REV-01
BOP/15/20

2025/11

SET A

BACHELOR OF OPTOMETRY
THIRD SEMESTER
PATHOLOGY AND MICROBIOLOGY
BOP-303

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 1hr. 30 mins. **Full Marks: 35**

Objective

Time: 15 mins. **Marks: 10**

Choose the correct answer from the following: ***1×10=10***

1. Humoral branch of immunology deals with:
   a. B cells
   b. Antibodies
   c. T cells
   d. Both a and b

2. What happens when phagocytes cross through permeable capillaries during inflammatory response?
   a. Dilation of capillaries
   b. Release of lytic enzymes
   c. Increase in local temperature
   d. All of the above

3. Mast cells and basophils are involved in.....
   a. Phagocytosis
   b. Elimination
   c. Allergic reactions
   d. All of the above

4. Grave's disease is related to:
   a. Hyperthyroidism
   b. Hypothyroidism
   c. Diabetes mellitus
   d. Both a and b

5. Blood transfusion reactions and Erythroblastosis fetalis is an example of:
   a. Type I
   b. Type II
   c. Type III
   d. Type IV

6. Thermophiles belong to group of bacteria surviving in:
   a. High temperature
   b. Antarctic regions
   c. High salt regions
   d. High acidic regions

7. Example of DNA virus:
   a. HIV
   b. Influenza virus
   c. Corona virus
   d. TMV

8. Capsomeres are the subunits present in:
   a. Viral nucleic acid
   b. Envelope
   c. Surface proteins
   d. Capsid

9. Acid fasting staining is used in:
   a. *E.coli*
   b. Mycoplasma
   c. Bacilli
   d. All of the above

10. Mediators that indicate liver infection:
    a. C reactive protein
    b. Histamine
    c. Antibodies
    d. None of the above

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Descriptive

Time : 1 hr. 15 mins. Marks : 25

[Answer question no.1 & any two (2) from the rest]

1. Give the difference between innate and adaptive immunity. Describe inflammatory response. 2+3=5

2. Describe the organ that is involved in responding against blood borne antigens with a suitable diagram. What is active and passive immunity? What is the function of macrophages and B cells? Explain. Explain chronic inflammation. 3+2+3+2=10

3. Explain Hashimoto's thyroiditis and SLE. What is the meaning of hypersensitivity? What happens to patients with asthma? Explain in brief. What are the cells involved in Delayed type hypersensitivity and how they are involved in destruction of tissues? 4+1+2+3=10

4. Explain the procedure of Gram staining and endospore staining. Classify bacteria based on structure, shape and nutrition. 4+6=10

5. Why virus is not included under the term 'microbes'? Explain how virus and bacteria is different from each other. Classify virus based on genome and Baltimore with examples. Explain viral morphology. 1+2+5+2=10

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