

To be completed by the candidate

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UNIVERSITY OF COLOMBO, SRI LANKA

FACULTY OF NURSING

FIRST YEAR EXAMINATION IN NURSING – SEMESTER I – 2018/2019

FN 1206 - MICROBIOLOGY (REPEAT EXAMINATION)

(TWO HOURS)

Answer all questions

(This question paper consists of 04 Essay Questions in 03 pages)

Important Instructions to Candidates

- If a page or a part of this question paper is not printed, please inform the supervisor immediately.
- Enter Your Index Number on all pages of the answer script.
- Write the answers to all questions in the given booklets.
- Under no circumstances may this question paper or part of this question paper, used or unused, be removed from the examination hall by a candidate
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Question Number	Marks
1	
2	
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4	
Total	

Q1.

A. Microbes are essential organisms in an eco-system. However, they need to be controlled, as they can infect humans and important animals causing diseases. Different methods are used to control microbes based on their characteristics.

- I. Briefly explain the difference between 'Sterilization' and 'Disinfection' in controlling microbes. (25 marks)
- II. List one disadvantage of using following methods in controlling microbes. (25 marks)
 - a. Autoclaving
 - b. UV irradiation
 - c. Lyophilization
 - d. Use of 50 % isopropanol as antiseptic
 - e. Boiling in water

B. Antibiotics are commonly used in antimicrobial therapy. However, one of the major problems related to treatment using antibiotic is antibiotic resistance.

- I. Briefly explain the term 'antibiotic resistance'. (10 marks)
- II. List three (3) possible practices, which help in limiting the antibiotic resistance. (15 marks)
- III. 'Resistant organisms are found more often in hospitalized patients than among outpatients' justify the statement. (25 marks)

Q2.

A.

- I. List 2 examples each for the followings. (20 marks)
 - a. Live vaccines
 - b. Killed vaccines
 - c. Toxoid vaccines
 - d. Conjugate vaccines

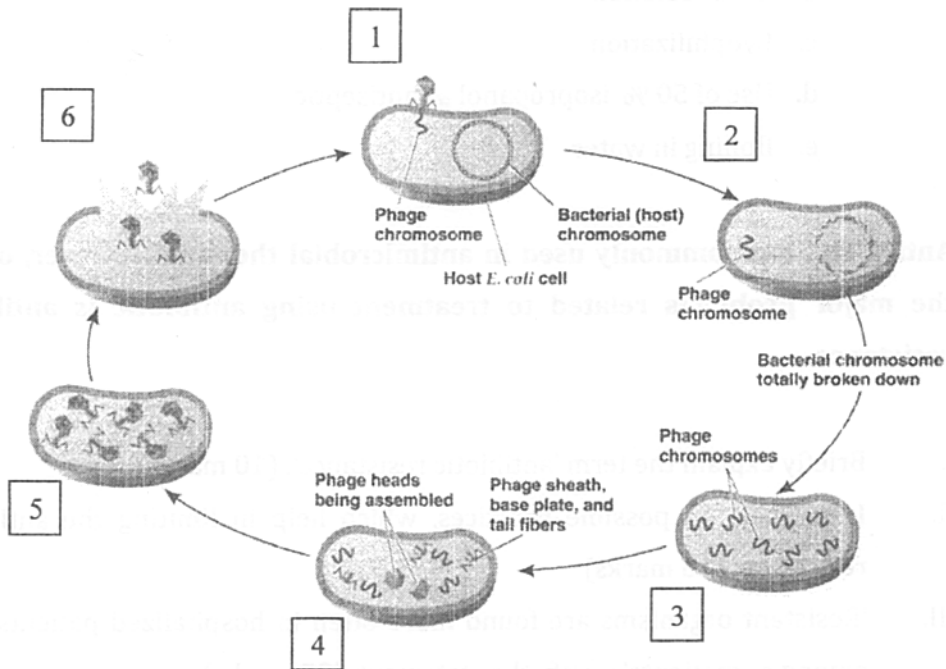
B.

- I. Briefly describe the structure of bacterial cell wall. (25 marks)
- II. Write on specimen collection and laboratory diagnosis of dermatophyte fungal infection. (30 marks)
- III. Briefly describe the role of plasmids in genetic transferring. (25 marks)

Q3.

A.

- I. Label the stages (1-6) of bacteriophage infection in the figure. (30 marks)



- II. Name the synthetic processes happen in stages 3 and 4. (10 marks)

B.

- I. List 2 methods by which you can diagnose following viral infections in the laboratory. (20 marks)
 - a. Dengue
 - b. HIV infection

- II. Briefly describe how do you assist the physician to collect and transport Cerebrospinal Fluid (CSF) for investigation from a patient suspected of having meningitis. (40 marks)

Q4.

A 68-Year-Old male presented with pain in the chest and productive cough of 3 weeks duration. Medical officer suspected that it is tuberculosis (TB).

- I. Name the causative bacterium of TB. (10 marks)
- II. Briefly describe the pathogenesis of TB. (20 marks)
- III. Outline the collection and transport of specimens for microbiological diagnosis in this patient. (30 marks)
- IV. How would you identify the causative bacterium in the routine laboratory? (20 marks)
- V. Name a vaccine available for TB. (10 marks)
- VI. If this patient is diagnosed to have TB, what would be the treatment plan? (20 marks)
