

M.S. Ramaiah University of Applied Sciences

New BEL Road, MSR Nagar, Bangalore – 560054



**RAMAIAH
UNIVERSITY**
OF APPLIED SCIENCES

PO, PSO & CO

Programme: MD in Pathology

Programme Code: 130

Programme Outcome (PO)

Programme Specific Outcome (PSO)

Course Outcomes (CO)

Shalini

Principal and Dean

M.S. Ramaiah Medical College and Hospital
M.S. Ramaiah University of Applied Sciences



Ramaiah Medical College (RMC)

Programme Outcomes

Post Graduate Programme: MD in Pathology

Programme Outcomes (PO) for MD Pathology Postgraduate students:

- PO1. Develop the knowledge, skills and attitude to be a competent diagnostician (C, P).
- PO2. Demonstrate a commitment to excellence and continuous professional development with integrity, compassion and sensitivity to patient care. (A)
- PO3. Acquire and develop the knowledge, skills and attitude required to be a competent and ethical researcher and teacher. (A, C, P)
- PO4. Be able to independently perform investigative procedures applicable to his specialty with a reasonable degree of professionalism and competence. (P)

Programme Specific Outcomes (PSOs)

Programme specific outcome (PSO) for MD Pathology Postgraduate students:

- PSO1. To acquire diagnostic skills in histopathology (Surgical pathology and autopsy), cytopathology and hematology by adequate use of slide bank, wet and mounted specimen bank, laboratory medicine (clinical pathology, clinical biochemistry) and blood banking (transfusion medicine) for understanding clinical manifestations of diseases. (C)
- PSO2. To advice on the selection of appropriate specimens, samples and tests necessary to arrive at a diagnosis, interpret the data obtained with reasonable accuracy and clinicopathological correlation to compose lucid and succinct reports. (C, P)
- PSO3. To demonstrate the ability to maintain all equipment, automation and their quality system procedures and quality assurance with the aid of SOPs along with safe and effective biomedical waste management. (C, P)
- PSO4. To teach and assess medical, paramedical and allied health students, acquire skills to conduct fundamental and applied research either independently (including thesis work) or as part of a team. (C, P)
- PSO5. To apply skills learnt in the advanced learning center for patient care, learn application of principles of professionalism, ethics and effective communication in the conduct of routine pathology services, teaching activities and research. (A)
- PSO6. To perform grossing and dissection of autopsy and surgical specimens, collect samples for blood and bone marrow testing and fine needle aspirations (direct and guided) in an appropriate manner necessary for accurate diagnosis and treatment. (P)

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Course Outcomes (COs)

Course Title & Code: Basic Sciences: General pathology, physiology, immunopathology and molecular biology (MDC513A)

At the end of the course, the students should be able to:

- CO-1.** Be well versed with the histogenesis and pathophysiological processes of diseases, know the current concepts, mechanisms of the immune system, principles of molecular biology in understanding of disease processes and its use in various diagnostic tests (C)
- CO-2.** The student should demonstrate integrity, accountability, respect, compassion and dedicated patient care, commitment to excellence, continuous professional development and ethical principles relating to research conduct and publication as applicable to all the specific courses (A)

Course Outcomes (COs)

Course Title & Code: Systemic Pathology: Surgical and Cytopathology (MDC514A)

At the end of the course, the students should be able to:

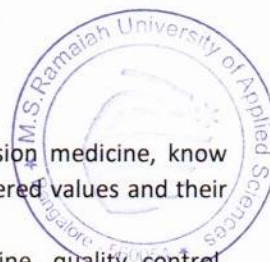
- CO-1.** Should know standard operating procedures, various equipment, automation and quality assurance in surgical pathology and cytopathology, possess the knowledge and techniques necessary for dissection in autopsy and grossing, taking appropriate sections and samples along with reporting in surgical pathology and cytopathology. (C, P)
- CO-2.** Should be well versed with histopathology tissue processing techniques, cutting of paraffin and frozen sections, making imprint smears and staining; performing direct fine needle aspirations and guiding clinical/radiology residents for guided aspirations in keeping with the clinical information on the choice of site, collection, preservation, transport, type of preparation and method of obtaining various cytological specimens (C, P)
- CO-3.** Should be introduced to basic research methodology so that he/she can independently conduct fundamental and applied research and he/she should independently write the thesis in accordance with the prescribed instructions as expected of international standards (C, P)
- CO-4.** Have knowledge of biomedical waste management and be familiar with appropriate disposal methods for each specimen, sample, reagents, instruments, autoclaving techniques, recycling of products and e-waste as applicable to the specific courses (C, P)

Course Outcomes (COs)

Course Title & Code: Hematology, transfusion and laboratory Medicine (MDC515A)

At the end of the course, the students should be able to:

- CO-1.** Be conversant with SOPs in hematology, laboratory medicine and transfusion medicine, know normal range of values of chemical content of body fluids, significance of altered values and their interpretation thereof in the practice of these specialities. (C, P)
- CO-2.** Possess knowledge of application of the principles of transfusion medicine, quality control, hemovigilance and regulatory requirements in the diagnosis of diseases of blood and bone marrow



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(C, P)

- CO-3.** Be conversant with automation, various equipment used in hematology, laboratory medicine and transfusion medicine, their principles, advantages and disadvantages, good lab practices, purchase specifications and approximate costs of reagents and consumables and record maintenance
- CO-4.** Be able to collect specimens by routinely performing non-invasive out-patient procedures such as venipuncture, finger-prick, and bone marrow aspirates, making smears and staining.(P)
Should demonstrate knowledge of different methods of teaching-learning and assessments and should be independently able to teach and engage undergraduate students, paramedical staff and their own peers in the form of presenting seminars, journal clubs and clinicopathological conferences as applicable to all the specific courses. (C, P)

Course Outcomes (COs)

Course Title & Code: Recent advances and applied aspects in Pathology (MDC516A)

At the end of the course, the students should be able to:

- CO-1.** Should be conversant with the principles, procedures, use and quality control of automated equipment in the areas of immunohistochemistry, flow cytometry, molecular tests including but not limited to in situ hybridisation, polymerase chain reaction, Sanger sequencing and next generation sequencing, principles and techniques of electron microscopy (C,P).
- CO-2.** The student should be conversant with the use of whole slide scanned images and principles and applications of digital pathology and artificial intelligence. (C)

Course Outcomes (COs)

Course Title & Code: Thesis- Pathology (MDP504A)

At the end of the course, the students should be able to:

- CO-1.** Should be introduced to basic research methodology so that he/she can independently conduct fundamental and applied research and he/she should independently write the thesis in accordance with the prescribed instructions as expected of international standards(C, P).
- CO-2.** The student should demonstrate integrity, accountability, respect, compassion and dedicated patient care and a commitment to excellence, continuous professional development and ethical principles relating to research conduct and research publication as applicable to all the specific courses.

Ck

Registrar
M.S. Ramaiah University of Applied Sciences
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