

**MMC 104-P TECHNIQUES AND INSTRUMENTATION IN
MICROBIOLOGY [P]**

Practical Course

Credits : 1 Contact

Hours : 30

1. Microscopy – compound, phase contrast – of bacterial cells.
2. Counting of bacterial cells using epifluorescence microscopy.
3. Density gradient separation of microbial cells.
4. Cell disruption by sonicator and efficacy of sonication.
5. Extraction of microbial pigments and profiling using UV-Vis spectrophotometer.
6. Polyacrylamide gel electrophoresis (PAGE), Zymogram.
7. Separation of pigments by column chromatography.

Reference Books (Composite list for theory and practicals):

1. Wilson, K. and Walker, J., Principles and Techniques of Biochemistry and Molecular Biology, Cambridge University Press, N.Y., USA.
2. Cooper, T. G., The Tools of Biochemistry, Wiley India Pvt. Ltd.
3. Goswami, C., Paintal, A. and Narain, R., Handbook of Bioinstrumentation, Wisdom Press, New Delhi.
4. Norris, J. R. and Ribbons, D. W., Methods in Microbiology, Volume 5, Part B, Academic Press.
5. Colowick, S. P. and Kaplan, N. O., Methods in Enzymology, Vol. VI, Academic Press, N.Y.
6. Parakhia, M. V., Tomar, R. S., Patel, S. and Golakiya, B. A., Molecular Biology and Biotechnology: Microbial Methods, New India, Pitampura.
7. Sambrook, J., Fritsch, E. F. and Maniatis, T., Molecular Cloning: A Laboratory Manual, Cold Spring Harbor Laboratory Press, USA.
8. Jayaraman, J., Laboratory Manual in Biochemistry, John Wiley & Sons Limited, Australia.