

Bankura Christian College

Department of Physiology

1st YEAR: SEMESTER-I (Academic Session: 2023-24)

Course Code: S/PHY/101/MJC-1

Course ID: 12521

Credit- 01; Full Marks: 15 Classes: 09(Lecture)+06(Class test/Revision)

Course Title: Cellular Basis of Physiology Lab

Dr Rajkumar Maiti

Course Learning Outcomes:

1. From this course students will gather their knowledge about various parts of microscope.
2. This practical course will provide wide range of knowledge about histological structure of different organs and glands

Topics allotted

1. Principle, working procedure and function of different components of microscope.
2. Introduction on permanent slides - Applied value.
3. Study & identification of stained sections of different mammalian tissues & organs: Bone, trachea, lungs, spleen, lymph gland, tongue, esophagus, stomach, small intestine, large intestine, liver, kidney, salivary glands, pancreas, adrenal gland, thyroid gland, testes, ovary, uterus, spinal cord, cerebral cortex, cerebellum, skin, cardiac muscle, skeletal muscle, smooth muscle, artery & vein.
4. Examination and staining of fresh squamous epithelium by methylene blue stain.
5. Staining of adipose tissue using Sudan III or IV.

MONTH/YEAR	WEEK	PORTIONS
August 2023	2	Introduction to Cellular Physiology Lab. Principle, working procedure and function of the different components of microscope.
	3	Introduction on permanent slides – How they are prepared and their applied value.
	4	Study, characteristics features and identification of permanent stained sections of different mammalian tissues and organs: Bone, trachea, lungs, spleen and lymph gland (Class-1)
	5	Study and identification of stained sections of different mammalian tissues and organs: Tongue, esophagus, stomach, small intestine, large intestine and liver (Class-2)
September 2023	1	Study, characteristics features and identification of permanent stained sections of different mammalian tissues and organs: Kidney, salivary glands, pancreas, adrenal gland and thyroid gland (Class-3)
	2	Revision on permanent slides
	3	Study, characteristics features and identification of permanent stained reproductive and nervous sections of different mammalian tissues and organs : Testes, ovary, uterus, spinal cord, cerebral cortex, cerebellum (Class-4)
	4	Study and identification of stained sections of different mammalian tissues and organs: Skin, cardiac muscle, skeletal muscle, smooth muscle, artery and vein. (Class-5)
October 2023	1	Examination and staining of fresh squamous epithelium by methylene blue stain
	2	Staining of adipose tissue using Sudan III or IV.
November 2023	1	Class test: permanent slides
	2	Revision on permanent slides
	3	Revision on permanent slides
	4	Revision on permanent slides
December 2023	1	Class test on Cellular Physiology Lab

Suggested Books

1. Note Books on Practical Histology. Published by The Physiological Society of India. Kolkata
2. Ghai, C.L. A Text Book of Practical Physiology. 8th Edition. Jaypee.
3. Pal, G.K. Pal, P. (2013).Textbook of Practical Physiology. 3rd Edition. Universities.

Rajkumar Maiti