VELAMMAL MEDICAL COLLEGE
HOSPITAL AND RESEARCH INSTITUTE
MADURAI - 625009

4.2.3

Detailed report of activities and list of students benefitted due to exposure to Laboratories, Herbal Garden & Animal House

Report on List of Practical's Designed & Conducted

SL. No.	Subject	Practical's List
1.	Human Anatomy Including Embryology, Osteology & Histology	**Dissection Topic** **UPPER LIMB** 1. Pectoral Region 2. Axilla 3. The dissection of the back 4. Shoulder 5. Arm – Anterior compartment 6. Cubital fossa 7. Arm – Posterior compartment 8. Forearm – Anterior compartment 9. Forearm – Posterior compartment 10. Hand 11. Elbow joint 12. Wrist joint, Radioulnar joints **LOWER LIMB** 13. Front of thigh – Superficial dissection 14. Front of thigh – Deep dissection, Femoral triangle 15. Medial side of thigh 16. Gluteal region 17. Popliteal fossa 18. Back of thigh 19. Hip joint 20. Front of leg and Dorsum of foot 21. Lateral side of leg 22. The back of the leg 23. Sole 24. Knee joint 25. Ankle joint, Joints of foot

Prof. T. THIRUNAVUKKARASU, M.D.,D.A.,
Dean
Velammal Medical College Hospital
and Research Institute
"Velammal Village"
Madurai-Tuticorin Ring Road
Anuppanadi, Madurai, T.N.-625 009

ABDOMEN

26. Anterior abdominal wall
27. Inguinal canal
28. Male external genitalia
29. Dissection of loin
30. Divisions of peritoneal cavity, peritoneal folds, reflections
31. Spleen
32. Stomach
33. Mesentery
34. Large intestine
35. Duodenum, Pancreas
36. Liver, Gall bladder
37. Kidneys, Suprarenal glands
38. Diaphragm
39. Posterior abdominal wall

PELVIS

40. Pelvic peritoneum – Folds, Reflections
41. Anal region, Ischiorectal fossa
42. Urogenital region – Superficial perineal space
43. Deep perineal space
44. Ovary, Uterine tube
45. Urinary bladder
46. Ductus deferens, Seminal vesicle, Prostate
47. Uterus
48. Rectum
49. Sagittal section of pelvis – male, female
50. Vessels and nerves of lesser pelvis

THORAX

51. Intercostal space
52. Removal of lungs
53. Structures visible through pleura
54. Lungs, Bronchopulmonary segments
55. Pericardium, Sinuses of pericardium
56. Sternocostal surface of heart
57. Chambers of heart
58. Superior mediastinum

		59.	Posterior mediastinum
			HEAD AND NECK
		60.	Scalp
		61.	Superficial dissection of face
		62.	The side of the neck
		63.	The back of the neck
		64.	Suboccipital triangle
		65.	Anterior triangle
		66.	Removal of brain
		67.	Cranial cavity
		68.	Deep dissection of neck
		69.	Prevertebral region
		70.	Deeper dissection of face
		71.	Orbit
		72.	Parotid region
		73.	Infratemporal fossa
		74.	Submandibular region
		75.	Pharynx
		76.	Nasal cavity
		77.	Larynx
		78.	Tongue
		79.	Ear
		80.	Eyeball
		81.	Contents of vertebral canal
			BRAIN
		82.	Spinal cord
		83.	Meninges, Blood vessels of brain
		84.	The base of brain
		85.	Medulla, pons
		86.	Cerebellum
		87.	4th ventricle
		88.	Midbrain
		89.	Cerebral hemisphere – Sulci, Gyri
		90.	The white matter of the cerebrum
		91.	The lateral ventricle and the choroid fissure
		92.	The deep dissection of the hemisphere
		93.	The deep nuclei of the telencephalon

Prof. T. THIRUNAVUKKARASU, M.D.,D.A.
Dean
Velammal Medical College Hospital
and Research Institute
"Velammal Village"
Madurai-Tuticorin Ring Road
Avaniyapuram, Madurai, T.N.-625 009

		94.	The nuclei and connections of the thalamus **GENERAL HISTOLOGY** 1. Microscope and Tissue Processing 2. Epithelium 3. Glands 4. Connective tissue 5. Cartilage 6. Bone 7. Blood vessels 8. Nerves 9. Muscle 10.Skin 11.Spleen,Tonsil 12.Lymph node, Thymus 13.Salivary glands 14.Trachea, Lung **SYSTEMIC HISTOLOGY** 1. Oesophagus 2. Stomach 3. Small intestine 4. Large intestine 5. Liver, Gall bladder 6. Pituitary, Thyroid 7. Adrenal, Pancreas 8. Testis, Epididymis 9. Vas deferens, Prostate 10. Ovary, Uterine tube 11. Uterus, Mammary gland 12. Placenta, Umblical cord 13. Kidney, Ureter, Bladder 14. Eyeball 15. Tongue
2.	General Human Physiology		**NAME OF THE HAEMATOLOGY EXPERIMENTS** 1. Microscope 2. Hemocytometer 3. Estimation of total RBC count 4. Estimation of total WBC count

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"Velammal Village"
Madurai-Tuticorin Ring Road
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5. Absolute Eosinophil count
6. Differential count
7. Hemoglobin Estimation
8. Blood grouping & typing
9. Bleeding time & Clotting time
10. Erythrocyte sedimentation rate
11. Packed cell volume
12. Osmotic fragility
13. Specific gravity

NAME OF THE CLINICAL EXPERIMENTS

1. General Examination
2. Examination of Respiratory system
3. Respiratory efficiency test
4. Spirometry
5. Stethograph
6. Examination of pulse
7. Examination of Cardiovascular System
8. Examination of Blood Pressure
9. Effect of posture & exercise on Blood Pressure
10. Examination of sensory system
11. Examination of motor system
12. Examination of reflexes
13. Cerebellar function test
14. Examination of 1 -6 cranial nerves
15. Examination of 7 -12 cranial nerves
16. Examination of abdomen

NAME OF THE COMMON EXPERIMENTS

1. RBC indices
2. Platelet count
3. Reticulocyte count
4. Mosso's Ergography
5. Harvard step test
6. Recording and Interpretation ECG
7. Recording of Arterial pulse
8. Observation of cardiovascular autonomic function tests
9. EEG interpretation
10. Observation of Amphibian nerve muscle

Prof. T. THANGARAJU, M.D.,D.A.,
Dean
Velammal Medical College Hospital
and Research Institute
"Velammal Village"
Madurai-Tuticorin Ring Road
Anuppanadi, Madurai, T.N.-625 009

		experiments 11. Observation of Amphibian cardiac experiments 12. Basic Life Support
3.	Biochemistry	1. Introduction to laboratory and Biochemistry Practical's: Describe commonly used laboratory apparatus and equipment's, good safe laboratory practice and waste disposal. 2. Clinical Biochemistry & Phlebotomy lab visit 3. Demonstration: Colour reactions of carbohydrates 4. OSPE: Colour reactions of carbohydrates 5. Urine Analysis: Physical appearance Describe the chemical components of normal urine. Urine Analysis: Inorganic components, Urine strip test 6. Urine Analysis: organic components 7. Demonstration : Colour reactions of aminoacids & Precipitation reactions of Proteins 8. Perform urine analysis to determine abnormal constituents: Discussion of Benedicts, Rothera's test (Hellers, Sulphosalyclic) 9. Perform urine analysis to determine abnormal constituents: Discussion of Hays, Fouchets test, orthotolidine test Demonstration: IEM Screening: ferric chloride, DNPH, Bials test. 10. Identify abnormal constituents in urine, interpret the findings and correlate these with pathological states. (DKA)Demonstration: Principle of colorimetry & Spectrophotometry 11. Certification: Identify abnormal constituents in urine, interpret the findings and correlate these with pathological states. 12. Demonstration of colorimetry and spectrophotometery 13. Estimation of serum total protein 14. Identify abnormal constituents in urine, interpret the findings and correlate these with pathological states. (Diabetic Nephropathy) 15. Estimation of serum albumin & calculate A:G ratio

		16. Identify abnormal constituents in urine, interpret the findings and correlate these with pathological states. (Glomerulonephritis) 17. Certification: Perform urine analysis to determine abnormal constituents 18. Demonstrate the estimation of serum creatinine 19. Explain the bassis and rationale of biochemical tests done in the following condition: Renal failure, GOUT 20. Explain the basis and rationale of biochemical tests done in the following condition:proteinuria, nephrotic syndrome and edema. 21. Demonstrate estimation of uric acid 22. Basis and rationale of biochemical tests done: gout & proteinuria. 23. Estimation of serum urea 24. Estimation of creatinine 25. Estimation of uric acid 26. Demonstrate the estimation of serum bilirubin 27. Demonstration of SGOT and SGPT 28. Demonstration of ALP 29. Explain the basis and rationale of biochemical tests done in the following condition: liver disease 30. Estimation of glucose in plasma 31. Explain the bassis and rationale of biochemical tests done in the following condition: DM 32. Demonstrate the estimation of serum Cholesterol, HDL Cholesterol 33. Demonstrate the estimation of Triglycerides 34. Basis and rationale of biochemical tests done: Dyslipidemia & MI. 35. Demonstrate estimation of calcium and phosphorous 36. Preparation of buffers and estimation of pH 37. Serum electrophoresis and PAGE 38. Screening of urine for IEM 39. Demonstration of paper chromatography and TLC 40. Explain the basis and rationale of biochemical tests done in the following condition: pancreatitis and

Prof. T. THANDAVA KRISHNASU, M.D.,D.A.,
Dean
Velammal Medical College Hospital
and Research Institute
"Velammal Village"
Madurai-Tuticorin Ring Road
Anuppanadi, Madurai, T.N.-625 009

		thyroid function 41. ELISA 42. Demonstration of ISE 43. DNA isolation and PCR 44. Demonstration of ABG analyzer 45. Explain the basis and rationale of biochemical tests done in the following condition: acid base disorders

4.	Pathology	Clinical hematology 1. Collection of blood samples 2. Estimation of hemoglobin 3. Automation in hematology 4. Peripheral smear examination Transfusion medicine 1. Blood grouping 2. Cross matching Clinical Pathology 1. Urine examination 2. Interpretation of urine dip sticks 3. Fluid cytology Cytopathology 1. Fine needle aspiration 2. Pap smear Histopathology Histopathology slides for interpretation
5.	Pharmacology	1 Spotters A. Sources of Drugs B. Experimental Animals C. Equipment's and Instruments D. Miscellaneous 2 Dosage Forms 3 Dose Calculation 4 Oral Rehydration Solution 5 Prescription Writing 6 Prescription Audit 7 Adverse Drug Reactions 8 P drug concept

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		9 Essential medicines 10 Critical Appraisal of Drug Advertisements 11 Interaction with drug representative 12 Drug Administration Techniques 13 Experimental pharmacology 14 Proper use of medications 15 Optimal use of devices and storage of medications 16 AETCOM 17 Pharmacoeconomics 18 Clinical Pharmacology 19 General Pharmacology Charts 20 Toxicology 21 Fixed Dose Combinations 22 Antibiotic policy
6.	Microbiology	A- Introduction to Medical Laboratory B- Microscopy General principles of Laboratory diagnosis of Bacterial diseases 1. Direct methods of bacterial detection 2. gram staining Ziehl Neelsen stain Bacterial culture – culture media, methods and identification methods Antibiotic susceptibility testing Immunological diagnostic methods General principles of laboratory diagnosis of viral diseases. 1- General principles of laboratory diagnosis of parasitic diseases. 2- Stool examination General principles of laboratory diagnosis of fungal diseases. Hospital Infection Control -I: Hand hygiene and PPE Hospital Infection Control -I: Sterilisation, Disinfection, Biomedical waste management, Needle stick injuries Laboratory diagnosis of Rheumatic heart disease, Infective endocarditis and Sepsis. Laboratory diagnosis of Brucellosis, Leptospirosis, Dengue fever, Scrub typhus and Candidemia

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		Laboratory diagnosis of Enteric fever Laboratory diagnosis of Malaria Laboratory diagnosis of Filariasis and Leishmaniasis 1- Laboratory diagnosis of HIV infection 2- Confidentiality pertaining to patient's identity in laboratory result Laboratory diagnosis of diarrhea / Stool examination Laboratory diagnosis of dysentery / Stool examination Laboratory diagnosis of Intestinal helminthic infections Laboratory diagnosis of Hepatic infections Laboratory diagnosis of skin infections - I Laboratory diagnosis of skin infections - II Laboratory diagnosis of Musculoskeletal infections Laboratory diagnosis of meningitis Laboratory diagnosis of encephalitis Laboratory diagnosis of upper respiratory tract infections Laboratory diagnosis of lower respiratory tract infections Laboratory diagnosis of genitourinary and sexually transmitted infections Laboratory diagnosis of urinary tract infections

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