BRAINWARE UNIVERSITY

Term End Semester Examinations, July- 2023

Programme – Bachelor of Science in Nursing

Course Name – Applied Microbiology and Infection Control including Safety

Course Code – MICR 201

(Semester – III)

Time allotted: 3 hrs.   Full Marks: 75

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable. Write answer of Section – A and Section –B in separate Answer booklet.]

Section – A

(Applied Microbiology)   Marks - 37

Group – A (Multiple Choice Question)   6 x 1 = 6

1. Select the correct answer of the following :-

i)   Scientist who disproved theory of spontaneous generation

| a | Koch | b | Pasteur |
| c | Jenner | d | Ananda Mohan |

ii) Name of the acid fast bacteria is

| a | E.coli. | b | Staphylococcus aureus |
| c | Mycobacterium tuberculosis | d | Candida albicans |

iii) Identify the culture media required for the growth of fastidious bacteria

| a | General purpose media | b | Reducing media |
| c | SIM media | d | Enrichment media |

iv) Identify the causative agent of Syphilis

| a | Entamoeba histolytica | b | Neisseria gonorrhoeae |
| c | Plasmodium vivax | d | Treponema pallidum |

v)   For Gram staining, identify the primary stain

| a | Safranin | b | Acid fuchsin |
| c | Iodine | d | Crystal violet |

vi) The organ of adhesion in bacteria is

| a | Flagella | b | Fimbriae |
| c | Capsule | d | Mesosome |

Group – B (Essay/ Long answer type question)   1 x 10 = 10

(*Answer Any One Question*)

2. Describe the 4 phases of the bacterial growth curve with the help of a graph   [10]

3. Discuss the classification of bacteria depending on temperature with example   [10]

Group – C (Short answer type question)   3 x 5 = 15

(*Answer Any Three Questions*)

4. Describe the structure of Gram Positive bacterial cell wall with suitable example   [5]

5. Describe the term "Enveloped virus" with the help of proper diagram   [5]

6. Differentiate between innate immunity and acquired immunity. Discuss about type I   [5]
    hypersensitivity

7. "Lag phase is known as adjustment phase"- interpret the statement in relation with   [5]
    bacterial growth curve

Group – D (Very short answer type question)   3 x 2 = 6

(*Answer Any Three Questions*)

8. Discuss about phagocytosis as an innate immunity parameter   [2]

9. Define selective media with suitable example   [2]

10. All immunogens are antigens, not all antigens are immunogens-explain the statement   [2]

11. Define the term amphitrichous flagella with diagram and example   [2]

Section – B

(Infection Control including Safety)   Marks-38

Group – A (Multiple Choice Question)   7 x 1 = 7

12. Select the correct answer of the following :-

i)   Hospital acquired urinary tract infection is caused by

a	Escherichia coli.	b	Klebsiella species
c	Proteus species	d	All of the above

ii) Select the criteria of standard precautions-

a	Hand hygiene	b	Use of PPE
c	Respiratory hygiene	d	All of the above

iii) Identify the vial used to collect blood sample for the estimation of complete blood count (CBC)-

a	Plain vial	b	EDTA vial
c	Fluoride vial	d	Citrate vial

Choose the treatment technique for red category waste-

a   Incineration   b   Deep pit disposal

c   Autoclave and shredding   d   None of the above

v)   Identify the temperature required for antimicrobial action in laundering process-

a.   160°F   b   100°F

c   70°F   d   200°F

vi)   Select the key parameter of an IPSG to reducing the healthcare associated infections

a   Use of antibiotics   b   Hand hygiene

c   Communication   d   All of the above

vii)   Identify risk factors for the needle stick injuries

a   Mishandling of the after use needles   b   Disposal of tubing with attached needles

c   Manipulation of the needles during use on   d   All of the above
the patient

Group – B (Essay/ Long answer type question)   1 x 10 = 10

(Answer Any One Question)

13.   Discuss in details about the management of special chemical HAZMAT spill.   10

14.   Discuss the care of vulnerable patients in details   6+2+2=10

Group – C (Short answer type question)   3 x 5 = 15

(Answer Any Three Questions)

15.   Discuss about Pasteurization   [5]

16.   Write short notes on PEP   [5]

17.   Define biomedical waste. Write the principles of biomedical waste management.   2+3= [5]

18.   Discuss the management of blood and body fluid spill in healthcare settings   [5]

Group – D (Very short answer type question)   3 x 2 = 6

(Answer Any Three Questions)

19.   Identify bacteria causes tuberculosis?   [2]

20.   List down the types of Hospital Acquired Infection   [2]

21.   Define RACE and PASS.   [2]

22.   Differentiate between incidents and adverse events   [2]