

Ref: No. Y/REG/ACA/38-ACM/2020

14.05.2020

NOTIFICATION – 38-ACM/12 /2020 dtd. 14.05.2020

Sub: Revised curriculum of the existing B.Sc. (Tech) programmes and Starting of additional programmes under the Faculty of Allied and Healthcare Professions

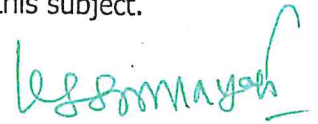
Ref: Resolution of the Academic council at its 38th meeting held on 27.04.2020, vide agenda - 23

The Academic Council at its 38th meeting held on 27.04.2020 and subsequently the Board of Management at its 49th meeting held on 30.04.2020 have resolved to approve the revised curricula and regulations of existing 08 B.Sc. Technology Programmes (Anaesthesia & O.T. Technology, Renal Dialysis Technology, Respiratory Care Technology, Medical Laboratory Technology, Medical Imaging Technology, Cardio Vascular Technology, Perfusion Technology, Optometry Technology) and starting of 04 new programmes under the Faculty of Allied & Healthcare Professions

1. B.Sc. in Physician Assistant
2. B.Sc. in Clinical Psychology
3. B.Sc. in Emergency Medicine Technology
4. B.Sc. in Neuro Science Technology

All these programmes shall follow Choice Based Credit System.

This notification will supersede all the earlier notifications issued on this subject.



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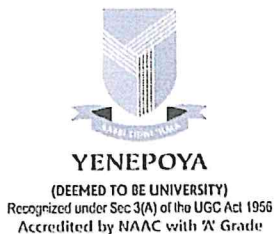
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1. Dean, Faculty of Allied and Healthcare Professions
2. Controller of Examinations
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NOTIFICATION – 10/32-ACM/2018 dtd. 03.09.2018

Sub: Amendment to the B.Sc. Technology course

Ref: Resolution of the Academic Council at its meeting held on 11.08.2018
vide agenda – 14

The Academic Council at its 32nd meeting held on 11.08.2018 approved the recommendation of the Faculty of Medicine and subsequently ratified by the Board of Management for amendment to the B.Sc. Technology course as follows to be implemented prospectively.

Microbiology : Course: BSc Technology 1st Year

Existing Syllabus	Now Amended
Theory 70 hours (Units 9) Practical 20 hours	No additions No deletions Topics have been categorized as must to know and desirable to know
Question paper Pattern Theory max marks 80	Max marks to retain as 80 Weightage marks- 90% marks from must to know portion and 10% from desirable to know portion

Course : BSc Medical Lab Technology 2nd year and 3rd year

Existing Syllabus	Now Amended
2 nd year – Bacteriology and Parasitology	To shift Immunology to 2 nd year To shift Parasitology to 3 rd year
3 rd year – Immunology Virology and Mycology	No additions No deletions Topics have been categorized as must to know and desirable to know
Question paper Pattern Theory max marks 80	Max marks to retain as 80 Weightage marks- 90% marks from must to know portion and 10% from desirable to know portion

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Ophthalmology :

Existing		Now Amended	
BSc Optometry- Semester-1 Physiology 30 hours Theory 30 hours Practical	Credit Hours per week - 03 Theory-02 Practical-01	BSc Optometry- Semester-1 Physiology 45 hours Theory 15 hours Practical	Credit Hours per week changed to - 3.5 Theory-03 Practical-0.5
BSc Optometry – Semester-II Microbiology 30 hours Theory 30 hours Practical	Credit Hours per week - 02 Theory-01 Practical-01	BSc Optometry - Semester-II Microbiology 45 hours Theory 15 hours Practical	Credit Hours per week changed to - 3.5 Theory-03 Practical-0.5

Pathology : Course : 1st Yr B.Sc Renal Dialysis

Existing	Now Amended
Histo Pathology <ul style="list-style-type: none"> • Introduction to Histo Pathology • Receiving of Specimen in the laboratory • Grossing Techniques • Mounting Techniques – various Mountants • Maintenance of records and filing of the slides • Use & care of Microscope • Various Fixatives, Mode of action, Preparation and Indication. • Bio-Medical waste management • Section Cutting • Tissue processing for routine paraffin sections • Decalcification of Tissues. • Staining of tissues - H& E Staining • Bio-Medical waste management 	Histo Pathology Introduction to Histo Pathology Bio-Medical waste management

Course : 1st Yr B.Sc in Cardio Vascular Technology, Respiratory Care Technology, Perfusion Technology, Anesthesia & OT Technology

Existing	Now Amended
Histo Pathology <ul style="list-style-type: none"> • Introduction to Histo Pathology • Receiving of Specimen in the laboratory • Grossing Techniques • Mounting Techniques – various Mountants • Maintenance of records and filing of the slides • Use & care of Microscope • Various Fixatives, Mode of action, Preparation and Indication. • Bio-Medical waste management • Section Cutting • Tissue processing for routine paraffin sections • Decalcification of Tissues. • Staining of tissues - H& E Staining • Bio-Medical waste management 	Histo Pathology <ul style="list-style-type: none"> • Introduction to Histo Pathology • Bio-Medical waste management


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Course : 2nd Yr B.Sc Renal Dialysis

Existing	Now Amended
GENERAL PATHOLOGY: Nil	GENERAL PATHOLOGY 1. Cell injury and adaptation Necrosis: Definition, Types of necrosis with examples (Coagulative necrosis, liquefactive necrosis, caseous necrosis, fat necrosis, gangrene) Cell growth and differentiation: Definition and examples of - Hypertrophy, atrophy, hyperplasia, metaplasia

	<p>2. Inflammation and repair Inflammation: Definition, types of inflammation with examples Vascular changes: Hemodynamic changes, changes in vascular permeability Cellular events: Margination, adhesion, emigration, chemotaxis, phagocytosis Granulomatous inflammation</p> <p>Healing and repair: Granulation tissue Process of healing by primary intention Process of healing by secondary intention Factors influencing wound healing</p> <p>3. Fluid and hemodynamic derangements Edema: Definition, types of edema, pathogenesis of renal and cardiac edema, lymph edema Shock: Definition, types of shock, pathogenesis of septic and hypovolemic shock Thrombosis: Definition, factors influencing thrombosis, fate of a thrombus Embolism: Types Infarction: Definition and type</p> <p>4. Neoplasia: Definition, nomenclature Definition of dysplasia, anaplasia Differences between benign and malignant tumours Causes of tumors (aetiology) Spread of tumours (metastasis) Prognosis of tumours</p> <p>5. Infectious disease: Tuberculosis: Etiology and clinical features, morphology of primary and secondary tuberculosis Leprosy: Etiology, classification, morphology of lepromatous and tuberculoid leprosy AIDS: Etiology, mode of infection, clinical features including opportunistic infections Viral hepatitis: Etiology, modes of infection and clinical features Cirrhosis liver: Causes and jaundice</p> <p>6.Genetics (basic terminologies)</p>
<p>ENDOCRINE : Diabetes : Nil</p>	<p>ENDOCRINE : Diabetes : Types, clinical features and complications</p>


Course : 2nd Yr B.Sc in Cardio Vascular Technology, Respiratory Care Technology, Perfusion Technology, Anesthesia & OT Technology

Existing	Now Amended
<p>GENERAL PATHOLOGY: Nil</p>	<p>GENERAL PATHOLOGY 1. Cell injury and adaptation Necrosis: Definition, Types of necrosis with examples (Coagulative necrosis, liquefactive necrosis, caseous necrosis, fat necrosis, gangrene) Cell growth and differentiation: Definition and examples of - Hypertrophy, atrophy, hyperplasia, metaplasia 2. Inflammation and repair Inflammation: Definition, types of inflammation with examples Vascular changes: Hemodynamic changes, changes in vascular permeability</p>

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	<p>Cellular events: Margination, adhesion, emigration, chemotaxis, phagocytosis Granulomatous inflammation Healing and repair: Granulation tissue Process of healing by primary intention Process of healing by secondary intention Factors influencing wound healing 3. Fluid and hemodynamic derangements Edema: Definition, types of edema, pathogenesis of renal and cardiac edema, lymph edema Shock: Definition, types of shock, pathogenesis of septic and hypovolemic shock Thrombosis: Definition, factors influencing thrombosis, fate of a thrombus Embolism: Types Infarction: Definition and type 4. Neoplasia: Definition, nomenclature Definition of dysplasia, anaplasia Differences between benign and malignant tumours Causes of tumors (aetiology) Spread of tumours (metastasis) Prognosis of tumours 5. Infectious disease: Tuberculosis: Etiology and clinical features, morphology of primary and secondary tuberculosis Leprosy: Etiology, classification, morphology of lepromatous and tuberculoid leprosy AIDS: Etiology, mode of infection, clinical features including opportunistic infections Viral hepatitis: Etiology, modes of infection and clinical features Cirrhosis liver: Causes and jaundice 6. Genetics (basic terminologies)</p>
RESPIRATORY SYSTEM: Pneumonia topic was not included earlier.	RESPIRATORY SYSTEM: Pneumonia: definition Briefly concept about obstructive versus restrictive pulmonary disease
RENAL SYSTEM Renal stone topic was not included earlier.	RENAL SYSTEM Renal stones
ENDOCRINE : Diabetes : Nil	ENDOCRINE : Diabetes : Types, clinical features and complications

The approved amendments may be incorporated in the syllabus and the amended copy may be provided to this office for filing.


(Dr. G. Shreekumar Menon)
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2. Controller of Examinations
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I BSc TECHNOLOGY SYLLABUS - MICROBIOLOGY

No of theory hours -70
Number of practical hours-20

Theory

Topic	Must to know:	Desirable to know
Unit 1: Introduction		
Historical aspects	Definitions and terms in Microbiology, classification of microbes Contribution of Louis Pasteur & Robert Koch	-
Morphology and anatomy of Bacteria	Morphological classification cell structure, cell wall, capsule and spore	Flagella, pili
Unit 2: Growth and multiplication of bacteria		
Bacterial growth	Growth curve	Growth requirements, generation time
Culture Media & Methods	Classification of media, definitions, examples and uses	Culture methods
Unit 3: Sterilization and disinfection		
Sterilization	Definition, Classification of methods, Principles of dry heat (Hot air oven) and moist heat methods.	Filtration and radiation methods, chemical methods, CSSD
Disinfection antiseptics	Definitions types & examples of disinfectants and antiseptics with preference to commonly used antiseptics in hospital practice.	-
Unit 4: Immunology		
Infection	Definition, types of infection, sources and modes of transmission	Carriers- definition, types, examples
Immunity	Definition and classification. Innate and acquired Immunity in detail. Vaccines and immunization schedule	Humoral& cell mediated immunity
Antigen & Antibody	Antigen- definition Antibodies-definition, classes & structure of IgG	IgA, IgM
Antigen antibody reactions	Types of serological reactions Applications of agglutination tests & ELISA	-

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Unit 5. Systematic Bacteriology		
<i>Staphylococci</i>	Morphology, infections caused by <i>S. aureus</i>	-
<i>Streptococci</i>	Morphology, classification, pathogenesis, infections caused by <i>S. pyogenes</i> including rheumatic fever and glomerulonephritis	-
<i>Corynebacterium diphtheriae</i>	Morphology of <i>C. diphtheriae</i> , pathogenesis, lab diagnosis and prophylaxis of diphtheria.	-
<i>Clostridium</i>	<i>Cl. tetani</i> : Morphology, infections caused and prophylaxis of tetanus.	-
<i>Salmonella typhi</i>	Morphology, pathogenesis and lab diagnosis of typhoid fever.	Prophylaxis
<i>Shigella</i>	-	Dysentery
<i>Esch coli</i>	-	UTI
<i>Vibrio cholerae</i>	-	Morphology of <i>V. cholerae</i> , pathogenesis and lab diagnosis of cholera in brief
<i>Mycobacteria</i>	Morphology of <i>M. tuberculosis</i> , pathogenesis and lab diagnosis of pulmonary tuberculosis, BCG	<i>M. leprae</i> and atypical Mycobacteria
<i>Spirochaetes</i>	-	Morphology, pathogenesis, clinical conditions and lab diagnosis of <i>Treponema pallidum</i> and <i>Leptospira</i>
Unit6. Virology		
General virology	Differences between bacteria and viruses. Classification of viruses – DNA and RNA viruses	Properties of viruses - structure, size
Herpes Viruses	-	HSV, VZV- transmission and disease caused, Prophylaxis
Hepatitis viruses	Hepatitis B – Structure, transmission, disease caused, lab diagnosis and prophylaxis	Hepatitis A- Transmission and prophylaxis
Rabies viruses		Structure, transmission, disease caused, lab diagnosis and prophylaxis
HIV	Structure, pathogenesis, disease caused and lab diagnosis	-

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Poliomyelitis virus		Pathogenesis and prophylaxis.
Unit 7: Mycology		
General Mycology	What are fungi? Classification according to morphology	Importance of fungi
Candida species	Morphology, Pathogenesis and Lab diagnosis of candidiasis.	-
Cryptococcus	-	Morphology, Pathogenesis and Lab diagnosis
Dermatophytes	Morphology, Lesions produced and Lab diagnosis of dermatophytes	-
Opportunistic fungi	-	Common opportunistic fungal infections
Unit 8. Parasitology		
General Parasitology	-	Definition and classification of parasites and hosts
Entamoeba histolytica	Morphology, life cycle, Pathogenesis & Lab diagnosis of E .histolytica	-
Malaria	Morphology, life cycle, Pathogenesis & Lab diagnosis of malaria	-
Ancylostoma duodenale	-	Size, Shape, hosts, pathogenesis and lab diagnosis
Ascaris lumbricoides	Morphology, pathogenesis and lab diagnosis	-
General Parasitology	-	Definition and classification of parasites and hosts
Unit 9. Applied microbiology		
Hospital infection and its control	Definition of nosocomial infection, Common organisms associated, risk factors, prevention	Importance of hospital infection control committee
Biomedical waste management	Principle and practices	-

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PRACTICALS/ DEMONSTRATIONS ONLY

SI No.	Topics
1.	Compound Microscope
2.	Demonstration and sterilization of equipments
3.	Demonstration of commonly used culture media & media with growth
4.	Demonstration of antibiotic susceptibility test
5.	Demonstration of Bacteria by Grams stain and acid fast stain
6.	Demonstration of common serological tests- Widal, VDRL RA, CRP, ASO, ELISA
7.	Stool examination for Helminthic ova- Demonstration

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II BSc TECHNOLOGY SYLLABUS - MICROBIOLOGY

No of theory hours –100
Number of practical hours-80

Theory

Topic	Must to know:	Desirable to know
IMMUNOLOGY		
1. Introduction to immunology and Infection	Definition, Sources and Modes of infection Virulence factors of bacteria	Structure and function of Immune System Immune response
2. Immunity	Definition and classification of immunity Innate Immunity Acquired immunity	
3. Antigens	Definition and types	
4. Antibodies	Definition, classes and structure of immunoglobulin IgG, IgA and Ig M	
5. Antigen-Antibody reactions	Definition, mechanism, types and applications of agglutination reactions and ELISA	Precipitation, Immunofluorescence
6. Applied immunology	Hypersensitivity reactions: Definition, classification and types of HS reactions	
	Autoimmunity : Example for autoimmune diseases	Definition and mechanism of autoimmunity
		Transplantation immunology: HLA, types of grafts and graft rejection Tumour immunology: in brief
		Hybridoma and monoclonal antibodies: In brief
a. Gram Positive Cocci		
1. <i>Staphylococci</i>	<i>S.aureus</i> : Morphology, cultural characteristics, classification, pathogenesis, lab diagnosis of infections caused by	CONS, MRSA, Etiological agents of pyogenic infections
2. <i>Streptococci</i>	Morphology and classification of <i>Streptococci</i>	Viridans Streptococci

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	<i>S. pyogenes</i> : cultural characteristics, pathogenesis, lab diagnosis of infections	
3. <i>Pneumococci</i>	Morphology	cultural characteristics, pathogenesis, lab diagnosis of infections caused
b. Gram Negative Cocci		
1. <i>Neisseria</i>	<i>Meningococci</i> : Morphology, pathogenesis and lab diagnosis <i>Gonococci</i> : Morphology, pathogenesis and lab diagnosis	Definition and etiology of meningitis
c. Gram Positive Bacilli		
1. <i>Corynebacterium diphtheriae</i>	<i>C. diphtheriae</i> : Morphology, cultural characteristics, pathogenesis, lab diagnosis and prophylaxis of diphtheria	-
2. <i>Clostridium</i>	<i>Cl. tetani</i> : Morphology, cultural characteristics, infections caused, lab diagnosis and prophylaxis of tetanus	<i>Cl. Perfringens</i>
		<i>B. anthracis</i> : Morphology and clinical conditions
d. Gram Negative Bacilli		
1. <i>Enterobacteriaceae</i>	General features of the family <i>E. coli</i> : Morphology, cultural characteristics, pathogenesis and lab diagnosis of UTI	Diarrhoeogenic <i>E. coli</i> Definition and etiology of UTI
		<i>Klebsiella</i> - in brief
	<i>Salmonella</i> : Pathogenesis, cultural characteristics and lab diagnosis of Enteric fever	Typhoid vaccine Definition and etiology of PUO
	<i>Shigella</i> : morphology, cultural characteristics, Pathogenesis, lab diagnosis of Dysentery	Definition and etiology of dysentery
2. <i>Vibrio cholerae</i>	Morphology, cultural characteristics, pathogenesis, lab diagnosis of cholera	Pathogens of Diarrheal disease
		<i>Fusobacterium, Bacteroides</i>
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PRACTICALS/ DEMONSTRATIONS ONLY

Topic	Must to know	Desirable to know
Simple Stain Gram Stain Z N Stain India Ink stain	Preparation of the stains/reagents required Preparation of smears, staining and reporting	Albert Stain
Hanging Drop experiment	Preparation of slide and report	
Culture Media & Methods	Preparation of commonly used culture media - Nutrient agar, Mac Conkey agar, Blood agar, Chocolate agar and media for biochemical tests Preparation of RCM Perform commonly used Streaking methods	Preparation of selective media- TCBS, WB Perform anaerobic culture method Stock culture maintenance
Introduction to Biochemical reactions	Catalase test, Coagulase test, IMViC reactions, Oxidase, TSI, Urease, Citrate test, Nitrate test, Sugar fermentation, test for H ₂ S detection- (Principles, preparation and use)	
Pure culture	Identifications of pure bacterial culture of Staphylococcus aureus, CONS, Enterococcus spp., E. coli, Klebsiella spp., Proteus spp., Pseudomonas spp., Vibrio, Salmonella sp., and Shigella sp., based on morphology, colony characteristics, motility, biochemical reactions (minimum required) and antibiogram	
Antibiotic Sensitivity testing – Kirby Bauer Method	To prepare the media, inoculums and streak lawn culture of the organism. To apply discs to the culture , and report	
Mixed culture of bacteria- Urine, Blood, Pus samples	To isolate the different bacteria from a mixture mimicking patient samples using minimum culture media	
Serological reactions	Widal test VDRL/RPR test Standard agglutination test for brucellosis ELISA Immunochromatography ASO CRP RA Lepto card test	

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e. Gram Negative Cocci		
1. <i>Haemophilus</i>	Morphology, growth characteristics, pathogenesis, lab diagnosis of infections caused by <i>H. influenza</i>	
2. <i>Brucella</i>	Morphology, cultural characteristics, pathogenesis, lab diagnosis of infections caused	
		<i>Bordetella</i>
f. Mycobacteria		
1. <i>M. tuberculosis</i>	Classification of Mycobacteria Morphology of <i>M. tuberculosis</i> , cultural characteristics, pathogenesis, lab diagnosis and prophylaxis of tuberculosis	RNTCP
2. <i>M. leprae</i>	Morphology, pathogenesis and lab diagnosis of leprosy	
		Atypical Mycobacteria
g. Spirochaetes		
1. <i>Treponema pallidum</i> :	Morphology, pathogenesis and lab diagnosis of syphilis	STD
		<i>Leptospira</i> - morphology, pathogenesis and lab diagnosis of syphilis and leptospirosis
		<i>Borrelia</i> - morphology and diseases caused
h. Miscellaneous		
		Bacteriology of Water: Bacteriological analysis of water samples, significance

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III BSc TECHNOLOGY SYLLABUS – MICROBIOLOGY

No of theory hours –100
Number of practical hours-80

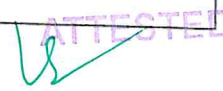
Theory

Topic	Must to know:	Desirable to know
VIROLOGY		
1. General properties of viruses	Morphology and Classification of viruses with examples	
2. Laboratory diagnosis of viral infections and antiviral agents	Different methods for laboratory diagnosis including cultivation of viruses Types and examples for antiviral agents	
3. Viruses and diseases	Herpes simplex virus: Morphology, pathogenesis, clinical conditions and lab diagnosis	
	Varicella zoster virus: Morphology, pathogenesis, clinical conditions, lab diagnosis and prophylaxis	
	Dengue virus: Morphology, pathogenesis, clinical conditions and lab diagnosis	
	Polio virus: Morphology, pathogenesis, clinical conditions, lab diagnosis and prophylaxis	Pulse polio immunization programme
	Influenza virus: Morphology, pathogenesis, clinical conditions and lab diagnosis	
	Mumps virus: Morphology, pathogenesis, clinical conditions, lab diagnosis and prophylaxis	
	Measles virus: Morphology, pathogenesis, clinical conditions, lab diagnosis and prophylaxis	
	HIV: Morphology, pathogenesis, clinical conditions and lab diagnosis Opportunistic infections in HIV	
	Hepatitis B virus: Morphology,	

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	pathogenesis, clinical conditions, lab diagnosis and prophylaxis		
	Rabies virus: Morphology, pathogenesis, clinical conditions, lab diagnosis and prophylaxis		
		Small pox virus	
		Adenovirus	
		Chikungunya virus	
		Hepatitis A virus	
		Hepatitis C virus	
		Hepatitis D virus	
4. Viral vaccines			
5. Bacteriophage			
MYCOLOGY			
1. Introduction to Mycology	Morphology, Classification of fungi, Lab diagnosis of fungal infections Classification of fungal infection Names of antifungal agents		
2. Superficial mycoses		Superficial mycoses: Malassezia furfur, T. nigra, T. piedra	
3. Cutaneous mycoses	Dermatophytes: Morphology, pathogenesis, clinical conditions and lab diagnosis of infections		
4. Subcutaneous mycoses	Mycetoma: Etiology, pathogenesis, and lab diagnosis		
5. Deep mycoses	List of fungi causing deep mycoses	Characteristics of fungi causing systemic mycoses	
6. Opportunistic mycoses	Candida: Morphology, pathogenesis, clinical conditions and lab diagnosis		
	Cryptococcus : Morphology, pathogenesis and lab diagnosis		
	Aspergillus: Morphology, pathogenesis and lab diagnosis		
		Mucor: Morphology, pathogenesis and lab diagnosis	
PARASITOLOGY			
Introduction to Parasitology	-	Definition and classification of parasites and hosts	
	Lab diagnosis of Parasitic Infections: Specimen collection and methods of diagnosis		


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		Arthropods of Medical Importance: Common vectors and their importance in disease transmission
Protozoa		
<i>Entamoeba histolytica</i>	Morphology, life cycle, Pathogenesis & Lab diagnosis of <i>E. histolytica</i>	-
<i>Giardia</i>	Morphological forms, hosts, pathogenesis in brief and lab diagnosis	
<i>Trichomonas</i>	Morphological forms, hosts, pathogenesis in brief and lab diagnosis	
<i>Malaria</i>	Morphology, life cycle, Pathogenesis & Lab diagnosis of malaria	-
<i>Toxoplasma</i>	Hosts, pathogenesis in brief and lab diagnosis	
Helminths		
Cestodes	<i>Taenia</i> : Morphology, Life Cycle, pathogenesis in brief and lab diagnosis	
	<i>Echinococcus</i> : Morphology, Life Cycle, pathogenesis in brief and lab diagnosis	
Trematodes		<i>H. nana</i>
		<i>Schistoma</i>
		<i>Fasciola</i>
Nematodes	<i>Ascaris lumbricoides</i> : Morphology, Life Cycle, pathogenesis in brief and lab diagnosis	
	<i>Ancylostoma duodenale</i> : Morphology, Life Cycle, pathogenesis in brief and lab diagnosis	
	<i>Enterobius vermicularis</i> : Morphology, Life Cycle, pathogenesis in brief and lab diagnosis	
	<i>Trichuris</i> : Morphology, Life Cycle, pathogenesis in brief and lab diagnosis	
	<i>Wuchereria bancrofti</i> : Morphology, Life Cycle, pathogenesis in brief and lab diagnosis	
		<i>Trichinella spiralis</i>
		<i>Strongyloides</i>
		<i>Dracunculus</i>
	Other Filarial worms	


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PRACTICALS/ DEMONSTRATIONS ONLY

Topic	Must to know	Desirable to know
Diagnostic tests for viral infections	Hepacard test HIV card test Dengue	
Demonstration of fungi	Candida Cryptococcus Dermatophytes Aspergillus Mucor Rhizopus	Slide culture for demonstration of morphology
Stool examination, Concentration techniques	Saline mount Iodine mount Stool Concentration techniques Preservation of stool specimen	Spore staining
Peripheral smear examination for malaria & filariasis	Demonstration of malarial parasites Demonstration of filarial parasite	Thick and thin smear preparation Performing Giemsa and Leishman staining for malarial/filarial parasite. Performing QBC method for malarial parasites

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