



**NAVVRACHANA
UNIVERSITY**

a UGC recognized University

School: School of Science
Program/s: M.Sc. Microbiology
Year: 2nd **Semester:** 3rd
Examination: End Semester Examination
Examination year: December - 2022

Course Code: MEM301 **Course Name:** Medical Microbiology-II
Date: 13/12/2022
Time: 08:30 pm to 10:30 pm

Total Marks: 40
Total Pages: 2

Instructions:

- Write each answer on a new page.
- Use of a calculator is permitted/not permitted.
- * COs=Course Outcome mapping. # BTL=Bloom's Taxonomy Level mapping

Q. No.	Details	Marks	COs*	BTL#
Q.1	<p>Choose the correct answer.</p> <p>1. Which of the following is NOT true about Hanging drop method that is used to study bacteria</p> <p>a. It does not distort the cell shape but alters only the arrangement.</p> <p>b. Provides a better view of motility in bacteria than the wet mount method.</p> <p>c. Helpful in the classification of the bacteria, whether they are motile or immotile.</p> <p>d. None of the above.</p> <p>2. Which of the following acts as a source of ARG/ARB?</p> <p>a. Horizontal gene transfer</p> <p>b. Misuse and overuse of antimicrobials</p> <p>c. Bacteria from animal waste and fertilizers into soil and ground water</p> <p>d. All of the above</p> <p>3. The reason for the spiral morphology of spirochetes is:</p> <p>a. Elastic proteins present in cell wall</p> <p>b. Flexible, peptidoglycan cell wall around which several axial fibrils are wound</p> <p>c. Extracellular mucus secretion</p> <p>d. None of the above</p> <p>4. Which of the following is the correct sequence for the mRNA vaccination of COVID19?</p> <p>I. Genetic material of COVID19 spike proteins inserted into unrelated harmless vector virus</p> <p>II. When infected with COVID19 virus antibodies bind to virus and stop it from replicating</p> <p>III. Spike proteins are recognized by the immune system which produces specific antibodies</p> <p>IV. Vaccination with vector virus that creates spike proteins</p>	4	CO1 CO2 CO3 CO4 CO5	BT1 BT2 BT4

	a) I-II-III-IV	b) I-IV-III-II	c) I-III-IV-II	d) I-II-IV-III			
Q.2	Fill in the blanks.						
	1. _____ are some of the smallest free-living organisms in the world. 2. Syphilis is caused by the bacteria known as _____. 3. The study of antibodies in blood serum in response to infection is known as _____. 4. The ability of microorganisms to persist or grow in the presence of drugs designed to inhibit or kill them is known as _____. 5. _____ is the genus of bacteria that lack a cell wall. 6. _____ is the bacteria responsible for Rocky Mountain spotted fever.				6	CO1 CO2 CO3 CO4 CO5 CO6	BT1 BT2
Q.3	Do as directed.						
	1. A person's core microbiome is formed in the first years of life but can change over time. State True or False giving reason. 2. State four methods for diagnosis of dermatophyte infections. 3. Write down few strategies for the prevention and control of microbial infection. (Four points) 4. State the role of a) KOH and b) Calcofluor white in the microscopic examination of fungi. 5. Name any four mechanisms of adaptive immunity against bacterial infections.				10	CO1 CO2 CO3 CO4 CO5 CO6	BT1 BT2 BT4
Q.4	Answer <u>any five</u> from the following in detail.						
	1. Discuss the physiology and structure of Chlamydiaceae and write in brief the symptoms of Chlamydial infection. 2. Explain in detail the mechanism of viral pathogenesis when it follows the lytic cycle. 3. Discuss the structure and physiology of prions. 4. Explain in brief Lyme disease emphasizing on the: a) Signs and symptoms b) stages c) Diagnosis d) Treatment 5. Explain in brief the morphology of Leptospira. Mention in brief a) Morphology b) Signs and symptoms c) Diagnosis and d) Treatment of Leptospirosis 6. Discuss the role of environment in the spread of ARG/ARBs with one example. 7. Discuss in brief about any research article you have read related to medical microbiology highlighting (a) Aim of work (b) Interpretation of result (c) Your perspective and inputs about the research				20	CO1 CO2 CO3 CO4 CO5 CO6	BT1 BT2 BT4

*****End of Question Paper*****