**LESSON PLAN**

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

**Branch: E.C.E-C Class / Semester: III/I Academic Year:2016-17**

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| **Period** | **Date (Tentative)** | **Topic** | **Unit No.** | **Teaching Methodology** | **Remarks** | **Corrective action upon review** |
|  |  | **Performance characteristics of instruments:** | **I** |  |  |  |
| 1 | **29.06.2016** | Static Characteristics: Accuracy-problems, |  | Chalk & Board |  |  |
| 2 | **30.06.2016** | Precision-problems, Expected Value, |  | **,,** |  |  |
| 3 | **30.06.2016** | Sensitivity, static Error-problems |  | **,,** |  |  |
| 4 | **01.07.2016** | Dynamic Characteristics: Speed Of Response, Fidelity, Lag And Dynamic Error. |  | **,,** |  |  |
| 5 | **07.07.2016** | **Voltmeters:** Multirange, Range Extension, |  | **,,** |  |  |
| 6 | **07.07.2016** | Solid State, Differential Voltmeters. |  | **,,** |  |  |
| 7 | **08.07.2016** | **Ammeters:** Shunt And Thermocouple Type Ammeter. |  | **,,** |  |  |
| 8 | **13.07.2016** | **Ohmmeters**: Series Type, Shunt Type, |  | **,,** |  |  |
| 9 | **14.07.2016** | Multimeter, Digital Multimeters |  | **,,** |  |  |
| 10 | **14.07.2016** | Problems |  | **,,** |  |  |
| 11 | **15.07.2016** | **Signal Generators**  AF oscillator circuit, | **II** | Chalk & Board |  |  |
| 12 | **20.07.2016** | Standard And AF Sine Wave Square Wave Signal Generators |  | **,,** |  |  |
| 13 | **21.07.2016** | Function Generators |  | **,,** |  |  |
| 14 | **21.07.2016** | Square Pulse, Random Noise generator |  | **,,** |  |  |
| 15 | **22.07.2016** | Sweep generator |  | **,,** |  |  |
| 16 | **02.08.2016** | **Wave Analyzers:** Harmonic Distortion Analyzers |  | **,,** |  |  |
| 17 | **04.08.2016** | Fundamental suppression type |  | **,,** |  |  |
| 18 | **04.08.2016** | Spectrum Analyzers |  | **,,** |  |  |
| 19 | **05.08.2016** | Digital Fourier Analyzers |  | **,,** |  |  |
| 20 | **09.08.2016** | problems |  | **,,** |  |  |
| 21 | **11.08.2016** | **Cathode Ray Oscilloscopes:**  CRT Features, | **III** | Chalk & Board |  |  |
| 22 | **11.08.2016** | Vertical Amplifiers, Horizontal Deflection System |  | **,,** |  |  |
| 23 | **12.08.2016** | Sweep, Trigger Pulse, |  | **,,** |  |  |
| 24 | **16.08.2016** | Delay Line, Sync Selector Circuits, Simple CRO |  | **,,** |  |  |
| 25 | **18.08.2016** | Triggered Sweep CRO, Dual Beam CRO |  | **,,** |  |  |
| 26 | **18.08.2016** |  |  | **,,** |  |  |
| 27 | **19.08.2016** | Measurement Of Amplitude And Frequency, Dual Trace Oscilloscope |  | **,,** |  |  |
| 28 | **23.08.2016** | Sampling Oscilloscope |  |  |  |  |
| 29 | **25.08.2016** | Storage Oscilloscope |  | **,,** |  |  |
| 30 | **25.08.2016** | Digital Storage Oscilloscope, |  | **,,** |  |  |
| 31 | **26.08.2016** | Lissajous Method Of Frequency Measurement, Standard Specifications Of CRO |  | **,,** |  |  |
| 32 | **30.08.2016** | Probes For CRO (Active And Passive), Attenuator Type, |  | **,,** |  |  |
| 33 | **01.09.2016** | **Ac Bridges:**  Measurement Of Inductance: Maxwell’s Bridge | **IV** | Chalk & Board |  |  |
| 34 | **01.09.2016** | Anderson Bridge, Measurement Of Capacitance: Schearing Bridge |  | **,,** |  |  |
| 35 | **02.09.2016** | Kelvin’s Bridge, Wheatstone Bridge |  | **,,** |  |  |
| 36 | **06.09.2016** | Wien Bridge, Errors And Precautions |  | **,,** |  |  |
| 37 | **08.09.2016** | Related Problems on Bridges |  | **,,** |  |  |
| 38 | **08.09.2016** | Q – Meter |  | **,,** |  |  |
| 39 | **09.09.2016** | **Active And Passive Transducers:**  Resistive transducer | **V** | Chalk & Board |  |  |
| 40 | **13.09.2016** | Capacitance transducer |  | **,,** |  |  |
| 41 | **15.09.2016** | Inductance transducer |  | **,,** |  |  |
| 42 | **15.09.2016** | Strain Gauges |  | **,,** |  |  |
| 43 | **16.09.2016** | Piezo Electric Transducers |  | **,,** |  |  |
| 44 | **20.09.2016** | Resistance Thermometers |  | **,,** |  |  |
| 45 | **22.09.2016** | LVDT |  | **,,** |  |  |
| 46 | **22.09.2016** | Thermocouple sensors |  | **,,** |  |  |
| 47 | **23.09.2016** | Thermistor sensors |  | **,,** |  |  |
| 48 | **27.09.2016** | Sensistor sensors, Basic Hall Effect Sensors |  | **,,** |  |  |
| 49 | **29.09.2016** | Calibration And Standards |  | **,,** |  |  |
| 50 | **29.09.2016** | Data Acquisition Systems. |  | **,,** |  |  |
| 51 | **30.09.2016** | Revision |  | **,,** |  |  |

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**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.

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