Birla Institute of Technology and Science, Pilani
Hyderabad Campus

FIRST SEMESTER 2020-2021
Course Handout

Dated: 17th August, 2020

Course No : **BIO F313**
Course Title : **Animal Physiology**
Instructor-In charge : **Dr. PRAGYA KOMAL**
SKV Manjari

1. Course Description:

Fundamentals underlying the working of tissues and organ systems in animals with emphasis on mammalian systems and integration of organ systems at the level of the whole organism. Important physiological systems will be taught such as respiratory, circulatory, nervous, endocrine, excretory, muscles, skeletal and reproductive systems.

2. Scope & Objective:

This course attempts to bring the awareness to the students regarding major features of physiological system in animals with focus on human physiology. Emphasis will be given to the function and adaptations as related to the survival of organisms in their ecosystem.

Text Book:
Sherwood, L., Klandorf, H. and Yancey, P.H., Animal Physiology: From Genes to Organisms, 2005, Brook/Cole Cengage Learning., Singapore

Reference books:
1.Sherwood L: Principles of Human Physiology. Brook/Cole Cengage Learning., Indian edition

2.Christopher D. Moyes and Patricia M. Schulte, Principles of Animal Physiology.2nd edition Pearson Education, 2016

Course plan:

Lect.	Learning objective	Topics to be covered	Ref. to Chapter
1-2	What is Homeostasis ?	Introduction to Physiology and Homeostasis	TB: Chap 1&2 RB1: Chap 1
3-7	How are electric signals generated and transmitted ?	Neuronal Physiology	TB: Chap 4 Review/research articles
8-12	Organization of Brain, nerves and the spinal cord	Nervous system	TB: Chap 5 RB2: Chap 7
13-17	How do we sense a stimulus?	Sensory Physiology	TB: Chap 6
17-21	Support and movement of the body	Muscles Physiology	TB: Chap 8
22-26	Hormones and their function	Endocrine system	TB: Chap 7 Review articles
26-30	Self-maintenance and exchange of metabolites	Circulatory system	TB: Chap 9 Review/research articles

31-33	Breathing and exchange of gases	Respiration system	TB: Chap 11
32-35	Organ system and glands involved in food processing	Digestive system	TB: Chap 14
36-40	Regulating the internal environment and removing the waste	Excretory system	TB: Chap 12 Research articles
41-43	Fluid-Acid-Base balance	Osmoregulators and Volume Balance	TB: Chap 13
SELF-STUDY	How animals multiply?	Reproductive system (Self study)	TB: Chap 16

Evaluation scheme:

Component	Duration	Weightage % (Total marks-200)	Date & Time	Time Duration	Remarks
Test-1	30 min.	15 (30M)	10th Sept-20th Sept ; Class hour	**30 min**	OB
Test-2	30 min.	15 (30M)	9th Oct-20th Oct; Class hour	**30 min**	OB
Test-3	30 min.	15 (30M)	10th Nov-20th Nov ; Class hour	**30 min**	OB
Multiple Quizzes + Home Assignments Seminar	Variable	10 (20M) 10 (20M) 10 (20M)	Announced in online lecture class	------	OB OB OB
Comprehensive	2 hrs.	25 (50M)	Will be announced by timetable		OB

OB- Open Book

Chamber consultation hour: To be announced in lecture class hour on 17th August 2020.

Notices:

All notices/ announcements regarding this course shall be displayed in Course Management System

Grading policy: Award of grades will be guided in general by the histogram of marks. Decision on border line cases will be taken based on individual's sincerity, student's regularity in attending classes, and instructor's assessment of the student.

Make-up policy:

Make-ups will be granted for tests 1, 2 and 3 or comprehensive test only if candidate is seriously sick and hospitalized. A request letter for the same must be provided by the student with parent's signature on it, supplemented with doctor's prescription. **No make-up will be granted for quizzes/assignments under any circumstances**.

Link for purchase: eBook unavailable

https://www.amazon.in/Animal-Physiology-Genes-Organisms-Sherwood/dp/8131526593/ref=asc_df_8131526593/?tag=googleshopdes-21&linkCode=df0&hvadid=396986908032&hvpos=&hvnetw=g&hvrand=6293383755238727366&hvpone=&hvptwo=&hvqmt=&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=9040231&hvtargid=pla-569630959910&psc=1&ext_vrnc=hi

Academic Honesty and Integrity Policy:

Academic honesty and integrity are to be maintained by all the students throughout the semester and no type of academic dishonesty is acceptable.

Instructor-in- charge
BIO F313