

- Q2) A)** Answer the following questions in three to four lines each. (2 out of 3) [4]
- a) What was the cause of George’s worry in the story?
 - b) Who were the incredible women in Indian history referred by Sudha Murty?
 - c) How was the first stage of pilgrimage?
- B)** Write a short note on the following in about 7-8 sentences. (any one)[4]
- a) The American
 - b) “Enterprise” as a social satire
- C)** Do as directed. [2]
- a) Write the noun form of the word “beautiful”
 - b) Give antonyms of “honest”
- Q3) A)** a) Suppose you have been called for an interview for the post of Chemist. Write a piece of conversation between you and the interviewer. [8]

OR

- b) Read the following advertisement carefully and answer the questions given below the advertisement. [8]

A Fast Growing Pharma Allopathic Company
AREA SALES MANAGER - 02 Posts
HQ - Pune (Independent working)
Candidates must have 3-5 years’ experience in
Pharmaceutical industry as an M.R. or Area Manager.
Walk in for interview on SUNDAY
Date 22nd Sept., 2019 between 09.00 to 02.00 p.m. at
Hotel Natraj, Pune-Bangalore Road, Pune.
Director, Lifeline Health Care Pvt. Ltd.,
Pune, Cell No. 8050399456

- i) What certificates will you take with if you are called for an interview for the post of area sales manager?
 - ii) Suppose you do not have any working experience, how will you answer the question about it?
 - iii) How will you explain you strong points to the interviewers?
 - iv) How will you introduce yourself?
- B) a) Suppose you participated in a N.S.S. residential camp for seven days. Write a Personal Blog describing your experiences there. [8]

OR

- b) Write an email to Municipal Corporation complaining about the bad condition of the roads in your area.

Q4) A) Write a report about your participation in a Cultural Event. [8]

OR

- B) Write a well-organized paragraph on 'My First Experience of Travelling by Train'.



Seat No.	
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B.Sc. (Part - III) (Semester - V) (CBCS) Examination, January - 2023

MICROBIOLOGY

Virology (Paper - IX)

Sub. Code : 79708

Day and Date : Tuesday, 03 - 01 - 2023

Total Marks : 40

Time : 2.30 p.m. to 4.30 p.m.

- Instructions :**
- 1) All questions are Compulsory.
 - 2) Figures to the right indicate full marks.
 - 3) Draw neat and well labeled diagrams wherever necessary.

Q1) Complete the following sentences by selecting the correct answers from the given alternatives: [8]

- a) During lysogenic interation lambda phage genome gets integrated in between _____ genes of *E.coli*.
 - i) gal & bio
 - ii) Pro A & Pro B
 - iii) his & bio
 - iv) Pro A & gel
- b) Cancer cell shows a loss of _____ which is characteristic feature of normal cells.
 - i) Precipitation
 - ii) Anchorage independence
 - iii) Contact inhibition
 - iv) Aggregation
- c) Lytic cycle of Lambda phage is established by _____ gene.
 - i) Cro
 - ii) C I
 - iii) C II
 - iv) C III
- d) HIV is a _____ virus.
 - i) Naked
 - ii) Complex
 - iii) Helical
 - iv) Enveloped
- e) The suffix oma & mia indicate _____ & _____ respectively.
 - i) Disease & tumor
 - ii) tumor & cancer
 - iii) Cancer & disease
 - iv) family & genus

P.T.O.

- f) Brain tumor is _____ type of cancer.
- i) Leukemia
 - ii) Sarcomas
 - iii) Lymphoma
 - iv) Carcinoma
- g) Q X 174 bacteriophage contain _____ capsomers in its capsid.
- i) 60
 - ii) 32
 - iii) 12
 - iv) 72
- h) Infectious RNA without protein is known as _____.
- i) Prion
 - ii) Virus
 - iii) Viriod
 - iv) Viriod & Prion

Q2) Attempt any two of the following: [16]

- a) Write in detail isolation of T4 bacteriophage.
- b) Explain isolation of animal viruses.
- c) What is oncogenic viruses? Explain DNA tumor viruses with examples.

Q3) Write short notes on any four: [16]

- a) Characters of prions.
- b) Oncogene theory.
- c) Structure of AIDS virus.
- d) Characters of viroids.
- e) Enumeration of bacteriophage by plaque method.
- f) One step growth curve.



Seat No. **January - February (Winter) Examination - 2023**

Subject Name: B.Sc. (CBCS)_79709_Microbiology Paper X_04.01.2023_02.30 PM to 04.30 PM

Subject Code: 79709

Day and Date: Wednesday, 04-01-2023

Time: 02:30 pm to 04:30 pm

Total Marks: 40

Instructions.:

- 1) All questions are compulsory
- 2) Figures to the right indicate full marks

Special Instruction.:

Draw neat and well labeled diagram wherever necessary

Q.1. Complete the following sentences by selecting the correct answer from the given alternatives [8]

i) is designed to trap the tissue borne antigens.

- A) Liver B) Lymph Node
C) Tonsils D) Spleen

ii) The molecular interaction between an antigen-specific CD4+ T cell and APC vialeads full activation of CD4+ T cell.

- A) MHC I -TCR and CD40 - CD40L
B) MHC I -TCR and B7 - CD 28
C) MHC II -TCR and B7 - CD 28
D) MHC II -TCR and CD40 - CD40L

iii) Interferonis immunomodulatory in action.

- A) Alpha B) Beta
C) Gamma D) Lambda

iv) The sequestered antigen is.....

- A) not in contact with the immune system
B) in contact with the immune system
C) a cancerous antigen
D) a histocompatible antigen

v) Type..... hypersensitivity is also known as immune complex hypersensitivity

- A) I B) II
C) III D) IV

vi) is a hallmark of Type I hypersensitivity.

- A) IgG B) IgM
C) IgD D) IgE

vii) portion of mouse monoclonal antibody needs to be replaced with their counter portions from human antibody to make it more humanized.

- A) Hinge
B) Constant
C) Variable region of light chain
D) Heavy region of light chain

viii) The classical pathway begins with the hydrolysis of component / components.

- A) C1 B) C4
C) C2 D) C2 & C4

Q.2. Attempt any two of the following [16]

i) What is Hypersensitivity? Explain in detail the reaction mechanism of type III hypersensitivity with suitable example

ii) Explain in detail the antigen processing and presentation by cytosolic and endocytic pathway

iii) Describe in details the complement activation by the classical pathway.

Q.3. Write short notes on any four

[16]

- i) Types of autoimmune diseases**
- ii) Types of monoclonal antibodies**
- iii) The Structure of membrane attack complex (MAC)**
- iv) Applications of Interferons**
- v) The Gell and Coomb Classification of Hypersensitivity**
- vi) Rheumatoid Arthritis**

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Seat No.	
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**B.Sc. (Part - III) (Semester - V) (CBCS) Examination,
January - 2023
MICROBIOLOGY
DSE E51 : Food and Industrial Microbiology (Paper - XI)
Sub. Code : 79710**

Day and Date : Thursday, 05 - 01 - 2023

Total Marks : 40

Time : 02.30 p.m. to 04.30 p.m.

- Instructions :
- 1) All questions are compulsory.
 - 2) Figures to the right indicate full marks.
 - 3) Draw neat labeled diagrams wherever necessary.

Q1) Rewrite the following sentences by selecting correct alternative. [8]

- i) The aflatoxins are produced by _____.
 - a) *Aspergillus flavus*
 - b) *Aspergillus oryzae*
 - c) *Penicillium crysogenum*
 - d) *Aspergillus nidulans*
- ii) Symptoms of Staphylococcal food poisoning occur within _____ of food ingestion.
 - a) 2-4 hrs
 - b) 24 hrs
 - c) 1 week
 - d) 48 hrs
- iii) _____ are commonly used organisms in probiotics.
 - a) Viruses
 - b) *Salmonella spp.*
 - c) *Lactobacillus spp.*
 - d) *Vibrio spp.*
- iv) Most fresh plant and animal foods have a _____ Oxidation reduction potential.
 - a) low and well poised
 - b) high
 - c) positive
 - d) very high
- v) The pigment from grape skin which is responsible for colour of red wine is _____.
 - a) Pyocyanin
 - b) Anthocyanin
 - c) Lecithinin
 - d) cytokine

P.T.O.

Seat No.	
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January - February (Winter) Examination - 2023

Subject Name: B.Sc. (CBCS)_79711_Microbiology Paper XII_06.01.2023_02.30 PM to 04.30 PM

Subject Code: 79711

Day and Date: Friday, 06-01-2023

Time: 02:30 pm to 04:30 pm

Total Marks: 40

Instructions.:

- 1) All questions are compulsory
- 2) Figures to the right indicate full marks
- 3) Use Sketches/Diagrams wherever necessary

Q.1. Rewrite the following sentences by choosing the correct alternative. [8]

a) The common medium used for the isolation and cultivation of phosphate-solubilizing bacteria is _____.

- | | |
|---------------------|-------------------------|
| i) Okon's medium | ii) Jensen's medium |
| iii) Ashby's medium | iv) Pikovskaya's medium |

b) _____ refers to the decomposed mixture of dung and urine of farm animals along with their litter and left-over material from roughages or fodder fed to the cattle.

- | | |
|----------------------|------------------|
| i) City compost | ii) Vermicompost |
| iii) Farmyard manure | iv) Green manure |

c) _____ does not have an atmospheric component to the cycle.

- | | |
|---------------------|----------------------|
| i) Carbon cycle | ii) Phosphorus cycle |
| iii) Nitrogen cycle | iv) Oxygen cycle |

d) An abnormal condition in which the leaves form a radial cluster on the stem is called as _____.

- | | |
|------------------|------------------|
| i) rosetting | ii) damping off |
| iii) anthracnose | iv) downy mildew |

e) The causative agent of citrus canker is _____.

- | | |
|---|------------------------------------|
| i) <i>Xanthomonas axonopodis</i> pv. <i>citri</i> | ii) <i>Cercospora arachidicola</i> |
| iii) <i>Xanthomonas axonopodis</i> pv. <i>punicae</i> | iv) <i>Cercospora personata</i> |

f) _____ is a type of symbiotic association that benefits one species and the other species is harmed.

- | | |
|-----------------|------------------|
| i) Mutualism | ii) Parasitism |
| iii) Amensalism | iv) Commensalism |

g) The conversion of a non-toxic molecule into a toxic molecule is termed as _____.

- | | |
|------------------|--------------------|
| i) defusing | ii) activation |
| iii) conjugation | iv) detoxification |

h) _____ refers to the relative proportions of sand, silt and clay particles in the soil.

- | | |
|---------------------|------------------|
| i) Soil profile | ii) Soil texture |
| iii) Soil structure | iv) Soil tilth |

Q.2. Attempt any Two. [16]
a) Describe in detail production of *Azotobacter* biofertilizer.
b) Describe in brief microbial biodegradation of cellulose.
c) Describe in detail role of microorganisms in nitrogen cycle.

Q.3. Attempt any Four. [16]
a) Tikka disease of groundnut
b) Mass production of *Beauveria bassiana*
c) Modes of transmission of plant diseases
d) Green manure
e) Soil profile
f) Phosphorus cycle

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