

SEAT No. _____

[70/A-5]

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SARDAR PATEL UNIVERSITY

B.Sc Sem-5

Date: 7 October 2025

Subject-Microbiology

US05CMIC53 – Virology and Mycology



Time: 10.00 am to 1.00 pm

Total Marks: 70

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

Q.1. Select the right answer.

(10)

- 1) The viral nucleocapsid is combination of _____.
(a) Capsid and spikes. (b) Genome and capsid.
(c) Envelope and capsid. (d) Capsomere and genome.
- 2) _____ is an example of temperate bacteriophage.
(a) T3. (b) T2.
(c) Lambda. (d) QX-174.
- 3) _____ is an example of tailed virus.
(a) Virus of Uronema gigas. (b) Mimivirus.
(c) Virus of Paramecium busaria. (d) None of these.
- 4) _____ viruses have gap in ds-DNA genome.
(a) Herpes. (b) Pox.
(c) Hepadna. (d) Parvo.
- 5) Early m-RNA of _____ is synthesized by viral polymerase.
(a) Parvo viruses (b) Pox virus.
(c) Hepadna viruses (d) Orthomyxo viruses.
- 6) An individual which functions both as donor and recipient of nucleus is known as _____.
(a) Monoecious. (b) Dioecious
(c) Trioecious. (d) None of these.
- 7) Fungal fruiting bodies are known as _____.
(a) Sporodochium. (b) Acervulus.
(c) Synnema. (d) All of these.
- 8) *Claviceps purpurea* produces _____ toxin.
(a) Afla. (b) Tremmerogenic.
(c) Amanita. (d) None of these.
- 9) Superficial mycosis is caused by _____.
(a) *Mucor mucedo*. (b) *Tinea versicolor*.
(c) *Candida albicans*. (d) *Sporothrix*.
- 10) _____ fungal disease reduces photosynthetic activity of plant.
(a) Early blight of potato. (b) Late blight of potato.
(c) Leaf spot of groundnut. (d) None of these.

[P.T.O.]

(1)

Q.2) Answer in brief (Any10)

(20)

- 1) Differentiate: Virulent and temperate bacteriophages.
- 2) Define: 1) Early m-RNA 2) Concatamers.
- 3) What is Burst size?
- 4) Draw a labelled diagram of TMV.
- 5) What are insect viruses? State their uses.
- 6) What are Scaffolding proteins?
- 7) Write about fungal classification by Copeland.
- 8) List fungal aggregations and modifications.
- 9) Define: Homothallism and Heterothallism.
- 10) Define secondary metabolite. Give examples.
- 11) Differentiate: Cutaneous and subcutaneous mycosis.
- 12) List mushroom toxins.

Q.3) (a) Explain intracellular development of T even phage in their host *E.coli*.

(05)

(b) Discuss: Role of lambda repressor molecule in establishing lysogeny.

(05)

OR

Q.3) (a) Explain: Doermann's premature lysis experiment.

(05)

(b) Short note: RNA bacteriophages.

(05)

Q.4) Write an Essay: Relationship of human and viruses.

(10)

OR

Q.4) (a) Short Note: Impact of viruses on Industry.

(05)

(b) Explain: Oncogenic viruses.

(05)

Q.5) Write in detail: Asexual reproduction in fungi.

(10)

OR

Q.5) (a) Explain: Nitrogen as a source in fungal nutrition.

(05)

(b) Short Note: Parasexual cycle.

(05)

Q.6) (a) Write a note on: Candidiasis.

(05)

(b) Explain: Fungal sex hormones.

(05)

OR

Q.6) (a) Explain: Role of fungi in medicine.

(05)

(b) Short Note: Aflatoxin.

(05)


