

Electronics Practical

Semester- III	Subject Code: BSP41611	Lectures: 60
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Objectives

The syllabus aims,

- To use basic concepts for building various applications in electronics.
- To understand design procedures of different electronic circuits as per requirement.
- To build experimental setup and test the circuits.
- To develop skills of analyzing test results of given experiments.

Group: A List of Practical's (Digital System Hardware): Any Four	20
<ol style="list-style-type: none"> 1. Designing of Chocolate vending machine 2. Build and test BCD to Decimal using Dot Matrix Display. 3. Build and test 3 bit synchronous counter using JK flip flops. 4. Build and test 4 bit sequence generator for counting sequence 0,2,4, 6, 8, 1, 3, 5,7,9, 0 5. Study of read and write action of RAM (using IC 2112/4 or equivalent). 6. Serial communication using RS 232 and Zigbee. 	

Group B: List of Practical's (Analog Systems): Any Four	20
<ol style="list-style-type: none"> 1. LM-35 / thermocouple based temperature sensing system/ Optocoupler /opto-isolator based system. 2. First order Low Pass and High Pass Filter using IC-741. 3. Build and test 4-bit DAC using R-2R Ladder network. 4. 3-bit Flash ADC using discrete components. 5. Build and test LDR based light control system. 6. Study of Linear Variable Differential Transformer. 7. Build and test Instrumentation Amplifier. 8. Use of Wheatstone 's bridge / PIR sensor/ Water Level sensor 	

*Contact hours – 20 hours



Instructions :

1. Total number of experiments to be conducted is 20.
2. 16 experiments are compulsory: At least four from each group.
3. One activity equivalent to 2 experiments to be performed by the student.
 - a. Continuation of F. Y. activity
 - b. Electronics project
 - c. Documentation type experiments
 - d. Presentation/Seminar on Electronics /advanced topic/research topics.
 - e. Identification of different blocks and their functions in commercial electronic products.
4. One activity equivalent to 2 experiments to be arranged by the teacher –
 - a. Arrange practical demonstrations / Workshops /Industrial visit
 - b. This will enhance quality and awareness amongst the students.
5. Examination will be conducted on 16 experiments as well as on activities.



Electronics Practical

Semester- IV	Subject Code: BSP41611	Lectures: 60
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Objectives

The syllabus aims,

- To use basic concepts for building various applications in electronics.
- To understand design procedures of different electronic circuits as per requirement.
- To build experimental setup and test the circuits.
- To develop skills of analyzing test results of given experiments.

Group C: List of Practical's (Microcontroller PIC 18): Any Four

20

1. Arithmetic, logical & code conversion problems using Assembly language programs.
2. Interfacing the thumbwheel & seven segment display
3. Traffic light control.
4. Interfacing LCD
5. Waveform generation using DAC Interface
6. Event counters using opto- coupler and seven segment display / LCD.
7. Speed Control of stepper motor.

Group D: List of Practical's (Principles of Communication): Any Four

20

1. Assemble and Test transistorized Amplitude Modulator and diode Demodulator .
2. Assemble and Test Time Division Multiplexing circuit.
3. Assemble and Test Frequency Shift Keying modulator using VCO.
4. Assemble and Test Delta Modulator circuit.
5. Assemble and Test Pulse Amplitude Modulator.
6. Study radiation pattern of dipole antenna.
7. Assemble and Test Hamming Code detector and error correction circuit.

*Contact hours – 20 hours



Instructions :

1. Total number of experiments to be conducted is 20.
2. 16 experiments are compulsory: At least four from each group.
3. One activity equivalent to 2 experiments to be performed by the student.
 - a. Continuation of F. Y. activity
 - b. Electronics project
 - c. Documentation type experiments
 - d. Presentation/Seminar on Electronics /advanced topic/research topics.
 - e. Identification of different blocks and their functions in commercial electronic products.
4. One activity equivalent to 2 experiments to be arranged by the teacher –
 - a. Arrange practical demonstrations / Workshops /Industrial visit
 - b. This will enhance quality and awareness amongst the students.
5. Examination will be conducted on 16 experiments as well as on activities.

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