



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

MASTER OF SCIENCE –MEDICAL PHYSIOLOGY

ATTESTED
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Dr. Gangadhara Somayaji K S
Registrar
Yenepoya (Deemed to be University)
University Road, Deralakatte
Manipaluru 575 018, Karnataka.

PROGRAM OUTCOMES

MASTER OF SCIENCE – MEDICAL PHYSIOLOGY

A post graduate student having qualified the MSc (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 Interpret and evaluate research publications critically
- PO5 Use the library facilities (Literature database using computer, CD ROM, internet search and any other available newer techniques).
- PO6 Conduct and interpret relevant experimental research which may have significant bearing on human health and patient care
- PO7 Acquire skills in conducting collaborative research in the field of physiology with allied sciences, clinical sciences and biomedical engineering
- PO8 Function as a member of a teaching or research team.

PROGRAM SPECIFIC/COURSE OUTCOMES

MASTER OF SCIENCE – MEDICAL 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 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 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. Acquire capacity of not letting his/her personal beliefs, prejudices and limitations come in the way of duty.

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C. Psychomotor Domain

The student should acquire competencies in the following tasks:

i) Blood

1. Preparation and examination of peripheral blood smear and determination of differential leucocyte count.
2. Determination of total red blood cell count
3. Determination of total leucocyte count
4. Determination of eosinophil count
5. Determination of erythrocyte sedimentation rate, packed cell volume and calculation of the absolute values
6. Determination of hemoglobin concentration of blood
7. Determination of ABO and Rh blood groups
8. Determination of bleeding time, clotting time and plasma prothrombin time
9. Examination of bone marrow smear
10. Estimation of blood volume by dye dilution technique

ii) Human Experiments

1. Study of Fatigue, Mosso's Ergography
2. Recording BP, effect of Posture and exercise
3. Stethography
4. Spirometry
5. PFT, MVV, Dyspnoeic index, FEV₁
6. Peak Expiratory Flow Rate (PEFR)
7. CVS fitness test / bicycle ergometer
8. Perimetry (Visual Field)
9. BMI
10. ECG in lead II
11. Test of Autonomic Functions.

iii) Clinical Examination

1. Examination of Radial pulse,
2. Clinical examination of CVS
3. Clinical examination of Respiratory System
4. Examination of cranial nerves
5. Examination of sensory system
6. Examination of motor system
7. Examination of reflex.

iv) Interpretation of Charts, Problems and Case Histories

v) List of demonstration experiments

1. Haematology; Haematocrit, Reticulocyte count, platelet count, Osmotic fragility
2. Nerve; Muscle Physiology –EMG
3. CVS ; ECG, Demonstration of sinus arrhythmias.
4. Recoding of Arterial Pulse Tracing
5. Respiratory system: Spirogram & PFT by computerized spirometry.
6. Reproductive System: Sperm Motility and Sperm count, special senses, Audiometry, Purkinje – Samson images, Ophthalmoscopy, retinoscopy, examination of fundus.
7. Nervous System Autonomic function tests
8. Amphibian Practical: Muscle nerve and Heart – experiments may be demonstrated if possible, for academic interest only and not for practical examination as graphs on amphibian experiments are deleted.
9. Electro encephalogram (EEG)