### SET'S SAWKAR HOMOEOPATHIC MEDICAL COLLEGE, SATARA

### Dept. of Human Physiology & Biochemistry

# Academic Teaching programme 2024-2025 (appearing in March 26) - Theory

| Month   | Dr. Amondikar   | Dr. Tanksale   | Dr. Jadhav  | Dr. Kadam   |  |
|---|---|--|---|---|--|
| Nov 24  | Address and foundation<br>course<br>Introduction- Body fluids<br>and immune mechanism | Address and foundation course Introduction- Nerve Muscle physiology.   | Address and foundation course Biophysics-Diffusion,osmosis  | Address and foundation course   |  |
| Dec 24 Haematology – Red blood cells, Hb, Anaemia, jaundice, ESR, PCV |   | Nerve muscle physiology-<br>Neurone and neuroglia,<br>classification of properties<br>neurone, degeneration and<br>regeneration. | filtration,<br>ultrafiltration<br>Adsorption,<br>Hydrotropy | Introduction to<br>cellular Physiology<br>– cell structure and<br>functions |  |
| Jan 25  | Haematology – WBC,<br>immunity,   | Nerve muscle physiology- NM junction, Mechanism of transmission  | colloid, Donnan<br>equilibrium<br>Dialysis                  | Cell division , cell junctions  |  |
| Feb 25  | platelets, Coagulation,<br>blood groups   | Structure of skeletal muscle and properties  | absorption,<br>assimilation                                 | Transport across cell membrane, body fluid compartments,ho moeostasis       |  |
| March<br>25   | Blood volume, Blood<br>transfusion RE system,<br>tissue macrophages                   | Structure of cardiac muscle and properties   | surface tension, trace elements                             | Skin and integumentary system-structure and functions                       |  |
| April<br>25   | Lymphatic system, tissue fluid and oedema   | Structure of Smooth muscle and properties. Applied, EMG.   | Tissue- Structure, Function and Types.                      | Skin and integumentary system- regulation of body temperature               |  |
| May 25<br>/June<br>25   | Cardiovascular system introduction  | Central nervous system-<br>introduction, neuron and<br>neuroglia   | Respiratory System-<br>introduction                         | Endocrine system -<br>introduction  |  |
| -   | CVS-Structure and properties of cardiac muscle, Cardiac cycle                         | CNS synapses- classification , properties, transmission  | Respiratory<br>movements,<br>Ventilation                    | HP axis, Pituitory gland( Ant )   |  |
| July 25   | Heart sounds, conducting system.  | CNS – Neurotransmitters,<br>receptors- classification,<br>properties, Reflexes-<br>classification, properties                    | transport of gases,<br>exchange of resp<br>gases            | Post Pituitory,<br>Thyroid Gland,<br>Parathyroid gland.                     |  |
| August<br>25  | ECG-normal and abnormal recording, Cardiac output-factors affecting, regulation       | CNS – sensations , pain<br>pathway,spinal cord- structure<br>, functions,different<br>tracts,section of spinal cord              | Regulation of respiration,                                  | Endocrine part of pancreas. Regulation of blood glucose. Diabetes Mellitus. |  |

| Sept 25 | Heart rate , Blood pressure factors affecting and regulation.                       | Brain stem- structure and functions, vestibular apparatus, cerebrum, diencephelon   | Disturbance in resp,  | Adrenal cortex,<br>Adrenal medulla,                               |  |
|---------|---|---|---|---|--|
| Oct 25  | Radial pulse, Regional circulation  | CNS – cerebellum, higher intellectual functions, EEG,   | ANS High altitude and deep sea physiology, artificial respiration | local hormones, Endocrine functions of other organs               |  |
| Nov 25  | Special senses – olfaction<br>taste, vision<br>Special senses – vision,<br>hearing. | Digestive system- Intro. Salivary glands, stomach- Functional Anatomy, Histology, Functions, Applied Physiology. Composition and function of digestive juices., | Reproductive system-<br>Male reproductive<br>system               | Enzymes, Vitamins,<br>Diet and Nutrition.                         |  |
| Dec 25  | Excretory System- Intro,<br>Nephron, JG apparatus.                                  | Pancreas, Liver, gall Bladder – Functional Anatomy, Histology, Functions, Applied Physiology.   | Female Reproductive system  | Biochemistry-<br>chemistry and<br>metabolism of<br>proteins       |  |
| Jan 26  | Excretory System- Intro,<br>Nephron, JG apparatus.                                  | Small Intestine, Large intestine, movements of GI tract,  | Pregnancy, parturition, Infertility Placenta, Pregnancy tests     | Biochemistry-<br>chemistry and<br>metabolism of<br>Carbohydrates. |  |
| Feb 26  | RFT, Renal failure,<br>Micturition, dialysis  | GI hormones, Metabolism of<br>Carbohydrats, fats and<br>protiens.   | Fertility control,<br>Mammery Gland and<br>lactation.             | Biochemistry-<br>chemistry and<br>metabolism of Fats.             |  |

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Academic Teaching programme 2024-2025 (appearing in March26) - Practical

| Month   | Dr. Kadam   | Dr. Tanksale  |  |
|---|---|---|--|
| Nov 24  | Address and foundation course Introduction to Clinical Examination                            | Address and foundation course Introduction to Haematology.  |  |
| Dec 24  | Clinical examination general aspect, history taking   | Introduction to haematological practicals<br>Compound microscope<br>Collection of blood sample<br>Hb % estimation |  |
| Clinical general examination, examination of pulse ,B.P., temperature |   | ESR PCV Blood indices BT and CT   |  |
| Feb 25  | Systemic examination Examination of muscles and joints Examination of CVS, ECG recording, OPD | Blood groups, Haemocytometry RBC count  |  |
| March 25  | Examination of Respiratory system, OPD  | Total WBC count  Differential count   |  |
| April 25  | Clinical exam of NS- cranial nerves<br>Clinical exam of sensory system                        | Absolute eosinophil count   |  |
| yerasos ar ing  | Dr.Amondikar  | Dr. Tanksale  |  |
| May and June<br>25  | Examination of RS- spirometry , stethography, OPD   | Higher Intellectual functions Clinical exam of motor system I   |  |
| July25  | Clinical examination of nervous system- introduction, history taking, OPD                     | Clinical exam of motor system II Posture, gait, reflexes  |  |
| Aug 25  | Clinical examination of nervous system – higher functions ,OPD                                | Exam of special senses – olfaction Exam of taste  |  |
| Sept 25   | Uses of instruments and equipments. OPD   | Examination of eye- vision Visual acuity , visual reflexes  |  |
| Oct 25  | Qualitative analysis of proteins -<br>colour reactions and ppt. reactions<br>Dr.Amondikar     | Reproductive system-diagnosis of pregnancy, OPD  Dr. Kadam  |  |
| Nov 25  | Qualitative analysis of carbohydrates – mono, di and polysaccharides                          | Clinical examination of GIT, OPD  |  |
| Dec 25  | Qualitative analysis of fats.  Normal constituents of urine                                   | Clinical examination of GIT, OPD  |  |
| Jan 26  | Abnormal constituents of urine Urine report   | clinical physiology OPD Hours   |  |
| Feb 26  | Quantitative estimation of glucose, total proteins, uric acid in blood                        | Organ function tests Interpretation and discussion of results biochemical tests                                   |  |

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