

Maharashtra Shikshan Samiti,
Maharashtra Mahavidyalaya, Nilanga
Academic Year 2022-23
Department of ZOOLOGY
Add On / Certificate Course Syllabus

Title : CERTIFICATE COURSE IN HISTO-TECHNOLOGY

Duration : 30 Hrs.

Marks : 50

Course Objectives :

1. Appreciation of structure of cells in various types of tissues.
2. Learning the methods in storage and histochemical processing of tissue samples.
3. Acquire the ability and skill to prepare histological slides of tissue samples.
4. Learn about tools used in histological study of tissues.

Course Outcomes :

1. Ability to identify different types of tissues and distinguish between different components Of cells.
2. Skill related to fixation of tissue samples and microtechnic processing of tissues.
3. Ability to identify, handle and catalogue slides of different tissues.
4. Students' skill in operating and maintaining different types of microtomes.

Course Content

Module I :

(10 Hours)

1. Introduction – Definition of Histo-technology.
2. Methods of examination of tissues and cells, Collection and labeling of specimens, Methods of preparation and examination of tissues (fresh and fixed tissue).
3. Fixation of tissue – Definition, Criteria for an ideal fixative, types (Simple and Compound), Properties of Simple and Compounds fixatives (Microanatomical, cytological And histochemical).

Module II : (10 Hours)

1. Tissue processing – Manual and automatic tissue processing, Different embedding media, Steps of tissue processing (Dehydration, Clearing, Impregnation).
2. Embedding- Methods of Embedding, Embedding medium, names of media and moulds,
3. Automatic Tissue Processes (Structure and Working, Advantages and Disadvantages).
4. Staining – Definition and Significance of Staining, Stain and Staining Types, Theory of Staining, Methods of Staining.

Module III : (5 Hours)

1. Practical – Study of different types of microtomes.
2. Practical – Isolation and collection of tissue, fixing and block preparation.

Module IV : (5 Hours)

1. Practical – Tissue processing of prepared blocks.
2. Practical – Section Cutting, fixing, alcohol grading, staining and preparation of permanent slide.

Prescribed Text Books / Recommended Books :

1. Histochemical Techniques – J. D. Bancroft.
2. Handbook of Histopathological and Histochemical Techniques – C. F. A. Culli
3. Histological and Histochemical Methods 4th Ed. – John Kiernan.

Scheme of Evaluation

Q.1. Multiple Choice Question - 25	Credit – 1 (25 points)
Q.2. Practical Test Presentation / Group Discussion / Oral Test	Credit – 1 (25 points)

1. Presentation.
2. Oral Test.

Credits – 2 (50 points)