UZO-543 Molecular Physiology-I Cr. (2)

Course Contents:

Overview of resting membrane, action potential and synaptic transmission; Structure and mechanisms in ion channels; Biosynthesis of neurotransmitters; Neurotransmitters actions at synaptic receptors. Neurosecretions and neurotransmitters in higher nervous system activity.

Molecular mechanisms in transduction of sensory stimuli into impulse; photochemistrry and transduction of photoreceptor; Color vision, Auditory reception, Chemoreception (taste and smell).

Overview of endocrine glands, their hormones and roles; Chemistry and biosynthesis of hormones of adenohypophysis, thyroid, parathyroid, endocrine pancreas, adrenal medulla and steriodogenic tissues; Metabolism of thyroid and steriodogenic tissues; Structure of hormone receptors.

Teaching-Learning Strategies

Teaching will be a combination of class lectures, class discussions, and group work. Short videos /films will be shown on occasion.

Assignments

The sessional work will be a combination of written assignments, class quizzes, presentation, and class participation/attendance.

Assessments and Examination

Sessional Work:	25 marks
Midterm Exam:	35 marks
Final term Exam:	40 marks

Books Recommended:

1. Randall, D., Burggren, W., French, K. and Fernald, R., 2002. Eckert Animal Physiology: Mechanisms and Adaptations, 5th ed. W.H. Freeman and Company, New York
2. Bullock, J., Boyle, J. and Wang, M.B., 2001. Physiology, 4th Ed.. Lippincott, Williams and Wilkins, Philadelphia.
3. Berne, R.M. and Levy, M.N., 2000. Principles of Physiology, 3rd Ed.. St. Lious, Mosby.
4. Guyton, A.C. and Hall, J.E., 2000. Textbook of Medical Physiology, 10th Ed.. W.B. Saunders Company, Philadelphia.
5. Withers, P.C., 1992. Comparative Animal Physiology. Saunders College Publishing, Philadelphia.
6. Schmidt-Nelsen, K., 1997. Animal Physiology, Adaptation and Environment, 5th Ed.. Cambridge University Press, Cambridge.
7. Tharp, G. and Woodman, D., 2002. Experiments in Physiology, 8th Ed.. Prentice Hall, London.

UZO-544 Molecular Physiology-I(Lab.) Cr. (1)

Course Contents:

Study of post synaptic receptor mechanisms in neuromuscular preparation of frogs; Experiments to study the molecular responses to hormones. Study of hormones receptors in differing hormonal circulation levels; Ultra-structure study of muscle structure for muscle contraction.Effect of chemicals and drugs on cardiac activity of prepared frogs; Study of drugs on reflexes and local circulation models.

Teaching-Learning Strategies

Teaching will be a combination of class lectures, class discussions, and group work. Short videos /films will be shown on occasion.

Assignments

The sessional work will be a combination of written assignments, class quizzes, presentation, and class participation/attendance.

Assessments and Examination

Sessional Work:	25 marks
Midterm Exam:	35 marks
Final term Exam:	40 marks