

SEAT No. _____
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SARDAR PATEL UNIVERSITY
B.Sc (Semester V) Examination 2022
Date: 12th November 2022
10.00 am to 1.00 pm
Subject-Microbiology
US05CMIC23 – Virology and Mycology

Total Marks: 70

N.B. (i) All questions are compulsory. (ii) Figures on right indicate marks.

Q.1. Select the right answer.

(10)

- 1) Phage T4 protects itself against host restriction enzymes by modifying Cytosine into _____.
(a) Pseudouridine (b) 5-hydroxy methyl cytosine
(c) 5-hydroxy methyl uridine. (d) None of these.
- 2) Injection of filamentous phage DNA into the host bacterium occurs _____.
(a) Via pilus (b) By Surface attachment
(c) By transformation (d) By transfection.
- 3) _____ serves as receptor for HIV.
(a) CD3 marker for cell. (b) Epidermal growth factor.
(c) CD4 protein on T-Helper cell. (d) None of these.
- 4) Majority of plant viruses are _____.
(a) RNA genome & enveloped (b) DNA genome & enveloped
(c) DNA genome & non enveloped (d) RNA genome & non enveloped.
- 5) Release of Influenza virus occurs by _____.
(a) Cell lysis (b) Apoptosis
(c) Plasma membrane budding (d) None of these.
- 6) Bessey included Lower fungi in _____ class.
(a) Phycomycetes. (b) Basidiomycetes
(c) Ascomycetes. (d) Deuteromycetes.
- 7) Fungi that lives as parasite, but can also grow as saprophyte _____.
(a) Facultative parasites (b) Obligate saprophyte
(c) Facultative saprophyte (d) Obligate parasite
- 8) In _____ fungi vegetative and reproductive stages occur together in same thallus.
(a) Holocarpic (b) Eucarpic
(c) Coenocytic (d) Saprophytic
- 9) Secondary metabolites are _____.
(a) Storage products (b) Advantageous chemicals
(c) Chance products (d) All of these.
- 10) *Claviceps purpurea* produces _____ toxin
(a) Yellowed rice (b) Afla
(c) Ergot (d) Amanita

(P. T. O.)

Q.2) Answer in brief (Any10)

(20)

- 1) Enlist early events during phage intracellular development.
- 2) Explain role of CIR protein in lysogeny.
- 3) What is phage conversion? Give example.
- 4) Give examples of insect viruses.
- 5) Write two characteristics of viruses that infect higher fungi.
- 6) Name two viral pandemics.
- 7) What is Mycorrhiza?
- 8) Draw labelled diagram of "9+2" fungal flagella.
- 9) Define: Homothallism and Heterothallism.
- 10) What are secondary metabolites? Give two examples.
- 11) Differentiate: Oropharyngeal Candidiasis and Intertriginous Candidiasis.
- 12) Name enzymes produced by *Apergillus flavus*.

Q.3) Explain molecular mechanism of establishment and maintenance of lysogeny of lambda phage.

(10)

OR

Q.3) (a) Write a note on RNA Phages.

(05)

(b) What are virulent bacteriophages? Explain adsorption and penetration of phage T4 in host *E.coli*.

(05)

Q.4) Explain: Major steps of life cycle of DNA containing Animal viruses.

(10)

OR

Q.4) (a) Short Note: Oncogenic viruses.

(05)

(b) Explain: TMV structure and life cycle.

(05)

Q.5) Write in detail: Sexual Reproduction in fungi.

(10)

OR

Q.5) (a) List major and minor fungal nutrition and explain carbon source in detail.

(05)

(b) Short Note: Fungal classification by Martin.

(05)

Q.6) Explain in detail: Fungal Sex Hormones.

(10)

OR

Q.6) (a) Explain: Aflatoxin.

(05)

(b) Short Note: Blastomycosis.

(05)

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