## JSS COLLEGE FOR WOMEN (AUTONOMOUS) SARASWATHIPURAM, MYSORE-09

## LESSON PLAN

Name of the Teacher: UMESH V

Academic year and Semester: 2021-2022 CBCS

**Class and Section**: VI SEM

Course Name: B.Sc

Month **Topic to be covered SI NO** Unit 1 Concept of bands in solids. Intrinsic and extrinsic semiconductors. 1 MAY Depletion region, drift velocity, expression for electron and hole concentration in intrinsic semiconductor under thermal equilibrium. Derivation of the expression for electrical conductivity of intrinsic semiconductors 2 JUNE electron and hole mobility; Expression for the energy gap; Hall effect in semiconductors. Numerical problems. Semiconductor devices: Diode current equation, V-I characteristics, Bridge rectifier, 3 JULY Expression for ripple factor and efficiency. Filters-Zener breakdown and avalanche breakdown. Phenomenon of photoconductivity, photovoltaic cells, LED, LDR and FET. Numerical problems. 4 AUG Transistors: Type and configuration, h parameters; Methods of transistor Biasing voltage divider bias; Fixing operating point, drawing load line. Effect of temperature on the operating point. (2 hours) **Amplifier**: Two stage transistors RC coupled amplifier, mathematical analysis, frequency response curve, half power frequency bandwidth. 5 SEP Oscillators: The feedback concept-positive and negative feedback. Mention of the Barkhausen-criterion. Hartley oscillator

**Department:** PHYSICS

Program: PCM & PMCs

**Course Code: FMF 590**