

SEAT No. _____



No. of Printed Pages : 02

[135/A-21]

SARDAR PATEL UNIVERSITY

B.Sc Examination, November 2021

US05CMIC23, Virology and Mycology

25.11.2021, Thursday, 3.00-5.00 p.m.

Total Marks: 70

N.B. (i) Marks are indicated on the right hand side (ii) Attempt all questions.

Q.1. Select the most appropriate answer. (10)

1. ----- HMC residues protects T₄ DNA from attack by *E coli* endonucleases.
(a) glucosylated (b) hydrated
(c) non glucosylated (d) none of the above
2. The development of one step growth experiment in 1939 by ----- and ----- marks the beginning of modern bacteriophage research.
(a) L. Pasteur and R. Koch
(b) C. Chamberland and Dmitri
(c) F. Loeffler Paul Frosch
(d) None of the above
3. ----- is a modified nucleotide that replaces cytosine in T₄ DNA.
(a) HNC (b) HMV
(c) HNA (d) none of them
4. EBV causes
(a) Burkitts lymphoma (b) malaria
(c) plague (d) none of the above
5. Rous Sarcoma virus carries a mutated oncogenic src gene that codes for an overactive
(a) Tyrosine lyase (b) Tyrosine kinase
(c) Tyrosine phosphorylase (d) none of them
6. ----- bodies are the classical histopathological feature of rabies.
(a) Downie (b) Guarnieri
(c) Paschen (d) Negri
7. Forming the core of the flagellum is a central or axial filament known as
(a) dioneme (b) axoneme
(c) end piece (d) none of them
8. Reproduction by fission occurs in
(a) *Schizosaccharomyces pombe* (b) *Saccharomyces cerevisiae*
(c) *Rhizophydium* (d) none of them
9. Tinea barbae is an infection of beard hair caused by
(a) *Trichophyton mentagrophytes* (b) *A. parasiticus*
(c) *Candida tropicalis* (d) *Magnaporthe grisea*
10. Ergot toxin is produced by
(a) *Penicillium notatum* (b) *Mucor mucedo*
(c) *Alternaria solani* (d) none of them



PTO

Q.2. (A) Fill in the blank

(04)

1. The prohead in T_4 bacteriophage is assembled with the aid of ----- proteins.
2. HIV has ----- that copies + RNA genome to form – DNA molecule.
3. The other name of the whiplash flagellum is ----- .
4. *Fusidium coccineum* produces -----.

(B) State whether the following statements are true or false

(04)

1. Tournefort was the first scientist who tried to classify fungi in his book *Theatricum Botanicum Fungium*.
2. Iridoviridae are responsible for iridescent viral disease of the crane fly and some beetles.
3. Moyer coined the terms erotactins, erotropins and erogens.
4. MS_2 phage belongs to the Leviviridae family.

Q.3. Attempt any ten out of the following.

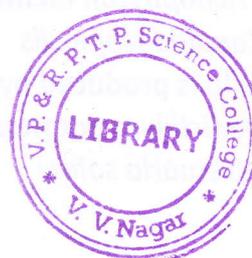
(20)

1. What advantages might a phage gain by being capable of lysogeny?
2. Describe lysogenic conversion and its significance.
3. Define (i) lysogeny (ii) prophage
4. What is a cytotoxic infection?
5. Define (i) anaplasia (ii) metastasis.
6. Why are Baculoviruses so promising as biological control agents for insect pests?
7. Draw and label haustorium of fungi.
8. Enlist the names of four scientists who have contributed towards fungal classification.
9. What is mycorrhiza? What are its types?
10. Explain using one example how the fact that production of secondary metabolite is inversely related to growth can be made use of in industrial production of the same.
11. What is sporotrichosis?
12. Describe piedra that infects humans.

Q.4. Attempt any four out of the following.

(32)

1. Write a note on life cycle of virulent phage citing an example.
2. Write a note on one step growth experiment.
3. Write a note on genome replication and transcription in DNA viruses.
4. Write a note on plant viruses.
5. Write a note on heterothallism.
6. Describe mycelial modification in fungi.
7. Write a note on sex hormones in fungi.
8. Write a note on aflatoxins and amanita toxins.



— X —

(2)