

## **B Sc. Microbiology**

### **1B01MCB METHODOLOGY AND PERSPECTIVES OF SCIENCES**

#### ***Module III-Methods in Microbiology***

*Microscopy- Bright field, Dark field, Phase contrast and Fluorescent microscope. Electron microscope Transmission and Scanning. Specimen preparation for Electron microscope.*

*Staining Different staining techniques like Simple, Differential (Gram & Ziehl-Neelsen), Negative and Special staining for flagella, capsule, spore etc.*

*Sterilization-Moist and dry heat types, Use of autoclave and hot air oven, Methods like Incineration, Pasteurization, Tyndallization and Inspissation.*

*Chemical sterilants. Culture methods- Streak, Stroke, Stab, Spread plate, Pour plate, Lawn and Sweep plate, anaerobic culture methods.*

*Preservation of cultures - Refrigeration, Deep freezing and Lyophilization.(20 Hours)*

#### **References:**

Gieryn, T.F. **Cultural Boundaries of Science**, Univ. Chicago Press, 1999

Collins H. and T. Pinch. **The Golem: What everyone Should Know about Science**, Cambridge Univ. Press, 1993

Hewitt, Paul G, Suzanne Lyons, John A Suchocki and Jennifer Yeh, **Conceptual Integrated Science**, Addison-Wesley, 2007

Newton R G. **The Truth of Science**: New Delhi, 2<sup>nd</sup> Edn Bass, Joel, E and et.al.

**Methods for Teaching Science as Inquiry**, Allyn and Bacon, 2009.

Microbiology- Concepts and Applications-Pelczar

Presscott Harley and Klien's Microbiology –7<sup>th</sup> Edn. Mc Graw- Hill.