

FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
DEPARTMENT OF ZOOLOGY
COURSE CURRICULUM

PART- A: Introduction			
Program: Bachelor in Life Science <i>(Diploma / Degree/Honors)</i>		Semester - III	Session: 2024-2025
1	Course Code	ZOSE- 01T	
2	Course Title	Parasitology	
3	Course Type	Discipline Specific Elective	
4	Pre-requisite (if, any)	<i>As per Program</i>	
5	Course Learning Outcomes (CLO)	<ul style="list-style-type: none"> ➤ Students should comprehend the life cycles of various parasites, including their modes of transmission, intermediate hosts, and definitive hosts. ➤ Gain insights into the interactions between parasites and their hosts; including mechanisms of host invasion, evasion of host defenses, and pathogenesis. ➤ Develop the ability to recognize clinical manifestations associated with parasitic infections ➤ Understand the epidemiology of parasitic diseases ➤ Communicate effectively about parasitic diseases, including educating the public. 	
6	Credit Value	3 Credits	<i>Credit = 15 Hours - learning & Observation</i>
7	Total Marks	Max. Marks: 100	Min Passing Marks: 40
PART -B: Content of the Course			
Total No. of Teaching-learning Periods (01 Hr. per period) - 45 Periods (45 Hours)			
Unit	Topics (Course contents)		No. of Period
I	Viral diseases: General characters, Structure and Classification of virus, A brief account of pathogenic viruses. Brief history of microbiology: germ theory of disease, Host pathogen interaction: invasion, antigenic heterogeneity, toxins and enzymes secretions. Viral diseases: hepatitis, influenza, AIDS, Covid -19 with emphasis on their causative agents, pathogenesis, diagnosis, prophylaxis and chemotherapy.		12
II	Bacterial & Fungal diseases: General characters, Structure and Classification of bacteria. Bacterial Diseases: A brief account of pathogenic bacteria, discovery of penicillin, diseases caused by <i>Streptococcus pneumonia</i> , <i>Salmonella typhi</i> , <i>Escherichia coli</i> , <i>Mycobacterium tuberculosis</i> , <i>Rickettsia</i> , <i>Spirochaetes</i> Fungal diseases: Ringworm infection, <i>Aspergillosis</i> , <i>candidiasis</i> .		11
III	Protozoan parasites: An overview of protozoa & disease. Introduction to parasites and parasitic diseases. Mode of transmission, portals of entry and implications of parasitism. Parasitic adaptations. Concept of zoonotic diseases. Protozoan diseases of medical importance: Brief account of life History, pathogenicity of the following Protozoa with reference to Man, prophylaxis and treatment: <i>Entamoeba histolitica</i> , <i>Trypanosoma gambiens</i> , <i>Plasmodium vivex</i> , <i>Giardia</i> .		11
IV	Helminth parasites: An overview of Helminthic diseases. Brief account of life History, pathogenicity of the following Helminths with reference to Man, prophylaxis and treatment. <i>Taenia solium</i> , <i>Schistosoma haematobium</i> , <i>Ascaris lumbricoides</i> , <i>Wuchereria branrofti</i> . Vector insects.		11
Keywords	<i>Micrology, pathogenic bacteria, Protozoan parasites, Helminth parasites, Toxicology, toxic againts</i>		
Signature of Convener & Members (CBoS) :			

PART-C: Learning Resources

Text Books, Reference Books and Others

Text Books Recommended –

- Agrawal Anju Principles of Toxicology
- Parija, S. C. (2013) Textbook of Medical Parasitology, Protozoology & Helminthology (Text and colour Atlas), IV Edition, All India Publishers & Distributers, New Delhi.
- Ichhpujani, R.L. and Bhatia, R. (2009) Medical Parasitology. III Edition, Jaypee Brothers Medical Publishers (P) Ltd., New Delhi
- Ahmed, N., Dawson, M., Smith, C. and Wood, Ed. (2007) Biology of Disease. Taylor and Francis Group.
- Chatterjee, K. D. (2009). Parasitology: Protozoology and Helminthology. XIII Edition, CBS Publishers & Distributors (P) Ltd.
- Arora, D. R and Arora, B. (2001) Medical Parasitology. II Edition. CBS Publications and Distributors
- Chatterjee, K.D (2015) Parasitology (13th edition)

Reference Books Recommended –

- Jawetz, M. and Adelberg (2015) Medical Microbiology (27th edition)
- Noble, E.R. and Noble, G.A. (1989) Parasitology: The Biology of Animal Parasites. VI Edition, Lea and Febiger

Online Resources–

- http://ndl.iitkgp.ac.in/he document/inflibnet epgp/inflibnet epgp/IN I e P P 1 Z 512 96 P 0 B o p 51542 M 1 M L c P D a P o E P 1 51562 51563?e=9|*||
- http://ndl.iitkgp.ac.in/he document/inflibnet epgp/inflibnet epgp/IN I e P P 1 Z 512 96 P 0 B o p 51542 M 2 P d a p o w b 51594 51595?e=3|*||

PART -D: Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum Marks: 100 Marks

Continuous Internal Assessment (CIA): 30 Marks

End Semester Exam (ESE): 70 Marks

Continuous Internal Assessment (CIA): (By Course Teacher)	Internal Test / Quiz-(2): 20 +20	Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 30 Marks
	Assignment / Seminar - 10 Total Marks - 30	
End Semester Exam (ESE):	Two section – A & B Section A: Q1. Objective – 10 x1= 10 Mark; Q2. Short answer type- 5x4 =20 Marks Section B: Descriptive answer type qts., 1 out of 2 from each unit-4x10=40 Marks	

Name and Signature of Convener & Members of CBoS:

(Handwritten signatures in blue ink)

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PART- A: Introduction			
Program: Bachelor in Life Science <i>(Diploma / Degree/ Honors)</i>		Semester - III	Session: 2024-2025
1	Course Code	ZOSE- 01P	
2	Course Title	Parasitology	
3	Course Type	Discipline Specific Elective Lab Course	
4	Pre-requisite (if, any)	<i>As per Program</i>	
5	Course Learning Outcomes (CLO)	<p>At the end of this course, the students will be able -</p> <ul style="list-style-type: none"> ➤ Identify common parasitic Protozoa and Helminth. ➤ Learn techniques for studying growth of bacteria and its staining. ➤ Learn the techniques for examine Sputum, Blood, Urine and Stool samples for pathology 	
6	Credit Value	1 Credits	<i>Credit =30 Hours Laboratory or Field learning/Training</i>
7	Total Marks	Max. Marks: 50	Min Passing Marks: 20
PART -B: Content of the Course			
Total No. of learning-Training/performance Periods: 30 Periods (30 Hours)			
Module	Topics (Course contents)		No. of Period
Lab./Field Training/ Experiment Contents of Course	<ul style="list-style-type: none"> ➤ Study of permanent slides and specimens of parasitic Protozoans and Helminthes. ➤ Pathological examination of sputum, blood, urine and stool. ➤ Blood: Erythrocyte Sedimentation Rate (ESR), Haematocrit. ➤ Staining and identification of Gram positive and Gram negative bacteria. ➤ Preparation of thin and thick blood films to diagnose Plasmodium infections/ or permanent slides. ➤ Preparation of temporary and permanent slides of faecal matter by saline preparation and concentration techniques to identify cysts of parasitic Protozoans and Helminthes eggs /or parmanant slides studies. ➤ Study Kinetics of bacterial growth and staining techniques. ➤ Group discussion or Seminar presentation on one or two related topics ➤ Group discussion/quiz/seminar on topics related to theory. ➤ Preparation of practical record or Album of parasites. 		30
Keywords	<i>Parasitic protozoa, helminth, ESR, Gram positive and Gram negative</i>		
Signature of Convener & Members (CBoS) :			

PART-C: Learning Resources

Text Books, Reference Books and Others

Text Books Recommended –

- Ghosh Saugala, Panikar's Text book of Parasitology. Jaipye Brothers
- Ananthanarayan and Paniker's Textbook of Microbiology, Twelfth Edition, Universities press

Reference Books Recommended –

- K.D. Chattarjee, Parasitology . CBS Publisher

Online Resources–

- http://ndl.iitkgp.ac.in/he document/swayam ugc moocs/swayam ugc moocs/IN S U M 1 U C 17 A D 4127 M L h o A L w P A o A L 34326 34327?e=7*|||
- http://ndl.iitkgp.ac.in/he document/swayam ugc moocs/swayam ugc moocs/IN S U M 1 U C 17 A D 4127 M L h o T s a F h 10250 10251?e=8*|||

PART -D: Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum Marks: 50 Marks

Continuous Internal Assessment (CIA): 15 Marks

End Semester Exam (ESE): 35 Marks

Continuous Internal Assessment (CIA): (By Course Teacher)	Internal Test / Quiz-(2): 10 & 10 Assignment/Seminar +Attendance - 05 Total Marks - 15	Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 15 Marks
End Semester Exam (ESE):	Laboratory / Field Skill Performance: On spot Assessment A. Performed the Task based on lab. work - 20 Marks B. Spotting based on tools & technology (written) – 10 Marks C. Viva-voce (based on principle/technology) - 05 Marks	Managed by Course teacher as per lab. status

Name and Signature of Convener & Members of CBoS:

S. Sahalkar *Dr. ...* *Prof. ...* *...* *...*
Dr. ... *...*