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| Lesson plan |
| Name of the Faculty : Rajwanti Yadav |
| Discipline : DMLT |
| Semester : 4th |
| Subject :Histopathology and cytology |
| Lession Plan Duration : 15 weeks (from 6-3-2023 to 23-6-2023) |
| Work load ( Lecture / practical ) per week ( n hours) = Lecture=4, Practical=6 |

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| WORK | THEORY | | Practical | |
| Lecture Day | Topic (Including assignment/test} | Practical Day | Topic |
| 1st | 1 | Introduction to microscope | L1 | Demonstration of various parts of microscope |
| 2 | Introduction and principle of light microscope |
| 3 | Various parts of microscope |
| 4 | Uses and various attachment of microscope |
| 2nd | 5 | Cleaning and maintenance of microscope | L2 | Demonstration of cryostat |
| 6 | Principle and working of polarizing microscopy |
| 7 | Principleandworkingofdark fieldmicroscopy |
| 8 | Working principle of phase contrast microscopy |
| 3rd | 9 | Principleandworkingofflouroscencmicroscopy | L3 | Processing of tissue for frozen section |
| 10 | Principleandworkingofelectron microscopy |
| 11 | Assignment |
| 12 | Test |
| 4th | 13 | Introduction about special stains | L4 | Staining and mounting of frozen section using H&E stain |
| 14 | Principle and significance of PAS |
| 15 | Principle and significance of silver impregnation stain |
| 16 | Principle and significance of Z-N stain for AFB |
| 5th | 17 | Principle and significance of Massion trichrome stain | L5 | Staining and mounting of frozen section using oil red-o-stain |
| 18 | Principle and significance of oil red stain for fat |
| 19 | Principles & clinical significance of gram stain for gram+ and gram- bacteria |
| 20 | Significance of different types of special stain |
| 6th | 21 | Assignment | L6 | Preparation of aquous mounting media |
| 22 | Test |
| 23 | Introduction of decalcification |
| 24 | Process of decalcification |
| 7th | 25 | Various types of decalcifying methods( Acid decalcification) | L7 | Preparation of resinou smounting media |
| 26 | Decalcification by chelating therapy |
| 27 | Decalcification by ion exchange method |
| 28 | Decalcification by electrophoretic method |
| 8th | 29 | Decalcification by surface decalcification method | L8 | Demonstration of autopsy  instruments |
| 30 | Advantages and disadvantage of decalcifction method |
| 31 | Assignment |
| 32 | Test |
| 9th | 33 | Introduction about frozen section | L9 | Care and maintenance of autopsy instruments |
| 34 | Reception and processing of frozen section |
| 35 | Introduction and working of freezing microtome |
| 36 | Advantages and disadvantage of freezing microtome |
| 10th | 37 | Care and maintenance of freezing microtome | L10 | Demonstration o fmalignant cell |
| 38 | Introductionandworkingofcryostat |
| 39 | Advantagesanddisadvantageofcryostat |
| 40 | Care and maintenance of cryostat |
| 11th | 41 | Frozen section cutting and staining by H&E stain | L11 | Preparation of dry smear |

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|  | 42 | Assignment/test |  |  |
| 43 | Introduction and impotance of museums |
| 44 | Reception and fixation of museums specimens |
| 12th | 45 | Assignment/Test | L 12 | Preparation of wet smear |
| 46 | Introduction about autopsy |
| 47 | Introduction about autopsy techniques |
| 48 | Care and maintenance of autopsy instruments |
| 13th | 49 | Introduction about malignant cell/characterstics of malignant cells | L13 | Performing PAP stain |
| 50 | Difference between normal and maligy cell |
| 51 | Assignment/Test |
| 52 | Introduction about harmonal assessment |
| 14th | 53 | Importance of HCG and uses of Harmonal assessment in pregnancy | L14 | Fixation of smear and staining with MGG stain |
| 54 | Introduction about aspiration cytology |
| 55 | Principle and indication of FNAC |
| 56 | Staining techniques (PAP,MGG,H&E) |
| 15th | 57 | Principle and interpretation of PAS and Z-N stain | L15 | Fixation and staining of smear with PAS stain |
| 58 | Advancement in cytology |
| 59 | Automation in cytology and use of cytospin |
| 60 | Assignment/ test |