

OBM751 BASICS OF HUMAN ANATOMY AND PHYSIOLOGY

DETAILED SYLLABUS

OBJECTIVES

- To learn the basic components of formation of systems
- To identify all the organelles of an animal cell and their function.
- To understand structure and functions of the various types of systems of human body.
- To demonstrate their knowledge of importance of anatomical features and physiology of human systems

UNIT I INTRODUCTION

Level of Organization – Metabolism and Homeostasis – Plan of Body – Body Parts and Areas, Planes and Sections. Elements in the Human Body – Inorganic Compounds and Organic Compounds

UNIT II BASIC STRUCTURE AND FUNCTION OF ANIMAL CELL

Structure of Cell – Structure and Function of Cell Membrane and Sub organelles. Cellular Transport Mechanism – Cell Division – Mitosis and Meiosis

UNIT III TISSUES, MEMBRANE AND SKELETAL SYSTEM

Epithelial tissue – Connective tissue – Muscle tissue – Nerve tissue – Membrane. Types of Bone tissue - Classification of Bones – Functions of the Skeleton system – Skull, Vertebral Column. Joint - Articulation

UNIT IV NERVOUS AND CARDIOVASCULAR SYSTEMS

Nervous system: Types and Structure of Neuron – Mechanism of Nerve Impulse - Structure and Parts of Brain. **Sensory organ:** Eye and Ear. **Cardiovascular:** Composition of Blood and functions – Structure of Heart – Conduction system of Heart – Types of Blood vessel – Blood Pressure.

UNIT V DIGESTIVE AND URINARY SYSTEMS

Digestive: Organs of Digestive system – Digestion and Absorption. **Urinary:** Structure of Kidney and Nephron – Mechanisms of Urine formation – Regulation of Blood pressure by Urinary System.

OUTCOMES At end of the course

- Students would be familiar with the requirements for formation of systems
- Students would be understand the basic structural and functional elements of human body

SSLC, HSE, DIPLOMA, B.E/B.TECH, M.E/M.TECH, MBA, MCA

Notes

Syllabus

Question Papers

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- Students would have knowledge on Skeletal and muscular systems
- Students would be able to comprehend circulatory and nervous systems and their components
- Students would study importance of digestive and urinary systems in Human body

TEXT BOOKS:

1. Prabhjot Kaur. Text Book of Anatomy and Physiology. Lotus Publishers. 2014
2. Elaine.N. Marieb , "Essential of Human Anatomy and Physiology", Eight Edition, Pearson Education, New Delhi 2007
3. Valerie C. Scanlon and Tina Sanders, "Essential of Human Anatomy and Physiology", Fifth Edition, F.A. Davis Company, Philadelphia 2007

REFERENCES:

1. Frederic H. Martini, Judi L. Nath, Edwin F. Bartholomew, Fundamentals of Anatomy and Physiology. Tenth Edition, Pearson Publishers, 2014
2. William F.Ganong, "Review of Medical Physiology", 22nd Edition, Mc Graw Hill, New Delhi. 2005
3. Eldra Pearl Solomon, "Introduction to Human Anatomy and Physiology", Third Edition, W.B. Saunders Company, 2008
4. Guyton & Hall, "Medical Physiology", 13th Edition, Elsevier Saunders, 2015.