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Roll No.

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**C.B.S. (Eighth Semester)
EXAMINATION, MAY-JUNE, 2022
(VIROLOGY)
(B - 801)**

Time : Three Hours]

[Maximum Marks : 40

Note : Attempt all sections as directed.

(Section-A)

(Objective/Multiple Choice Questions)

(0.5 mark each)

Note- Attempt all questions.

Choose the most appropriate answer.

1. Which of the following is a helical virus?

- (A) TMV
- (B) T4 Phage
- (C) Poxvirus
- (D) Herpes Virus

2. A fully formed infectious viral particle is called

- (A) Virion
- (B) Viriod
- (C) Capsid
- (D) Virusoid

3. Bacteriophages that induce bacterial cell lysis are called

- (A) Viroids
- (B) Lysogenic Phages
- (C) Virulent Phages
- (D) Temperate Phages

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4. Who is the father of Virology?
- (A) Martinus Beijerinck
 - (B) Dmitri Ivanovsky
 - (C) John Ellerman
 - (D) Frederick Twort
5. Which of the following phase determines the specificity of the virus?
- (A) Uncoating
 - (B) Release
 - (C) Attachment
 - (D) Penetration
6. Which of the following virus does not use the CXCR4 molecule as a receptor?
- (A) SIV
 - (B) Poliovirus
 - (C) HIV-2
 - (D) HIV-1

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7. Which of the following organelle prevents the entry of viruses in plant cells?
- (A) Cell Wall
 - (B) Golgi Bodies
 - (C) Plasma Membrane
 - (D) Mitochondria
8. Which of the following viruses are best known for latent infections?
- (A) Herpes Virus
 - (B) Polio Virus
 - (C) HIV
 - (D) Rhinovirus
9. Which of the following is/are the class of oncolytic viruses?
- (A) Herpes Simplex Virus
 - (B) Adenovirus
 - (C) Coxsackievirus
 - (D) All of the above

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10. The L gene in rabies virus indicates

- (A) Large Polymerase Gene
- (B) Large Matrix Protein Gene
- (C) Large Glycoprotein Gene
- (D) Large Matrix Gene

11. 8 segmented RNA genome is found in

- (A) Influenza Virus
- (B) Pox Virus
- (C) Rabies Virus
- (D) Polio Virus

12. Which of the following subfamily contains the Epstein-Barr virus?

- (A) Alphaherpesviridae
- (B) Betaherpesviridae
- (C) Gammaherpesviridae
- (D) Thetaherpesviridae

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13. The Epstein-Barr virus replicates in the epithelial cell of the-

- (A) Pancreatic Glands
- (B) Salivary Glands
- (C) Skin
- (D) Kidney

14. All of the following are example of clinically important specimens that are used for the laboratory diagnosis of HIV infection, **EXCEPT?**

- (A) Blood
- (B) Saliva with the presence of blood
- (C) Genital secretions
- (D) Urine with no presence of blood

15. The Phages that show lysogenic cycle are called

- (A) Lytic Phages
- (B) Virulent Phages
- (C) Temperate Phages
- (D) None of these

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16. Neurodegenerative diseases such as mad cow and Kuru diseases are caused by infectious particle known as

- (A) Coronavirus
- (B) Viroids
- (C) Retrovirus
- (D) Prions

17. _____ is a protein having partial with no detachable nucleic acid.

- (A) Proteins
- (B) Viroid
- (C) Prions
- (D) Virion

18. Which of the following group of viruses generally attack plants?

- (A) Retroviruses
- (B) Riboviruses
- (C) Rheoviruses
- (D) Enteroviruses

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19. Which of the following is not a common measure of controlling viral infections?

- (A) Using healthy virus-free seeds
- (B) Antibiotics
- (C) Using Resistant Varieties
- (D) Protection from Insect Vectors

20. Which of the following may contain satellite RNAs?

- (A) Plant Viruses
- (B) Bacteriophages
- (C) Prions
- (D) Viroids

(Section- B)

(Very Short Answer Type Questions)

(0.75 marks each)

Note : Attempt all questions.

1. What is the pro-phase stage of virus life cycle?
2. What are the viroids?
3. What are the vaccine vectors?

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4. What is gene therapy?
5. Give an outline *Temin and Baltimore* classification of viruses.
6. What is the difference between + sense and sense RNA viruses.
7. How does evolution occurs in viruses?
8. Define the "virus first" hypothesis.
9. What the prions?
10. Give the structure of TMV.

(Section - C)

(Short Answer Type Questions)

(1.25 marks each)

Note : Attempt all questions.

1. Explain the cryptogram of viral nomenclature.
2. Write different properties of a virus.
3. Write different theories of virus origin.
4. What is the role of viruses as vaccine vectors?
5. Write the mode of action of oncolytic viruses.
6. Explain the structure and genetics of rabies virus.

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7. Write about the replication mode of retroviruses.
8. Describe the detailed structure of Human Immunodeficiency Virus.
9. What are the prion diseases?
10. Explain the life cycle bacteriophages.

Section D

(Long Answer Type Questions)

(2 marks each)

Note:- Attempt all questions.

1. Explain different virological methods in detail.

OR

Explain the different mode of viral entry and transmission.

2. Explain the immune response mechanism during a viral infection.

OR

What is the role of viruses in gene therapy and vaccine development?

3. Describe the detailed mechanism of action of oncolytic viruses.

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OR

Give a detailed account on *Polioviruses*, their replication mode and epidemiology.

4. Give a detailed account on *prox viruses* and their mode of transmission.

OR

Give a detailed account on HIV.

5. Describe the plant viruses in detail.

OR

Give a detailed account of Hepatitis B viruses and their mode of action.