SRI BALAJI VIDYAPEETH

ACCREDITED BY NAAC WITH 'A' GRADE

DEEMED TO BE UNIVERSITY
DECLARED U/S 3 OF THE UGC ACT, 1956

NIRF - INDIA RANKINGS 2019 : 72 among Universities in India

FELLOWSHIP IN TROPICAL PARASITOLOGY

Department of Microbiology

SYLLABUS & REGULATIONS

2019-2020 ONWARDS

(As Approved in the Academic Council at the Meeting held on 22.05.2019)

Sri BalajiVidyapeeth University
Mahatma Gandhi Medical College & Research Institute

DEPARTMENT OF MICROBIOLOGY

FELLOWSHIP IN TROPICAL PARASITOLOGY

2019-2020

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SYLLABUS FORFELLOWSHIP IN TROPICAL PARASITOLOGY

S no	**Specific Learning Objectives** At the end of the courses, the candidates will be able to:
1	Equip the students with requisite knowledge and skills to perform the diagnosis of diseases caused by protozoa, helminths and ectoparasites
2	Explain the pathology of parasitic diseases
3	Describe, choose and perform molecular and newer techniques in the investigation of parasitic infections
4	Describe parasitic infections in immunocompromised hosts and perform their diagnosis.
5	Describe and explain the epidemiology of emerging and re-emerging; and newer parasitic diseases.
6	Describe and explain medical and surgical management of parasitic diseases

S no	**Theory Syllabus**	TL strategy	Number of hours	Credits
	Paper I Basic and applied Parasitology			
1	Isolation and identification of Protozoa	Didactic lecture, Techniqu e seminar	16	1
2	Protozoal infections Protozoa of medical importance- Intestinal Amoeba (*Entamoeba histolytica, other intestinal amoeba*), pathogenic Free-living amoeba (*Naegleriafowleri, Acanthamoeba species, Balamuthia species*), intestinal, oral and genital flagellates (*Giardia intestinalis, Trichomonasvaginalis, Dientamoebafragilis, Other flagellates*), blood and tissue flagellates (*Leishmaniadonovani, Leishmaniatropica complex, Leishmaniabraziliensis complex, Leishmaniamexicana complex, Trypanosomacruzi,*	Didactic lecture, Topic Seminar, Tutorials/ group discussio ns, techniqu e seminar	80	5

	Trypanosomabruceicomplex), malaria parasites and piroplasms (*Plasmodium falciparum, Plasmodium vivax, Plasmodium malariae, Plasmodium ovale, Babesia species*), coccidia (*Toxoplasma gondii, Cryptosporidium, Isospora belli, Sarcocystis, Blastocystishominis*),ciliate Protozoa (*Balantidium coli*)			
3	Helminthic infections Helminths of medical importance – Cestodes (*Diphyllobothriumlatum, Spirometra, Taenia*species*, Echinococcus*species*, Hymenolepsis*species*, Dipylidiumcaninum*), Trematodes:(*Schistosoma*species,*Fasciola*species*, Fasciolopsisbuski, Paragonimus*species,*Clonorchissinensis, Other trematodes*), Nematodes (*Trichinellaspiralis,Trichuristrichura, Capillaria*species,*Strongyloides*species,*Ancylostom a*spec ies,*Necator*species,*Angiostrongylus*species,*Entero biusve rmicularis, Ascaris*species*, Brugiamalayi and other* species,*Onchocerca volvulus, Loa loa, Mansonella*species,*Dirofilaria*species,*Drancunculus medi nensis,Gnathostomaspinigerum*)	Didactic lecture, Topic Seminar, Tutorials / group discussi o ns, techniqu e seminar	80	5
4	Ectoparasites Common arthropods and other vectors viz. Mosquito,Sandfly, Ticks, Mite, Cyclops.	Didactic lecture	16	1
	Recent advances in Parasitology – Paper II			
5	Knowledge of the above family/genus/species should include definition, historical perspectives, classification, morphology, cultural characteristics, genetics, molecular and antigenic structure, laboratory isolation and identification, virulence and pathogenicity tests, methods of prevention including vaccines and recent developments	Didacti c lecture, Topic semina r	64	4
6	Introduction to Molecular biology- PCR and its modifications including nested PCR, Multiplex PCR. 1. Special emphasis to Real-time PCR 2. Principles of different hybridization techniques 3. Principles of epidemiological typing techniques. 4. Principles of recombinant DNA technology 5. Condition for certification	Didactic lecture, topic seminar, Techniq u e seminar	80	5
	Total		336	21

S no	**Practical Syllabus**	Number of hours	Credits

1	Examination of feces for parasitic ova and cysts etc. by microscopy, concentration methods and culture	32	1
2	Egg counting techniques for helminths	32	1
3	Examination of blood for protozoa by microscopy, stains – Leishman, Giemsa		
4	Examination of other specimens eg. urine, CSF, bone marrow, corneal scrapping etc. for parasites	32	1
5	Histopathology sections-examination and identification of parasites	32	1
6	In-vitro culture of parasites like *Entamoeba, Leishmania* etc	16	0.5
7	Preparation of media – NIH, NNN,etc.	16	0.5
8	Copro-culture of larva of hookworms	16	0.5
9	Antigen preparation-viz. *Entamoeba*, filarial, hydatid for serological tests like IHA and skin tests like Casoni's test, EITB, Co-agglutination test, ELISA.	32	1
10	Multiplex PCR for differentiation of *Entamoeba spp*. and newer molecular techniques such as microarray, real time PCR for other parasitic diseases.	32	1
	Total	240	7.5

S no	**Clinical Syllabus**	Number of hours	Credits
1	Pathology posting for 2 weeks	32	1
2	Medicine 2 weeks	32	1
3	Radiology 2 weeks	32	1
	Total	96	3

S no	**Assignments/ Projects/ Self-Study**	Number of hours	Credits
1	Total 8 Hours With a time limit of 1 Weeks for 42 weeks	336	10.5

S no	**Assessment method (FORMATIVE)**	Eligibility requirement
1	Portfolio 20 marks	50% (10)
2	Project 30 marks	50% (15)

S no	**Assessment method (SUMMATIVE)**	Maximum marks	Eligibility requirement
1	Theory exam : (Paper I :50,paper II:50)	100	50% (50)
2	Practical exam	90	50% (45)
3	Viva voice	10	50% (5)
	Total	200	

S no	**Reference Books/ Journals**
1	Diagnostic Medical Parasitology,6th Edition, by Lynne Shore Garcia
2	Practical Guide to Diagnostic Parasitology,2nd Edition,by Lynne Shore Garcia
3	Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases: ,9th Edition by Bennett, John E. ,Dolin, Raphael ,Blaser ,Martin J

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