



Course Syllabus
Gyanmanjari Institute Of Medical Science and
Health Care
Semester-2

Subject: Clinical Pathology and Parasitology- PGDMT12507

Type of course: Major

Prerequisite: Basic knowledge of Clinical pathology and histopathology

Rationale: Clinical pathology and parasitology play essential roles in modern healthcare, aiding in accurate diagnosis, effective treatment, and improved public health outcomes. Their combined efforts contribute significantly to the well-being of individuals and communities.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks					Total Marks
CI	T	P		C	Theory Marks		Practical Marks		
			ESE		MSE	V	P	ALA	
4	0	2	5	60	30	10	20	30	150

Legends: CI-Class Room Instructions; T – Tutorial; P - Practical; C – Credit; ESE - End Semester Examination; MSE- Mid Semester Examination; V – Viva; CA - Continuous Assessment; ALA Active Learning Activities.



Course Content:

Sr. No	Course content	Hrs	% Weightage
1	<p>Chapter :1 Urine and Stool Analysis</p> <p>Urine:</p> <ul style="list-style-type: none"> • Formation of urine and its composition Indications, Collection, Preservation & Transportation of Urine specimen. • Routine Examination -Physical, Chemical & Microscopic. Correlation of urinary findings in various diseases. • Automated Urine Analysis & Reagent Strip Method Pregnancy Test <p>Stool:</p> <ul style="list-style-type: none"> • Indication, Collection, Preservation, Transportation of stool. • Routine - Physical, Chemical & Microscopic Examination of stool. • Significance of presence of blood and excess fat in stool. Occult blood – Detection Concentration methods for detection of intestinal parasites. 	15	25%
2	<p>Chapter:2 Semen and Cerebrospinal fluid Analysis</p> <p>Semen:</p> <ul style="list-style-type: none"> • Formation of semen. • Indication, Collection, Preservation, Transportation of semen specimen . • Physical, Chemical & Microscopic Examination as per WHO Recommendation. • Medico – legal significance of Semen examination. <p>Cerebrospinal Fluid:</p> <ul style="list-style-type: none"> • Formation of C.S.F. • Composition of C.S.F. • Collection, Preservation & Transportation of C.S.F. • Physical, Chemical & Microscopic Examination. • Correlation of Abnormal C.S.F. findings in various diseases. 	15	25%
3	<p>Chapter:3 Examination of Body Fluids and Sputum</p> <p>Formation ,Composition, Indications, Significance, Collection, Preservation, Transport and Routine Examination of :</p> <ul style="list-style-type: none"> • Pleural • Peritoneal • Pericardial • Synovial fluid • Gastric Juice • Sputum 	15	25%



4	<p>Chapter-4 General Parasitology</p> <ul style="list-style-type: none"> • General characteristics and Classification of Parasite • Types of Parasite and Host • Host –Parasite Relationship and Mode of transmission Classification of Protozoa & Helminthes. • Morphology, Life cycle, Mode of infection and Laboratory diagnosis of parasites 	15	25%
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Continuous Assessment:

Sr. No	Active Learning Activities	Marks
1	<p>Brain writing</p> <p>Faculty will provide a picture, text passage or video clip, student observe, analyze and write about it and upload on GMIU web portal.</p>	10
2	<p>Pathological findings</p> <p>Faculty will provide the pathological report and student has to interpret and diagnostic that report. Final interpretation and diagnosed disease has to upload on GMIU web portal.</p>	10
3	<p>Analysis of Microbial culture</p> <p>Faculty will provide a Clinically important Microbial culture students have to analyze the culture and write a detail and upload it to GMIU web portal.</p>	10
Total		30

Suggested Specification table with Marks (Theory):60

Distribution of Theory Marks (Revised Bloom's Taxonomy)						
Level	Remembrance (R)	Understanding (U)	Application (A)	Analyze (N)	Evaluate (E)	Create (C)
Weightage	20%	40%	30%	10%	-	-

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.



Course Outcome:

After learning the course the students should be able to:	
CO1	Understand the basic knowledge of composition, transportation and analysis of urine and stool.
CO2	Define Collection, Preservation, Transportation and analysis of semen and cerebrospinal fluid.
CO3	Perform and interpret Body fluids and Sputum analysis.
CO4	Classify and characterize the Clinical parasites along with their parasitic relationship with host.

List of practical:

Sr no.	Description	Unit no.	Hrs.
1	Routine Urine Analysis: Physical, Chemical, Microscopic examination. & Reagent Strip Method	1	4
2	Routine Stool Analysis: Physical, Chemical, Microscopic examination	1	3
3	Routine Cerebrospinal Fluid Analysis: Physical, Chemical, Microscopic examination.	2	4
4	Routine Semen Analysis: Physical, Chemical, Microscopic examination.	2	3
5	Routine Gastric Juice Analysis: Chemical examination of gastric juice.	3	3
6	Routine Sputum examination: Physical, Microscopic.	3	2
7	Routine Body fluids - Peritoneal, Pleural, Pericardial, Synovial (each separately): Physical, Chemical, Microscopic examination	3	2
8	Cutting, Fixation and processing of tissues (Demonstration).	3	4
9	Demonstration of various stages of life cycle of malarial parasites from stained slides	4	2
10	Examination of smears for malarial parasites (P. vivax and P. falciparum).	4	2
	Total		30



Instructional Method:

The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.

From the content 10% topics are suggested for flipped mode instruction.

Students will use supplementary resources such as online videos, NPTEL/SWAYAM videos, e courses, Virtual Laboratory

The internal evaluation will be done on the basis of Active Learning Assignment

Practical/Viva examination will be conducted at the end of semester for evaluation of performance of students in laboratory.

Reference Books:

- [1] Diagnostic Parasitology by Lynne Shore Garcia.
- [2] Clinical Laboratory Hematology by Shirlyn B. McKenzie, Lynne Williams, and Brenda B. Hutchison.
- [3] Clinical Parasitology: A Practical Approach by Elizabeth Zeibig and Rodney D. Adam.
- [4] Amitava Dasgupta; Amer Wahed (2014) Clinical Chemistry, Immunology and Laboratory Quality Control. Himmelfarb Health Sciences. ISBN: 9780124078215.

