**LESSON PLAN**

**Subject Code & Name: 13EC3047 & Electronic Measurements And Instrumentation**

**Branch: E.C.E-A Class / Semester: III/I Academic Year:2017-18**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Period** | **Date (Tentative)** | **Topic** | **Unit No.** | **Teaching Methodology** | **Remarks** | **Corrective action upon review** |
|  |  | **Performance characteristics of instruments:** | **I** |  |  |  |
| 1 | **12.06.2017** | Static Characteristics, Accuracy, Resolution,. |  | Chalk & Board |  |  |
| 2 | **13.06.2017** | Precision, Expected Value, Error And Sensitivity |  | **,,** |  |  |
| 3 | **15.06.2017** | Errors In Measurement |  | **,,** |  |  |
| 4 | **16.06.2017** | Dynamic Characteristics: Speed Of Response, |  | **,,** |  |  |
| 5 | **19.06.2017** | Fidelity, Lag And Dynamic Error. |  | **,,** |  |  |
| 6 | **20.06.2017** | **Voltmeters:** Multirange, Range Extension, |  | PPT |  |  |
| 7 | **22.06.2017** | Solid State |  | **,,** |  |  |
| 8 | **23.06.2017** | Differential Voltmeters |  | **,,** |  |  |
| 9 | **27.06.2017** | **Ammeters:** Shunt And Thermocouple Type Ammeter. |  | **,,** |  |  |
| 10 | **29.06.2017** | **Ohmmeters**: Series Type, Shunt Type, |  | **,,** |  |  |
| 11 | **30.06.2017** | Multimeter For Voltage, Current And Resistance Measurements. |  | **,,** |  |  |
| 12 | **01.07.2017** | **Digital Multimeters:** Block Diagram And Specifications |  | **,,** |  |  |
|  |  | **Signal Generators** | **II** |  |  |  |
| 13 | **10.07.2017** | Fixed And Variable, |  | **,,** |  |  |
| 14 | **11.07.2017** | AF Oscillators |  | **,,** |  |  |
| 15 | **13.07.2017** | Standard And AF Sine Wave Signal Generators |  | **,,** |  |  |
| 16 | **14.07.2017** | Square Wave Signal Generators |  | **,,** |  |  |
| 17 | **17.07.2017** | Function Generators |  | **,,** |  |  |
| 18 | **18.07.2017** | Square Pulse, |  | **,,** |  |  |
| 19 | **24.07.2017** | Random Noise And Sweep |  | **,,** |  |  |
| 20 | **25.07.2017** | **Wave Analyzers:** Harmonic Distortion Analyzers |  | **,,** |  |  |
| 21 | **27.07.2017** | Spectrum Analyzers |  | **,,** |  |  |
| 22 | **28.07.2017** | Digital Fourier Analyzers |  | **,,** |  |  |
|  |  | **Cathode Ray Oscilloscopes:** | **III** |  |  |  |
| 23 | **31.07.2017** | CRT Features, Vertical Amplifiers |  | **,,** |  |  |
| 24 | **01.08.2017** | Horizontal Deflection System, |  | **,,** |  |  |
| 25 | **03.08.2017** | Sweep, Trigger Pulse |  | **,,** |  |  |
| 26 | **04.08.2017** | Delay Line, Sync Selector Circuits |  | **,,** |  |  |
| 27 | **07.08.2017** | Simple CRO |  | **,,** |  |  |
| 28 | **08.08.2017** | Triggered Sweep CRO |  | **,,** |  |  |
| 29 | **10.08.2017** | Dual Beam CRO |  | **,,** |  |  |
| 30 | **11.08.2017** | Measurement Of Amplitude And Frequency |  | **,,** |  |  |
| 31 | **14.08.2017** | Dual Trace Oscilloscope |  | **,,** |  |  |
| 32 | **17.08.2017** | Sampling Oscilloscope, |  | **,,** |  |  |
| 33 | **18.08.2017** | Storage Oscilloscope, |  | **,,** |  |  |
| 34 | **21.08.2017** | Digital Storage Oscilloscope |  | **,,** |  |  |
| 35 | **22.08.2017** | Lissajous Method Of Frequency Measurement |  | **,,** |  |  |
| 36 | **24.08.2017** | Standard Specifications Of CRO |  | **,,** |  |  |
| 37 | **28.08.2017** | Probes For CRO (Active And Passive), Attenuator Type, |  | **,,** |  |  |
|  |  | **Ac Bridges:** | **IV** |  |  |  |
| 38 | **29.08.2017** | Measurement Of Inductance: Maxwell’s Bridge |  | Chalk & Board |  |  |
| 39 | **04.09.2017** | Anderson Bridge |  | **,,** |  |  |
| 40 | **05.09.2017** | Measurement Of Capacitance: Schearing Bridge |  | **,,** |  |  |
| 41 | **07.09.2017** | Kelvin’s Bridge |  | **,,** |  |  |
| 42 | **08.09.2017** | Wheatstone Bridge |  | **,,** |  |  |
| 43 | **11.09.2017** | Wien Bridge |  | **,,** |  |  |
| 44 | **12.09.2017** | Errors And Precautions |  | **,,** |  |  |
| 45 | **14.09.2017** | Related Problems on Bridges |  | **,,** |  |  |
| 46 | **15.09.2017** | Related Problems. on Bridges. |  | **,,** |  |  |
| 47 | **18.09.2017** | Q – Meter |  | **,,** |  |  |
|  |  | **Active And Passive Transducers:** | **V** |  |  |  |
| 48 | **19.09.2017** | Resistance, Capacitance, Inductance |  | Chalk & Board |  |  |
| 49 | **21.09.2017** | Strain Gauges |  | **,,** |  |  |
| 50 | **22.09.2017** | LVDT |  | **,,** |  |  |
| 51 | **25.09.2017** | Piezo Electric Transducers |  | **,,** |  |  |
| 52 | **26.09.2017** | Resistance Thermometers |  | **,,** |  |  |
| 53 | **29.09.2017** | Thermocouples |  | **,,** |  |  |
| 54 | **04.10.2017** | Thermistors |  | **,,** |  |  |
| 55 | **05.10.2017** | Sensistors |  | **,,** |  |  |
| 56 | **06.10.2017** | Basic Hall Effect Sensors. |  | **,,** |  |  |
| 57 | **09.10.2017** | Calibration And Standards |  | **,,** |  |  |
| 58 | **10.10.2017** | Data Acquisition Systems. |  | **,,** |  |  |

**CR: CLASS ROOM PPT: POWER POINT PRESENTATION LCD**

**Text Books:**

1. Electronic instrumentation – H.S.Kalsi, Tata McGraw Hill, 2004, 2/e.
2. Modern Electronic Instrumentation and Measurement Techniques – A.D. Helfrick and W.D. Cooper, PHI, 2002, 5/e.

**Reference Books:**

1. Electronic Instrumentation & Measurements - David A. Bell, PHI, 2003, 2/e.
2. Electronic Test Instruments, Analog and Digital Measurements - Robert A.Witte, Pearson Education, 2004, 2/e.

**FACULTY FACULTY IN-CHARGE HEAD OF THE DEPARTMENT**