



YENEPOYA

(DEEMED TO BE UNIVERSITY)

Recognized under Sec 3(A) of the UGC Act 1956

Accredited by NAAC with 'A' Grade

YENEPOYA MEDICAL COLLEGE

PROGRAM AND PROGRAM SPECIFIC/COURSE OUTCOMES

POSTGRADUATE PROGRAM

MD PHYSIOLOGY

ATTESTED

Dr. Gangadhara Somayaji K.S.
Registrar
Yenepoaya (Deemed to be University)
University Road, Chikankotte
Mangalore - 575 018, Karnataka

PROGRAM OUTCOMES
POSTGRADUATE PROGRAM
MD PHYSIOLOGY

A post graduate student having qualified the MD (Physiology) examination should be able to:

- PO1 Understand and deal with all aspects of general, systemic and applied Physiology.
- PO2 Teach effectively the basic physiological mechanisms of human body with reference to their implications in the pathogenesis of diseases (pathophysiology) affecting various organ systems and the physiological basis of their management to undergraduate medical, paramedical and all other basic science students.
- PO3 Understand general principles of medical education (use of appropriate teaching techniques and resources).
- PO4 Explain how the knowledge of physiology can be effectively used in a various clinical settings to solve diagnostic and therapeutic problems.
- PO5 Interpret and evaluate research publications critically.
- PO6 Use the library facilities (Literature database using computer, CD ROM, internet search and any other available newer techniques).
- PO7 Conduct relevant clinical/experimental research which may have significant bearing on human health and patient care.
- PO8 Interpret the research findings in the light of its basic and applied significance.
- PO9 Acquire skills in conducting collaborative research in the field of physiology with allied sciences, clinical sciences and biomedical engineering.
- PO10 Interact with the allied departments and render services in advanced laboratory investigations.
- PO11 Serve as interface with society at large.
- PO12 Acquire administrative skills to set up concerned department / laboratories and initiate purchase procedure and procure necessary items for running such laboratories.
- PO13 Function as a member of a teaching or research team.

ATTESTED



Dr. Gangadhara Somayaji K.S.
Registrar
Yenepoya (Deemed to be University)
University Road, Yenepoya
Mangalore - 575 013, Karnataka

PROGRAM SPECIFIC/COURSE OUTCOME

POSTGRADUATE PROGRAM

MD PHYSIOLOGY

A. Cognitive Domain

1. Able to teach the basic physiological mechanisms of human body with reference to their implications in the pathogenesis of diseases (pathophysiology) and their management to undergraduate medical and paramedical students.
2. Conduct such clinical and experimental research, as would have a significant bearing on human health and patient care.
3. Interact with other departments by rendering services in advanced laboratory investigations and relevant expert opinion.
4. Participate actively in various workshops/seminars/journal clubs/demonstration in the allied departments, to acquire various skills for collaborative research.
5. Contribute to society by imparting physiological understanding of health problems.
6. Plan a research study and conduct basic and clinical systemic investigations.

B Affective domain

1. Demonstrate self-awareness and personal development in routine conduct. (*Self-awareness*)
2. Communicate effectively with peers, students and teachers in various teaching-learning activities. (*Communication*)
3. Demonstrate
 - a. Due respect in handling human body parts & cadavers during dissection (*Ethics & Professionalism*)
 - b. Humane touch while demonstrating living surface marking in subject/patient (*Ethics & Professionalism*)
4. Acquire capacity of not letting his/her personal beliefs, prejudices and limitations come in the way of duty.
5. Appreciate the issues of equity and social accountability while exposing students to early clinical exposure (*Equity and social accountability*)

ATTESTED


Dr. Gangadhara Somayaji K.S.
Registrar
Yenepoya (Deemed) University
Belted Road, Bidar, Karnataka
Mangalore - 576 015, Karnataka

C. Psychomotor Domain

The student should acquire competencies in the following tasks:

I. Hematology Experiments

1. Estimation of hemoglobin
2. Determination of Total Erythrocyte (RBC) Count and RBC Indices (Blood Standards)
3. Determination of Total Leucocytes (WBC) Count : TLC
4. Preparation of a peripheral Blood Smear and Determination of Differential Leucocyte Count: DLC
5. Determination of Arneht Count
6. Determination of Bleeding Time (BT) and Clotting Time (CT)
7. Determination of Blood groups (A,B,O and Rh system)
8. Determination of Erythrocyte Sedimentation Rate (ESR) and Packed cell volume (PCV)
9. Determination of Osmotic Fragility of Red Blood Cells
10. Determination of Platelet Count
11. Determination of Reticulocyte Count
12. Determination of Absolute Eosinophil Count
13. Study of Haemopoietic Cells Present in the Bone Marrow

II. Animal Experiments (All animal experiments must be compliant with Govt. of India Regulations, notified from time to time). Experiments in Amphibian/Dog/Cat should be conducted by computer assisted simulation models/ facilities. Other experiments should be performed as permissible by CPCSEA guidelines.

A. *Amphibian (Frog) Experiments*

1. Effect of temperature on simple muscle twitch.
2. Effect of two successive stimuli (of same strength) on skeletal muscle.
3. Effect of increasing strength of stimuli on skeletal muscle.
4. Effect of increasing frequency of stimuli on skeletal muscle (genesis of tetanus).
5. Effect of free load and after load on skeletal muscle.

ATTESTED

6. Effect of repeated stimuli on skeletal muscle (study of phenomenon of Fatigue).
7. Study of isometric contraction in skeletal muscle.
8. Determination of conduction velocity of sciatic nerve and effect of variables on it.
9. Properties of cardiac muscle – Refractory period, All-or-None Law, extra-systole and compensatory pause, beneficial effect.
10. Regulation of Heart, Vagus dissection and effect of Vagal and WCL stimulation.
11. Effect of physiological and pharmacological variables on intact frog's heart.
12. Perfusion of isolated frog's heart-role of sodium, potassium, calcium ions and drugs.
13. Perfusion of blood vessels in the frog.
14. Capillary circulation (Frog Web).
15. Postural and protective reflex in the frog.

B. Mammalian Experiments (Dog/Rabbit/Guinea pig/Rat/Mice)

1. General management of mammalian experiments.
2. Recording of heart rate, blood pressure and respiration and study the effects of various factors; drugs; asphyxia; occlusion of common carotid artery.
3. Effect of stimulation of central and peripheral end of vagus on arterial blood pressure and respiration after vagotomy.
4. Effect of stimulation and distension of carotid sinus on blood pressure and respiration.
5. Effect of stimulation of splanchnic nerve.
6. Effect of stimulation of peripheral somatic nerve (sciatic nerve).
7. Study of hypovolemic shock and its reversal.
8. Perfusion of isolated mammalian heart and study the effects of drugs and ions.
9. Recording of Isolated Intestinal movement and tone and studying the effect of drugs and ions.
10. Study of various stages of menstrual cycle, cervical smear and vaginal smear.

ATTESTED


Dr. Gangadhara Somayaji K.S.
Registrar
Yenepoya (Deemed to be University)
University Road, Talakatte
Mangalore - 575 013, Karnataka