RKMVERI SYLLABUS FOR MSC MLST 3rd Semester; SPECIALIZATION: HISTOPATHOLOGY

 MMLSTP307 Applied Cytopathology (practical) 2 MMLSTP308 Applied immunopathology (practical) 2 Total 20

Course Code	Title	Credit
MS301	Applied Histopathology	4
MS302	Research Methodology & Bio-Statistics	2
MS303	Applied Cytopathology	3
MS304	Applied Immunopathology	3
MS305	Applied Histopathology (practical)	2
MS306	Research Methodology & Bio-Statistics (practical	2
MS307	Applied Cytopathology (practical)	2
MS308	Applied immunopathology (practical)	2
	Total	20

Description:

MS301 Applied Histopathology:

Unit 1 Types of specimen, sample receiving in Histopath Lab, Fixation of tissue
Unit 2 Steps of manual tissue processing including embedding
Unit 3 Microtomy , types and parts of microtome
Unit 4 Maintenance and trouble shooting in microtomy
Unit 5 Manual H/E staining and mounting
Unit 6 Automated tissue processor and auto-stainer
Unit 7 Basics of frozen section
Unit 8 Parts of Cryostat, freezing media, Cryomicrotomy
Unit 9 Maintenance and troubleshooting of cryostat
Unit 10 Archiving and record keeping in Histopatholgy
Unit 11 Biobanking
Unit 12 Biosafety in histopath Lab with Biomedical waste management
Unit 13 Quality control in Histopathology
Unit 14 Basics of In Situ Hybridization

MSP302 Research Methodology & Bio-Statistics

Unit 1 Types of data, Normal distribution, central tendency, modes of dispersion
Unit 2 Methods of sampling
Unit 3 Types of observational study: Descriptive and analytical
Unit 4 Interventional study: Randomized control trial
Unit 5 Association and correlation
Unit 6 Statistical tests of significance for qualitative variables
Unit 7 Statistical tests of significance for quantitative variables
Unit 8 Types of bias and Corrective methods

MS303 Applied Cytopathology

Unit 1 Branches of Cytopathology and scope
Unit 2 Cytopath staining: MGG and Pap
Unit 3 Exfoliative cytology: Pap smear
Unit 4 Fluid cytology, cytospin and cellblock preparation
Unit 5 Fine Needle aspiration cytology
Unit 6 Guided FNAC and ROSE 6. Liquid based cytology
Unit7 Automation in cytology 8 Digital Pathology & Artificial Intelligence in cytopathology

MS304 Applied immunopathology

Unit 1. Concept of immunophenotyping
Unit 2 Steps of manual IHC- Antigen retrieval
Unit 3 Concept of CD markers and monoclonal antibody
Unit 4 Quality control in IHC
Unit 5 Automation in IHC
Unit 6 Immunocytochemistry
Unit 7 Troubleshooting in IHC

MS305 Applied Histopathology (practical)
Unit 1. Using an automated tissue processor and auto-stainer
Unit 2. Embedding
Unit 3 Manual H/E staining
Unit 4 Microtomy
Unit 5 Cryomicrotomy
Unit 6 Staining; Special stain: PAS; Reticulin; GMS; Masson's Trichrome; Van Giesson; Fite Faraco
Unit 7 Methods of decalcification

MS 306 Research Methodology & Bio-Statistics (practical)

Unit 1 Mean, median, mode, SD and CV calculation
Unit 2 Calculation of Odd's ratio, relative risk
Unit 3 p value and r value calculation

MS 307 Applied Cytopathology (practical)

Unit 1 Pap smear collection
Unit 2 Assisting in FNAC procedure
Unit 3 Cytospin and cell block preparation4 Pap and MGG staining

MS 308 Applied immunopathology (practical)

Unit 1 Manual antigen retrieval
Unit 2 Manual IHC technique
Unit 3 Using automated IHC platform
Unit 4 Maintenance of reagent, buffer and automated IHC platform