

BSHND 113: HUMAN PHYSIOLOGY–I

Course Learning Outcomes:

- To familiarize about the functions of different body organs
- To understand risk parameters related to assessment and prognosis of different diseases

Content- Theory:

1. Introduction:

- Introduction to human physiology,
- Organization level and cell physiology;

2. Digestive system:

- Oral cavity,
- Salivary glands,
- Teeth,
- Tongue;
- Oesophagus,
- Pharynx,
- Larynx,
- Stomach,
- Small intestine,
- Large intestine,
- Accessory glands associated with git (liver, gallbladder and pancreas);

3. Urinary system:

- Introduction,
- Functions of kidney and nephron,
- Glomerular filtration,
- Tubular reabsorption,
- Tubular secretion,
- Urine excretion and plasma clearance,
- Fluid and acid base balance;

4. Cardiovascular system:

- Functions of heart and blood vessels,
- Electrical activity of heart,
- Mechanical events of heart,
- Cardiac output and its control.

Content- Practical:

- Blood grouping; Hb estimation; Counting of blood cells; complete blood count (CBC); Electrolyte estimation; Hydration test; Determination of coagulation time, blood pressure, pulse recording;
- Heart activity – electrocardiography; Test for saliva;
- Respiratory movement, maximum breathing capacity,

- pulmonary function test; Intestinal motility;
- Renal function tests and urine analysis.

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 Exam: 40 marks

Recommended Readings:

1. Gillian, P. & Richards, C.D. (2006). Human Physiology: The Basis of Medicine, (3rd ed.) Oxford University Press, London.
2. Guyton, A.C. & Hall, J.E. (2006). Textbook of Medical Physiology, (11th ed.) J.F. Kennedy Blvd., Philadelphia, USA.
3. Rahman, Z.U., Aslam, B., Khan, J.A. & Khaliq, T. (2007). Manual of Physiology-I (2nd ed.) MAS Computers, Faisalabad, Pakistan.
4. Rahman, Z.U., Aslam, B., Khan, J.A. & Khaliq, T. (2007). Manual of Physiology-II, (2nd ed.) MAS Computers, Faisalabad, Pakistan.
5. Tortora, G.J. (2008). Principles of Anatomy and Physiology, (12th ed.) John Wiley & Sons, Inc., New York, USA.

