologies?
- 5 What Is Core Design Test And Testability Of VHDL

**Part B**

- 1 Qus Explain About Digital System Design Automation,?
- 2 Qus Describe The Array Loop And Assert Statement ?Also Explain About Subprograms

## **ASSIGNMENT FOR B.TECH 8<sup>TH</sup> SEM EC ENGINEERING**

### **WIRELESS AND MOBILE COMMUNICATION**

#### **Part A**

- 1 . EXPLAIN ABOUT WIRELESS COMMUNICATION LINK?ALSO DESCRIBE THE TYPES OF SIGNALS?
2. HOW MANY TYPES OF WIRELESS CHANNEL MODELLING ?EXPLAIN RICEAN FADING CHANNEL, NAKAGAMI FADING CHANNEL?
- 3 QUS WHAT IS THE THEORY OF VOCODERSAND ALSO EXPLAIN TYPES OF VOCODERS?
- 4 .EXPLAIN ALL EQUALIZATION TECHNIQUE?
- 5 DESCRIBE FDMA, TDMA, CDMA , AND OFDMA ?

#### **Part B**

1. WHAT IS PACKET AND POLING RESERVATION BASED MULTIPLE ACCESS SCHEME ?
2. EXPLAIN ABOUT WIDEBAND TIME DISPERSIVE CHANNEL MODELLING ?

## **ASSIGNMENT FOR B.TECH 8<sup>TH</sup> SEM EC ENGINEERING**

### **OPTICAL NETWORK**

#### **Part A**

- 1 What Are The Multiplexing Technique Of Optical Network?
- 2 Explain Transmission Basics : Wave Length, Frequency, Channel Spacing Wavelength Standard
- 3 What Is Coupler ? Explain Its Principle Of Operation.
- 4 Write Short Note On Fabry-Perot Filter And Multilayer Dielectric Thin Layer Filter?
- 5 Explain All Optical Switch Technologies

#### **Part B**

- 1 What Is Synchronization And Header Processing?
- 2 Explain WDM Network Elements And Optical Line Terminal And Optical Line Amplifies ?

## Project list

1. Photovoltaic Solar Power Generation with Maximum Power Point Tracking
2. Closed Loop Control of Brushless DC Motor
3. Automatic Room Light Controller using IR Sensors
4. Home Automation System Using Arduino Microcontroller
5. Electronic Soft Start for a 3-Phase Induction Motor
6. GSM based Substation Monitoring and Control System