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VEER NARMAD SOUTH GUJARAT UNIVERSITY

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વીર નર્મદ દક્ષિણ ગુજરાત યુનિવર્સિટી

યુનિવર્સિટી કેમ્પસ, ઉદ્ધના-મગદલા રોડ, સુરત - ૩૯૫ ૦૦૭, ગુજરાત, ભારત.

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-: પરિપત્ર :-

વિજ્ઞાન વિદ્યાશાખા હેઠળની સંલગ્ન PGDMLT કોર્સ ચલાવતી તમામ કોલેજોનાં આચાર્યશ્રીઓ તથા ડિપાર્ટમેન્ટનાં વડાશ્રીને જણાવવાનું કે, શૈક્ષણિક વર્ષ ૨૦૨૨-૨૩ થી અમલમાં આવનાર શૈક્ષણિક વર્ષ ૨૦૨૨-૨૩ થી અમલમાં આવનાર PGDMLT નો અભ્યાસક્રમ NEP-2020 પ્રમાણે રીવાઈઝ્ડ કરવા બાબતે મેડીકલ ટેકનોલોજી વિષયની અભ્યાસ સમિતિની તા. ૧૦/૧૧/૨૦૨૨ની સભાનાં ઠરાવ ક્રમાંક:૨ અન્વયે નીચે મુજબ વિજ્ઞાન વિદ્યાશાખાને ભલામણ કરેલ છે. જે વિજ્ઞાન વિદ્યાશાખાનાં અધ્યક્ષશ્રીએ વિદ્યાશાખાની મંજૂરીની અપેક્ષાએ વિદ્યાશાખા વતી મંજૂર કરી એકેડેમિક કાઉન્સિલને કરેલ ભલામણ એકેડેમિક કાઉન્સિલ તા. ૧૪/૧૨/૨૦૨૨ની સભાનાં ઠરાવ ક્રમાંક:૦૨ થી સ્વીકારી મંજૂર કરેલ છે. જેની આથી જાણ કરવામાં આવે છે.

મેડીકલ ટેકનોલોજી વિષયની અભ્યાસ સમિતિની તા. ૧૦/૧૧/૨૦૨૨ની સભાનાં ઠરાવ ક્રમાંક:૨

:: આથી ઠરાવવામાં આવે છે કે, શૈક્ષણિક વર્ષ ૨૦૨૨-૨૩ થી અમલમાં આવનાર PGDMLTનો સેમ.-૨ નો NEP-2020 મુજબ પેટાસમિતિ ધ્વારા તૈયાર કરેલ અભ્યાસક્રમ મંજૂર કરી વિજ્ઞાન વિદ્યાશાખાને ભલામણ કરવામાં આવે છે.

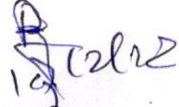
એકેડેમિક કાઉન્સિલની તા. ૧૪/૧૨/૨૦૨૨ની ઠરાવ ક્રમાંક: ૦૨

:: આથી ઠરાવવામાં આવે છે કે, શૈક્ષણિક વર્ષ ૨૦૨૨-૨૩થી અમલમાં આવનાર PGDMLT નો અભ્યાસક્રમ NEP-2020 પ્રમાણે રીવાઈઝ્ડ કરવા બાબતે મેડીકલ ટેકનોલોજી વિષયની અભ્યાસ સમિતિની તા. ૧૦/૧૧/૨૦૨૨ની સભાનાં ઠરાવ ક્રમાંક:૨ અન્વયે કરેલ ભલામણ વિજ્ઞાન વિદ્યાશાખાનાં અધ્યક્ષશ્રીએ વિદ્યાશાખાની મંજૂરીની અપેક્ષાએ વિદ્યાશાખા વતી મંજૂર કરી એકેડેમિક કાઉન્સિલને કરેલ ભલામણ સ્વીકારી મંજૂર કરવામાં આવે છે.

(બિડાણ: ઉપર મુજબ)

ક્રમાંક : એસ./ PGDMLT/સિલેબસ/પરિપત્ર/૩૦૩૬૪/૨૦૨૨

તા. ૧૯-૧૨-૨૦૨૨


કુલસચિવ

પ્રતિ,

૧) વિજ્ઞાન વિદ્યાશાખા હેઠળની સંલગ્ન PGDMLT કોર્સ ચલાવતી તમામ કોલેજોનાં આચાર્યશ્રીઓ. તથા ડિપાર્ટમેન્ટનાં વડાશ્રી.આપશ્રીની કોલેજના સંબંધિત શિક્ષકોને જાણ કરી અમલ કરવા સારૂ.

૨) અધ્યક્ષશ્રી, વિજ્ઞાન વિદ્યાશાખા.

૩) પરીક્ષા નિયામકશ્રી, પરીક્ષા વિભાગ, વીર નર્મદ દ. ગુ. યુનિવર્સિટી, સુરત.

૪) અનુસ્નાતક વિભાગ, વીર નર્મદ દ. ગુ. યુનિવર્સિટી, સુરત.

.....તરફ જાણ તેમજ અમલ સારૂ.

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT

Post Graduate Diploma in Medical Laboratory Technology (PGDMLT)

Course Structure of Semester 2

Semester-2							
Course Code	Title of The Course	Course Credit	Hrs. Per Week	Internal Exam Marks	External Exam Marks	Total Marks	Duration of External Exam (Hr.)
Core Course							
PGDMLT-2001	Haematology	04	04	30	70	100	03
PGDMLT-2002	Clinical Pathology	04	04	30	70	100	03
PGDMLT-2003	Clinical Biochemistry	04	04	30	70	100	03
Elective Course (Any One)							
PGDMLT-2004A	Analytical Techniques	04	04	30	70	100	03
PGDMLT-2004B	Parasitology						
Practical Course							
PGDMLT-2005	Practical Based on Paper PGDMLT-2001 (Haematology)	02	04	15	35	50	06
PGDMLT-2006	Practical Based on Paper PGDMLT-2002 (Clinical Pathology)	02	04	15	35	50	06
PGDMLT-2007	Practical Based on Paper PGDMLT-2003 (Clinical Biochemistry)	02	04	15	35	50	06
PGDMLT-2008A	Practical Based on Paper PGDMLT-2004A (Analytical Techniques)	02	04	15	35	50	06
PGDMLT-2008B	Practical Based on Paper PGDMLT-2004B (Parasitology)						
Skilled Based Elective Course (Any One)							
PGDMLT-2009A	Training in Pathology Laboratory	02	02	20	30 (Training report based)	50	
PGDMLT-2009B	MOOC/ Swayam						
Total		26	34	200	450	650	

PGDMLT-2001: HAEMATOLOGY

Semester: II	
Course (subject) Code	PGDMLT 2001
Subject Title	Haematology
Course Type	Core Compulsory
Teaching Time	15×4=60 Hours
Subject Outcome	At the end of the course, the students will get knowledge of <ul style="list-style-type: none"> • Blood, its functions and Formation • Haemoglobin and its abnormal forms resulting in diseases • Detailed study of Red Cells, White cells, Platelets and their clinical significance • Coagulation and its disorders

Course Content:

Unit No.	Content	Teaching Hours
Unit-1	Introduction to Haematology	15 Hr.
1.1	Definition, composition and functions of blood.	
1.2	Anticoagulants and Blood collection	
1.3	Erythropoiesis	
1.4	Leucopoiesis	
1.5	Thrombopoiesis	
Unit-2	Haemoglobin and Haemoglobinopathies	15 Hr.
2.1	Definition, structure of Hb and its types	
2.2	Hb Estimation: (a) Colorimetric Method, (b) Sahli's Method, and (c) Specific Gravity Method.	
2.3	Clinical significance: Normal and abnormal values	
2.4	Haemoglobinopathies: Abnormalities of Haemoglobin Molecule. Sickle Cell Anaemia &Thalassemia	
2.5	Tests for Haemoglobinopathies	
Unit-3	Red Blood Cells and Anemias	15 Hr.
3.1	Morphology of normal and abnormal Red Blood Cells	
3.2	RBC count and Reticulocyte count	
3.3	Erythrocyte Sedimentation Rate (ESR) and Haematocrit: Pack Cell Volume (PCV)	
3.4	Blood cell indices	
3.5	Anemia: Definition and classification of anemia; factor causing anemia a) Iron & Vit B-12 deficiency anaemia. b) Aplastic anaemia c) Haemolytic anaemia d) G ₆ PD deficiency anaemia	
Unit-4	White Blood Cells and Coagulation	15 Hr.
4.1	Total and Differential White Blood Cell Count	
4.2	Introduction and general Classification of Leukaemias. Acute & Chronic Myeloid Leukaemias	
4.3	Haemostasias, Coagulation Cascade and Coagulation disorders test – Bleeding time (BT), Clotting time (CT), Prothrombin time (PT), Activated Partial Thromboplastin Time (APTT), D-dimer, Fibrinogen	
4.4	Coagulation disorders-Haemophilia	

Reference Books:

Sr. No.	Title/Edition	Authors	Publisher
1	Practical Haematology. The English Language Book Society/ 8 th	Dacei J.A & Lewis S.M.	Elseiver
2	Clinical Haematology, Kothari's Indian Edition.	Wintrobe M. M.	Wolters Kluwer
3	Textbook of MLT/ 3 rd edition,	Godkar P. B.	Bhalani Publications.
4	Clinical Pathology, Haematology and Blood Banking Microbiology (For DMLT students)/4 th edition	Nanda Maheshwari	Jaypee
5	Textbook of Haematology/ 2 nd	Dr. Tejinder Singh	Arya Publications

PGDMLT-2002: CLINICAL PATHOLOGY

Semester: II	
Course (subject) Code	PGDMLT-2002
Subject Title	Clinical Pathology
Course Type	Core Compulsory
Teaching Time	15×4=60 Hours
Subject Outcome	<p>The students are imparted basic training of theoretical and practical in the field of clinical pathology. The training in this subject enables the students</p> <ul style="list-style-type: none"> • To carry out routine clinical laboratory investigation (urine, stool, sputum etc.). • Made to learn collection of clinical samples and their processing • Pathological sample analysis reporting and recording of data.

Course Content:

Unit No.	Content	Teaching Hours
Unit-1	Urine Analysis	15 Hr.
1.1	Formation, Composition, Indication, Collection, Preservation & Transportation of Urine specimen	
1.2	Physical Examination	
1.3	Chemical Examination	
1.4	Microscopic Examination	
1.5	Pregnancy test	
Unit-2	Analysis of Pathological Specimen: Stool, Sputum & Semen	15 Hr.
2.1	Introduction, Indications and Composition	
2.2	Collection, Preservation and Transportation of specimen	
2.3	Physical Examination	
2.4	Chemical Examination	
2.5	Microscopic Examination	
Unit-3	Cerebrospinal Fluid (C.S.F) Analysis	15 Hr.
3.1	Formation, Composition, Indication, Collection, Preservation & Transportation of CSF specimen	
3.2	Physical Examination	
3.3	Chemical Examination	
3.4	Microscopic Examination	
3.5	Correlation of Abnormal C.S.F. findings in various diseases.	
Unit-4	Body Fluid Analysis: Collection, Physical, Chemical and Microscopic	15 Hr.
4.1	Fluid Effusion: Transudate & Exudate	
4.2	Pleural	
4.3	Peritoneal	
4.4	Pericardial	
4.5	Synovial fluid	

Reference Books:

Sr. No.	Title/Edition	Authors	Publisher
1	Textbook of Medical Laboratory Technology/ 3 rd	Godkar P. B.	Bhalani Publishing house.
2	Medical Laboratory Science: Theory & Practice,	Ochei J. & Kolhatkar	Tata McGraw Hill Pub.
3	Medical Laboratory Technology, Vol. II/ 2 nd	Mukharjee K. L.	Tata MacGraw Hill.
4	Textbook of Pathology/ 5 th	Mohan H.	Jaypee Brothers Medical publishers (P) LTD.
5	Medical Laboratory Technology, 4 th ed.	Sood R.	Jaypee Brothers.
6	Essential of Clinical Pathology/ 2 nd	Kawthalkar S. M.	Jaypee Brothers.

PGDMLT-2003: CLINICAL BIOCHEMISTRY

Semester: II	
Course (subject) Code	PGDMLT-2003
Subject Title	Clinical Biochemistry
Course Type	Core Compulsory
Teaching Time	15×4=60 Hours
Subject Outcome	At the end of the course, the students will get knowledge of <ul style="list-style-type: none"> • Regulation and significance of blood glucose level, Metabolic changes occur in Diabetes and its diagnostic profile tests • Plasma proteins, its functions and separation methods and clinical significance • Clinical significance of serum cholesterol level, types of lipoproteins and its metabolism and its pathological variation • Different tests to check the function of Kidney, Liver, Heart and Thyroid

Course Content:

Unit No.	Content	Teaching Hours
Unit-1	Carbohydrate	15 Hr.
1.1	Regulation of blood glucose	
1.2	Blood glucose estimation and its clinical significance	
1.3	Glycosuria	
1.4	Diabetes mellitus and Diabetic profile test	
1.5	GTT, Glycosylated Haemoglobin and its determination	
Unit-2	Plasma Protein	15 Hr.
2.1	Separation of Plasma Proteins	
2.2	Functions of Plasma Proteins	
2.3	Plasma Proteins estimation, its clinical significance and A:G ratio	
2.4	Electrophoretic pattern of protein fractions in health and disease	
2.5	Bence- Jones' Proteins and Cryoglobulin	
Unit-3	Lipid and Lipoprotein	15 Hr.
3.1	Introduction and Functions of Lipid	
3.2	Factors influencing and Pathological variations of blood cholesterol level	
3.3	Lipoprotein: Introduction, Classification and Separation	
3.4	Metabolism and Clinical disorder of lipoprotein	
3.5	Lipid Profile Tests- Cholesterol, Triglyceride & Lipoproteins	
Unit-4	Diagnostic Biochemistry	15 Hr.
4.1	Determination of Electrolytes: Sodium, Potassium, Chloride & Calcium	
4.2	Determinations of Enzymes: SGPT, SGOT, ALP, Lipase, Amylase	
4.3	Determination of Vitamins: B ₁₂ , D ₃	
4.4	Determination of Hormones: T ₃ , T ₄ & TSH	
4.5	Organ function test - Renal, Liver, Cardiac, Thyroid: Function and Classification	

Reference Books:

Sr. No.	Title/Edition	Authors	Publisher
1	Textbook of Medical Biochemistry/ 8 th	Chatterjæ M. N. and Shinde R. (2012)	JaypeeBrothers Publishers
2	Textbook of Medical Laboratory Technology/ 3 rd	Godkar P. B. (2014)	Bhalani Publishing house
3	Textbook of Biochemistry/ 4 th	Vasudevan D. & Sreekumari S. 2005	JaypeePublishers

PGDMLT-2004 A

Semester: II	
Course (subject) Code	PGDMLT 2004 A
Subject Title	Analytical Techniques
Course Type	Elective
Teaching Time	15×4=60 Hours
Subject Outcome	At the end of the course, the students will get knowledge of <ul style="list-style-type: none"> • Nucleic acid based immunological techniques for disease diagnosis. • Automation techniques in Clinical Laboratory • Manual and automated Tissue processing method, Microtomy and staining of tissue sections • Specimen collection, smear preparation and staining for cytological examination

Course Content:

Unit No.	Content	Teaching Hours
Unit-1	Automation in Clinical Laboratory	15 Hr.
1.1	Automation in Bacteriology (BACTEK & VITEK System)	
1.2	Automated techniques in Pathology (Automated Urine Analysis)	
1.3	Automated techniques in Hematology (Cell counter)	
1.4	Automated techniques in Biochemistry (Fully and Semi autoanalyser)	
Unit-2	Introduction to Molecular Techniques	15 Hr.
2.1	Northern Blotting	
2.2	Southern Blotting	
2.3	NAAT: PCR	
2.4	RFLP	
Unit-3	Introduction to Immunological Techniques	15 Hr.
3.1	ELISA	
3.2	RIA	
3.3	Immunofluorescence	
3.4	Western Blotting	
Unit-4	Histological & Cytological Techniques	15 Hr.
4.1	Tissue Processing, Wax Impregnation and Embedding	
4.2	Microtome knives, Types of Microtomes and Microtomy	
4.3	H & E staining	
4.4	FNAC	

Reference Books:

Sr. No.	Title/Edition	Authors	Publisher
1	Textbook of MLT/ 3 rd	Godkar P. B	Bhalani Publications.
2	Principles of Laboratory Techniques and methods	Meena Srivastava Rajesh Singh Yadav	CBS (2015 print)
3	Medical Laboratory Science: Theory & Practice	J. Ochei A. Kolhatkar	Mc Graw Hill Education (India) Private Limited
4	Textbook of Pathology/ 5 th	Mohan H.	Jaypee Brothers Medical publishers
5	Clinical Diagnosis and Management by Laboratory Methods/ 17 th	John Bernard Henry, Todd, Sanford and Davidson	All India Traveller Book Seller.
6	Tietz Textbook of Clinical Chemistry/ 3 rd	Burtis C. A. and Ashwood E. R.	HarcourtBrace & Company ASIA PTE LTD.
7	Medical Laboratory Technology/ 4 th	Sood R.	Jaypee Brothers.

PGDMLT-2004 B: PARASITOLOGY

Semester: II	
Course (subject) Code	PGDMLT-2004B
Subject Title	Parasitology
Course Type	Core Compulsory
Teaching Time	15×4=60 Hours
Subject Outcome	At the end of the course, the students will get knowledge of <ul style="list-style-type: none"> • Introduction to Protozoology • Morphology, life-cycle and laboratory diagnosis caused by protozoa. • Specimens required for various protozoal infestations. • General characteristics of helminths, their morphology, life-cycle and laboratory diagnosis. • Specimens required for various helminthic infections.

Course Content:

Unit No.	Content	Teaching Hours
Unit-1	Protozoology: I: Morphology, life-cycle and laboratory diagnosis	15 Hr.
1.1	Definition and general morphology of Protozoa	
1.2	Amoeba: <i>Entamoeba histolytica</i>	
1.3	Intestinal Flagellates: <i>Giardia lamblia</i>	
1.4	Genital Flagellates: <i>Trichomonas vaginalis</i>	
Unit-2	Blood Protozoa: II: Morphology, life-cycle and laboratory diagnosis	15 Hr.
2.1	<i>Leishmania donovani</i>	
2.2	<i>Plasmodium vivax</i>	
2.3	<i>Plasmodium falciparum</i>	
2.4	<i>Toxoplasma gondii</i>	
Unit-3	Helminthology: I: Morphology, life-cycle and laboratory diagnosis of	15 Hr.
3.1	General characteristics of helminths (Cestodes, Trematodes and Nematodes)	
3.2	<i>Taenia saginata</i> and <i>Taenia solium</i>	
3.3	<i>Echinococcus granulosus</i> and <i>Hymenolepis nana</i>	
3.4	<i>Schistosoma haematobium</i>	
Unit-4	Helminthology: II: Morphology, life-cycle and laboratory diagnosis of	15 Hr.
4.1	<i>Trichuris trichiura</i>	
4.2	<i>Enterobius vermicularis</i>	
4.3	<i>Ascaris lumbricoides</i>	
4.4	<i>Wuchereria bancrofti</i>	

Reference Books:

Sr. No.	Title/Edition	Authors	Publisher
1	Medical Parasitology/5 th	D.R. Arora and Brij Bala Arora	CBS Publishers and Distributors Pvt. Ltd.
2	Parasitology (Protozoology and Helminthology)/13 th	K.D. Chatterjee	CBS Publishers and Distributors Pvt. Ltd.
3	Textbook of Medical Parasitology/8 th	Sougata Ghosh	Jaypee
4	Short Text book of Medical Microbiology including Parasitology/10 th	Satish Gupte	Jaypee

**PGDMLT-2005: PRACTICALS BASED ON PAPER PGDMLT-2001
(Haematology)**

Semester: II	
Course (subject) Code	PGDMLT-2005
Subject Title	Practicals Based on Paper PGDMLT-2001 (Haematology)
Subject Outcome	At the end of the course, the students will able to <ul style="list-style-type: none"> • Know the proper technique for blood collection • Manual techniques for Blood counts • Basic haematological tests used in clinical laboratory • Some screening tests for hematological disorders

Course content:

1. Venous Blood Collection
2. Haemoglobin estimation: Sahli's method and Cyanmethemoglobin method
3. Total R.B.C. Count
4. Total W.B.C. Count.
5. Platelet Count.
6. Differential Count.
7. Reticulocyte Count
8. Determination of E.S.R. (Westergren / Wintrobe method)
9. Determination of Haematocrit (Packed cell volume)
10. Determination of BT, CT and PT
11. NESTROF test
12. Sickling test- Slide Test

Reference Books:

Sr. No.	Title/Edition	Authors	Publisher
1	Textbook of MLT/ 3 rd	Godkar P. B.	Bhalani Publications.
2	Clinical Pathology, Haematology and Blood Banking (For DMLT students)/ 4 th	Nanda Maheshwari	Jaypee

PGDMLT-2006: PRACTICALS BASED ON PAPER PGDMLT-2002
(Clinical Pathology)

Semester: II	
Course (subject) Code	PGDMLT-2002
Subject Title	Practicals Based on Paper PGDMLT- 2002(Clinical Pathology)
Subject Outcome	At the end of the course, the students will be able to perform <ul style="list-style-type: none"> • Collection, Preservation & Transportation of various pathological samples like, urine, stool, sputum, semen etc. • Physical, chemical and microscopic analysis of various pathological samples like, urine, stool, sputum, CSF, semen, body fluids etc. • Reporting and recording of data of Pathological sample analysis.

Course Content:

1. Routine Urine Analysis: Physical, Chemical, Microscopic Examination & Reagent Strip Method
2. Routine Stool Analysis: Physical, Chemical, Microscopic Examination.
3. Routine Sputum examination: Physical, Microscopic Examination.
4. Routine Semen Analysis: Physical, Chemical, Microscopic examination.
5. Routine Cerebrospinal Fluid Analysis: Physical, Chemical, Microscopic examination.
6. Routine Body fluid Analysis: Physical, Chemical, Microscopic examination.
(i) Peritoneal (ii) Pleural (iii) Pericardial (iv) Synovial

Reference Books:

Sr. No.	Title/Edition	Authors	Publisher
1	Text Book of Medical Laboratory Technology (Volume-1 & 2)/ 3 rd	Godkar P. B.	Bhalani Publishing House
2	Essential of Clinical Pathology/ 2 nd	S. M. Kawthalkar	Jaypee Brothers.
3	Medical Laboratory Technology - (Volume 2)/ 3 rd	Kanai L Mukherjee Anuradha Chakravarthy	Mcgraw Hill Education (India) Private Limited
4	Medical Laboratory Technology/ 4 th	Sood R.	Jaypee Brothers.

PGDMLT-2007: PRACTICALS BASED ON PAPER PGDMLT-2003
(Clinical Biochemistry)

Semester: II	
Course (subject) Code	PGDMLT-2007
Course Title	Practicals Based on Paper PGDMLT-2003 (Clinical Biochemistry)
Course Outcome	At the end of the course, the students will be able to perform <ul style="list-style-type: none"> • Various Biochemical tests for Quantitative estimation of different biomolecules present in blood for diagnosis of various diseases/ metabolic disorders as well as to check normal function of kidney, liver, heart etc.

Course Content

- 1) Estimation of blood Sugar
- 2) Serum Total Protein, Albumin, Globulin and A: G Ratio
- 3) Microalbumin test
- 4) Serum Urea and Blood Urea Nitrogen (BUN)
- 5) Serum Creatinine
- 6) Serum Uric acid
- 7) Serum Total Cholesterol and HDL Cholesterol
- 8) Serum Triglyceride (TG)
- 9) Serum Potassium
- 10) Serum Sodium
- 11) Serum Calcium
- 12) Serum Chloride
- 13) Serum Total, Direct and Indirect bilirubin

Reference Books:

Sr. No.	Title/Edition	Authors	Publisher
1	Textbook of Medical Biochemistry/ 8 th	Chatterjæ M. N. and Shinde R. (2012)	JaypeeBrothers Publishers
2	Textbook of Medical Laboratory Technology/ 3 rd	Godkar P. B. (2014)	Bhalani Publishing house

PGDMLT-2008 A: PRACTICALS BASED ON PAPER PGDMLT-2004A

(Analytical techniques)

Semester: II	
Course (subject) Code	PGDMLT 2008 A
Subject Title	Practicals based on paper PGDMLT – 2004A (Analytical techniques)
Subject Outcome	At the end of the course, the students will get knowledge of <ul style="list-style-type: none">• Specific and sensitive methods of detection like ELISA• Separation and identification of serum proteins and their clinical significance• Application of molecular biology techniques like PCR in clinical diagnostics• Working and use of semi-autoanalyzer

Course Content:

- 1) Estimation of ALP by Automated method
- 2) Estimation of SGPT by Automated method
- 3) Estimation of SGOT by Automated method
- 4) Estimation of Amylase by Automated method
- 5) ELISA – HIV Antibody
- 6) ELISA – HBsAg
- 7) FNAC Smear staining by PAP staining
- 8) Histological technique: (Demonstration)
- 9) PCR (Demonstration)

Reference Books:

Sr. No.	Title/Edition	Authors	Publisher
1	Textbook of MLT/ 3rd	Godkar P. B	Bhalani Publications.
2	Principles of Laboratory Techniques and methods	Meena Srivastava Rajesh Singh Yadav	CBS (2015 print)
3	Medical Laboratory Science: Theory & Practice	J. Ochei A. Kolhatkar	Mc Graw Hill Education (India) Private Limited
4	Medical Laboratory Technology/ 4 th	Sood R.	Jaypee Brothers.

PGDMLT-2008B: PRACTICALS BASED ON PAPER PGDMLT-2004B

(Parasitology)

Semester: II	
Course (subject) Code	PGDMLT-2008B
Subject Title	Practicals based on paper PGDMLT-2004B
Subject Outcome	At the end of the course, the students will get knowledge of <ul style="list-style-type: none">• Collection of specimens for various protozoal and helminthic infestations.• Performing laboratory diagnosis for various protozoal and helminthic infestations.• Morphological Identification of various protozoa and helminths.

Course Content:

- 1) Microscopic examination of stool by:
 - (a) Saline Preparation
 - (b) Iodine Preparation
- 2) Identification of ova and cysts of stool parasites using concentration methods.
- 3) Identification of malarial parasites by rapid diagnostic tests.
- 4) Identification of various morphological forms of malarial parasites from stained slides/ permanent slides/photographs.
- 5) Special Technique for the collection of eggs of *Enterobius vermicularis* (Demonstration).
- 6) Identification of morphological forms of parasites in stool sample by sample/charts/permanent slides/ photographs.
 - i) *Entamoeba histolytica*
 - ii) *Giardia lamblia*
 - iii) *Trichuris trichiura*
 - iv) *Schistosoma haematobium*
 - v) *Taenia spp.*
 - vi) *Enterobius vermicularis*

Reference Books:

Sr. No.	Title/Edition	Authors	Publisher
1	Medical Parasitology/5 th Edition	D.R. Arora and Brij Bala Arora	CBS Publishers and Distributors Pvt. Ltd.
2	Parasitology (Protozoology and Helminthology)/13 th Edition	K.D. Chatterjee	CBS Publishers and Distributors Pvt. Ltd.
3	Textbook of Medical Parasitology/8 th Edition	Sougata Ghosh	Jaypee
4	Short Text book of Medical Microbiology including Parasitology/ 10 th Edition	Satish Gupte	Jaypee

PGDMLT-2009A: TRAINING IN PATHOLOGY LABORATORY

Semester: II	
Course (subject) Code	PGDMLT-2009A
Subject Title	Training in Pathology Laboratory
Course Type	Skilled Based Elective Course
Teaching Time	30 Hours
Subject Outcome	<p>The students are imparted basic training of practical in the field of clinical Laboratory. At the end of training, the candidates shall be able to:</p> <ul style="list-style-type: none"> • Use discretely the essential laboratory services. • Handle and operate the modern equipments and instruments in laboratory test. • Development of skill and competency in data processing, reporting and maintenance of records & Laboratory investigations. • Apply safety precautions, quality assurance, biomedical waste management, automation in in the laboratory.

Course Content:

Content	Training Hours
<p>The student undertake training in different clinical pathology laboratories situated in hospital/ PHC/ CHC/ Private Laboratories/ Blood Banks, where the clinical diagnosis is the prime focus in the organization for 30 hours duration. During the training tenure, the students are expected to gain actual pathological and clinical experience and try to make them familiar with the Laboratory/hospital environment.</p> <p>The students have to keep day-to-day record of their actual work done during hospital training and same is to compiled along with the information about the hospital / pathological laboratory (in which they have been placed) in a bound volume which is to be submitted as a project report. The concerned teachers are supposed to guide the students for the preparation of the project report.</p>	30 Hr.