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UPES
End Semester Examination, May 2024

Course: Eukaryotic Microbiology	Semester : II
Program: M.Sc. Microbiology	Duration : 3 Hours
Course Code: HSMB7030	Max. Marks : 100

Instructions: The Assessment consists of 4 sections.

- **Part A contains 20 questions of 1.5 marks each and all questions are compulsory.**
- **Part B consists of 4 questions of 5 marks each and all questions are compulsory.**
- **Part C consists of 2 questions of 15 marks each and all questions are compulsory.**
- **Part D consists of 2 questions of 10 marks each and all questions are compulsory.**

S. No.	Section A Short answer questions/ MCQ/T&F (20Qx1.5M= 30 Marks)	Marks	Cos
Q 1	Mention type of cell is the primary host for <i>Leishmania donovani</i> ? a. Red blood cells b. Macrophages c. Neurons d. Lymphocytes	1.5	CO1
Q 2	State the main mechanism of drug resistance in <i>Leishmania donovani</i> ? a. Efflux pumps b. Drug-modifying enzymes c. Alterations in target enzymes d. All of the above	1.5	CO2
Q 3	Identify, Mosquitoes is/are the vector in the following disorder(s)? a. Onchocerciasis b. Visceral leishmaniasis c. African trypanosomiasis d. Bancroftian filariasis	1.5	CO1
Q 4	State Blackwater fever is a special manifestation of malaria caused by? a. <i>P. falciparum</i> b. <i>P. malariae</i> c. <i>P. ovale</i> d. <i>P. vivax</i>	1.5	CO2
Q 5	Identify, After sporozoite gain entrance to the human body, it undergoes a developmental cycle first in the liver than in RBC, only after which fever is seen. This incubation period varies between plasmodium species, and species has the longest incubation period. a. <i>P. falciparum</i> b. <i>P. malariae</i> c. <i>P. ovale</i> d. <i>P. vivax</i>	1.5	CO2

Q 6	State: Mushrooms are a type of which of the following? a. Conidia b. Ascus c. polar tubule d. basidiocarp	1.5	CO4
Q 7	Identify polysaccharide found in red algal cell walls is a useful solidifying agent? a. Chitin b. Cellulose c. Phycoerythrin d. Agar	1.5	CO3
Q 8	Mention the fungus in a lichen: which of the following? a. Basidiomycete b. an ascomycete c. a zygomycete d. an apicomplexan	1.5	CO3
Q 9	Identify a Protozoa that eats other organisms? a. parasitic b. mutualistic c. Holozoic d. Saprophytic	1.5	CO1
Q 10	State the following inhibits DNA replication? a. x-rays b. gamma rays c. UV light d. cathode rays	1.5	CO4
Q 11	Lipopolysaccharide in cell walls is characteristic of? a. Algae b. Fungi c. Gram-negative bacteria d. Gram-positive bacteria	1.5	CO2
Q 12	Agar is obtained from the algal species of _____? a. Chondrus b. Gigartina c. Gelidium d. Laminaria	1.5	CO2
Q 13	Mycotoxins are produced by? a. Bacteria b. Viruses c. Fungi d. Protozoa	1.5	CO3
Q 14	Cell wall of 'fungi' is made up of? a. Peptidoglycan b. Murine c. Chitin d. Cellulose	1.5	CO2
Q 15	Identify which of the following is most resistant to antiseptics? a. Spore b. Prion c. Cyst d. Fungus	1.5	CO1

Q 16	Fungi can cause disease by? a. Tissue invasion b. Toxin production c. Induction of hypersensitivity d. All of these	1.5	CO2
Q 17	Identify which of the following crosses placenta? a. Malarial parasite b. Tuberculosis c. Toxoplasmosis d. Amoebiasis	1.5	CO2
Q 18	Mention the glassware is sterilized by? a. Hot air oven b. Autoclave c. Incineration d. Boiling	1.5	CO3
Q 19	Identify: A cook prepares snacks for 10 people going on a picnic. Eight out of them develop severe gastroenteritis within 4-6 hours of consuming snacks. It is likely that, on investigations, Cook was found to be a carrier of? a. <i>Salmonella typhi</i> b. <i>Vibrio cholerae</i> c. <i>E. coli</i> d. <i>Staphylococcus aureus</i>	1.5	CO4
Q 20	State: The sugar molecule in a nucleotide is.....?	1.5	CO1
Section B (4Qx5M=20 Marks)			
Q 1	Describe how climate change affects Leishmaniasis? Who is most at risk for leishmaniasis?	5	CO1
Q 2	Discuss which organs are affected by malaria. In which season is malaria more common?	5	CO2
Q 3	Justify, are protozoa killed by antibiotics? Are protozoal diseases curable?	5	CO3
Q 4	Explain how fungal infections are transmitted? Why are fungi the most important for the environment?	5	CO4
Section C (2Qx15M=30 Marks)			
Q 1	Discuss the part of the life cycle of malaria that a vaccine would target? Justify, Can malaria cause heart problems? Explain how we can prevent the spread of malaria?	15	CO1
Q 2	Describe where protozoa grow? Could protozoa grow on agar? Explain: How do you measure protozoan growth?	15	CO2
Section D (2Qx10M=20 Marks)			
Q 1	Discuss: How do you understand host-pathogen interactions? Explain the factors involved in the host-pathogen interaction?	10	CO4
Q 2	Describe the differences between algae and fungi? Explain why it is important to understand microbial growth kinetics?	10	CO3