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Reg. No. : .....

Code No. : 5751

Sub. Code : ZMBM 23

CBCS) DEGREE EXAMINATION, APRIL 2022

Second Semester

Microbiology — Core

VIROLOGY

For those who joined in July 2021 onwards)

Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

Which of the following statement is not true?

- Virus contains DNA or RNA
- The nucleic acid of a virus is surrounded by a protein coat
- Viruses multiply inside living cells using viral mRNA
- Viruses multiply inside living cells

Which of the following is not a method by which a virus enters a healthy host?

- by vectors
- meristem
- infected fungal spores
- through wounds

The 'corona' in coronavirus means \_\_\_\_\_

- sun (b) barley
- strong (d) crown

An effective hand sanitizer contains at least \_\_\_\_\_ percentage of alcohol to kill the coronavirus and other germs.

- 30% (b) 45%
- 60% (d) 80%

A viroplasm is \_\_\_\_\_

- A satellite nucleic acid
- A non-coding RNA
- A ribozyme
- All of these

The term vaccine was introduced by \_\_\_\_\_

- Edward Jenner (b) Robert Koch
- Louis Pasteur (d) Von Behring

- Which of the following characteristics or processes is common to both bacteria and viruses?
  - Nucleic acid as the genetic material
  - Binary fission
  - Ribosome in the cytoplasm
  - Conjugation
- If one  $\lambda$  phage infects a bacterium lysogenic for  $\lambda$  which one of the following will probably happen?
  - A normal phage cycle will commence producing 50-100 phage particles
  - The  $\lambda$  DNA will circularize but will not replicate
  - The bacterium will die
  - The  $\lambda$  DNA will not be injected
- What is the capsid (protective coat) of the bacteriophage made up of?
  - DNA (b) RNA
  - Protein (d) Organic acid
- The genome of cauliflower mosaic virus is \_\_\_\_\_
  - positive stranded RNA
  - single stranded DNA
  - double stranded DNA
  - double stranded RNA

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

- (a) Write about virus classification based on its nucleic acids.

Or

- (b) How are viruses classified and named?

- (a) Write about P1 phage.

Or

- (b) Discuss about T4 phage and its replication pattern.

- (a) Explain about sugar cane mosaic virus.

Or

- (b) Discuss about TMV virus.

- (a) Write about chemical characters of orthomyxo virus.

Or

- (b) Discuss about herpes virus.

15. (a) Brief account of satellite RNA.

Or

(b) Give an account of antiviral agents.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

16. (a) What is the evolutionary purpose of viruses? Explain.

Or

(b) Why are viruses classified by their structure? Write notes on viral classification based on its structure.

17. (a) Write a detail notes on MU phage.

Or

(b) Discuss in detail about lytic cycle.

18. (a) Write a detail notes on the structure and replication mode of paddy infected virus.

Or

(b) 'RNA as the initiator of plant virus infection' — Justify.

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19. (a) Discuss in detail about adenovirus.

Or

(b) Explain about tumour viruses of humans.

20. (a) Give an account of virusoids.

Or

(b) Describe in detail about mycophages.

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