

Name:

Enrolment No:



**UPES**

**End Semester Examination, May 2024**

**Course: Medical Microbiology and disease management**

**Semester : IV**


**Program: Int. BSc MSc. Microbiology**

**Duration : 3 Hours**

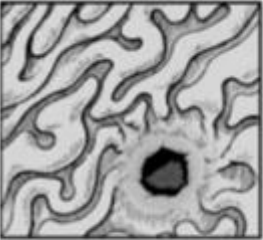
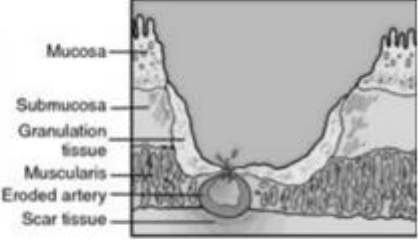
**Course Code: HSMB2014**

**Max. Marks: 100**

**Instructions:**

S. No.	Section A Short answer questions/ MCQ/T&F (20Qx1.5M= 30 Marks)	Marks	COs
Q 1	Mary Mallon was an asymptomatic carrier of ..... disease.	1.5	CO2
Q 2	'Zika infections show materno-fetal transmission. Comment on the statement briefly.	1.5	CO2
Q 3	Name an intracellular parasite and the disease it causes.	1.5	CO1
Q 4	Identify bacterial zoonotic disease a. Malaria b. Chikungunya c. Plague d. Flu	1.5	CO1
Q 5	See the figure below and write the scientific name of the disease. 	1.5	CO2
Q 6	What is the causative agent of athlete's foot.	1.5	CO1
Q 7	Identify which of the following signs and symptoms is not associated with <i>Hemophilus influenzae</i> ? (i) Otitis media (ii) Pneumonia (iii) Malaria (iv) Epiglottitis	1.5	CO2
Q 8	Which of the following is not a fungus or a mycotic disease? a. Cryptococcus neoformans b. Candida albicans c. Tinea nigra	1.5	CO2

	d. Chlamydiae		
<b>Q 9</b>	Define systemic mycosis.	<b>1.5</b>	<b>CO1</b>
<b>Q 10</b>	Name the causative agent and vector of Filariasis.	<b>1.5</b>	<b>CO1</b>
<b>Q11</b>	Define Negri bodies.	<b>1.5</b>	<b>CO1</b>
<b>Q12</b>	Where are Negri bodies observed?	<b>1.5</b>	<b>CO2</b>
<b>Q13</b>	Which of the following is a correlate of protection upon vaccination? A. Humoral response B. T-cell response C. Plasma cells and memory cells D. All of the above	<b>1.5</b>	<b>CO2</b>
<b>Q14</b>	Which is the drug of choice for anaerobic infections? A. Amoxicillin B. Gentamycin C. Metronidazole D. Vancomycin	<b>1.5</b>	<b>CO2</b>
<b>Q15</b>	Draw a well-labeled structure of an Influenza virus.	<b>1.5</b>	<b>CO1</b>
<b>Q16</b>	Draw cell wall of <i>Mycobacteria</i> and label all salient features.	<b>1.5</b>	<b>CO1</b>
<b>Q17</b>	Which childhood vaccine works against Tetanus.	<b>1.5</b>	<b>CO1</b>
<b>Q18</b>	Name one pathogen that has been potentially used as a bioterror weapon.	<b>1.5</b>	<b>CO1</b>
<b>Q19</b>	If a person is suspected bitten by a rabid dog; discuss what are the key preventive measures to be taken immediately?	<b>1.5</b>	<b>CO2</b>
<b>Q20</b>	Name a toxoid vaccine.	<b>1.5</b>	<b>CO1</b>
<b>Section B</b> <b>(4Qx5M=20 Marks)</b>			
<b>Q 1</b>	Give an account of vaccines used against viruses with examples. OR Give an account of vaccines used against bacteria with examples.	<b>5</b>	<b>CO1</b>
<b>Q 2</b>	A 19-year-old male living in a tropical region of India visited the hospital. He came with a lesion on the lower part of the left leg that according to him first appeared about a week before visiting the hospital. A skin biopsy test was performed and the infection was diagnosed to be a parasitic infection. Which of the following is a vector-borne disease that can be transmitted to humans by the bite of infected sandflies? Explain in brief its pathogenesis, life cycle, diagnosis and treatment.	<b>5</b>	<b>CO2</b>
<b>Q 3</b>	Define Dengue. Write a note on its epidemiology pathogenesis.	<b>5</b>	<b>CO1</b>
<b>Q 4</b>	Define Piedra. Which organism causes it? What are its types and how is it diagnosed and treated?	<b>5</b>	<b>CO1</b>
<b>Section C</b> <b>(2Qx15M=30 Marks)</b>			
<b>Q 1</b>	A patient presented with flu-like symptoms and an enlarged liver with high levels of liver enzymes Alanine transaminases (ALT) and	<b>15</b>	<b>CO2</b>

	<p>Aspartate transaminase (AST) where the former was in higher amounts. Bilirubin is also elevated manifesting in jaundice. Given this answer the following:</p> <ul style="list-style-type: none"> <li>(i) Which disease is the patient suffering from? (1)</li> <li>(ii) What do you think is/are the possible infectious agents/(s)? (1)</li> <li>(iii) Given that patient has had sea food in the past few days and therefore which types of tests for this disease would you go for to diagnose it accurately. (3)</li> <li>(iv) What is the pathogenesis of this disease? (6)</li> <li>(v) What is the treatment of the disease? (1.5)</li> <li>(vi) What is the strategy to prevent this disease? (1)</li> <li>(vii) What are the risks if a pregnant woman contracts this disease? (1.5)</li> </ul>		
<p><b>Q 2</b></p>	<p>A 61-year-old American woman was referred to a Gastroenterology Clinic from primary care provider due to consistent discomfort. She had been complaining and receiving treatment for gastritis for last few years and now her symptoms worsened. The doctor advised endoscopic examination and tissue histology which showed tissue disruption showed in figure below</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>A. Endoscopic view</p> </div> <div style="text-align: center;">  <p>B. Histology examination</p> </div> </div> <p>Given this answer the following:</p> <ul style="list-style-type: none"> <li>(i) What do you think is she suffering from? (1)</li> <li>(ii) What is the causative of the disease? (1)</li> <li>(iii) What are the risk factors? (1.5)</li> <li>(iv) Why is her pain increasing over years? (1.5)</li> <li>(v) What is the pathogenesis of the disease? (5)</li> <li>(vi) What are the virulence factors of the associated pathogen? (2)</li> <li>(vii) How do you diagnose and treat the infectious pathogen? (3)</li> </ul>	<p><b>15</b></p>	<p><b>CO2</b></p>
<p><b>Section D</b> <b>(2Qx10M=20 Marks)</b></p>			
<p><b>Q 1</b></p>	<p>‘An elderly patient in a patient-care home presented with acute foul-smelling diarrhea. Several other residents also have</p>	<p><b>10</b></p>	<p><b>CO1</b></p>

	had such infections in past. The elderly woman is bed ridden and wears diaper.' Identify the disease and write its pathogenesis, diagnosis, and treatment.		
<b>Q 2</b>	With the help of text, flow chart and illustration; explain pathogenesis, diagnosis and treatment of cholera.	<b>10</b>	<b>CO1</b>