**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 ment cannot be done.ng.lone for sequencing>sis by afternoon.y |

**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**