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(20517)

Roll No. 9332034

B.Sc. (Bio-Tech.) -III Year

**NS-3475**

**B.Sc. Bio-Technology Examination,  
May 2017**

**Molecular Virology**

**(B-303)**

**(New)**

*Time : Three Hours )*

*[Maximum Marks : 75*

**Section-A**

**Note :** All questions are **compulsory**. Each question carries 3 marks. Short answer is required not exceeding 75 words.

3×5=15

1. Virion
2. ELISA
3. Application of PCR
4. HIV
5. Structure of any ssRNA virus.

**P.T.O.**

### Section-B

**Note :** Attempt any **two** questions. Each question carries  $7\frac{1}{2}$  marks. Short answer is required not exceeding 200 words.

$$7\frac{1}{2} \times 2 = 15$$

6. Give a brief account of classification of animal virus.
7. Genome organisation of any plant virus and its replication.
8. Economic losses due to important plant viruses.

### Section-C

**Note :** Attempt any **three** questions. Each question carries 15 marks. Details answer is required.

$$3 \times 15 = 45$$

9. Give an account of important viral diseases in animals including type of disease, host, target tissue and mechanism of infection.

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10. Mention the structure and mechanism of "Hepatitis B" in detail.

11. Explain with the help of suitable diagram the serological methods i.e., direct, indirect and sandwich elisa used for quantification of viruses.

12. Discuss the suppressors of RNA silencing encoded by plant viruses and their role in viral infection.

13. Write notes on :

- (a) Herpes virus
- (b) Role of electron microscopy in diagnosis of viral infections

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Roll No. 1893162661

B. Sc.(Biotech.)-III Year

**NS-3475**

**B. Sc. (Biotechnology) Examination, May 2018**

**Molecular Virology**

**(B-303)**

**(New)**

*Time : Three Hours]*

*[Maximum Marks : 75*

**Note:** Attempt questions from all Sections as per instructions.

**Section-A**

**(Very Short Answer Questions)**

Attempt all the *five* questions. Each question carries 3 marks. Very short answer is required not exceeding 75 words.  $3 \times 5 = 15$

1. Viron.
2. Gene silencing.
3. HIV.

(2)

4. ELISA.
5. Antiviral assay.

**Section-B**

**(Short Answer Questions)**

Attempt any *two* questions out of the following three questions. Each question carries  $7\frac{1}{2}$  marks. Short answer is required not exceeding 200 words.  $7\frac{1}{2} \times 2 = 15$

6. Give a brief account of classification of animal virus.
7. Genome organization of any plant virus and its application.
8. Give an account of important diseases caused by animal viruses.

**Section-C**

**(Detailed Answer Questions)**

Attempt any *three* questions out of the following five questions. Each question carries 15 marks. Answer is required in detail.  $15 \times 3 = 45$

9. Explain in detail the replication of RNA viruses.

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10. Discuss the suppressors of RNA silencing encoded by plant viruses and their role in viral infection.
11. Write notes on the following :
  - (a) Role of electron microscopy in diagnosis of viral infection.
  - (b) ISEM.
12. Explain in detail the serological method that is direct, indirect and sandwich ELISA used for quantification of viruses.
13. Write notes on the following :
  - (a) Application of PCR
  - (b) Satellite virus.

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A

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Roll No. ....

B.Sc. (Bio-Tech.) III-Year

## **NS-3475 (CV)**

**B.Sc. Biotechnology III<sup>rd</sup> Semester**

**Examination, June- 2020**

**MOLECULAR VIROLOGY**

**(B-303)**

**(B.Sc. Biotech)**

*Time : Two Hours ]*

*[Maximum Marks : 75*

**Note:** Attempt any **four** questions. **All** the questions carry equal marks.

1. Describe the major steps in replication of a DNA virus.
2. Discuss the principle, procedure and applications of fluorescent microscopy.
3. Write detailed note on :
  - (a) Detection of virus growth in tissue culture
  - (b) Immuno-electrophoresis and its applications

**P.T.O.**

4. Enumerate five important Plant diseases caused by virus. Discuss etiology, disease systems and disease cycle of leaf curl of Papaya.
5. Write short note on the following :
  - (i) Biosafety-level-3
  - (ii) Baltimore classification
  - (iii) Epidemiology of HIV in India
  - (iv) Slow virus diseases
  - (v) Virul gastroenteritis
6. Enumerate the antigen-antibody reactions and describe the principle and types of enzyme linked immunosorbant assay (ELISA).
7. Classify the Hepatitis viruses. Discuss in detail the lab diagnosis of acute viral hepatitis.
8. Differentiate between the following :
  - (i) Prions and Virioids
  - (ii) Prokaryotes and Eukaryotes
  - (iii) Satellite virus and Satellite RNA
  - (iv) Viroid and Virusoid.

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(v) Lytic and Lysogenic Phages

9. Write detailed note on the following :
    - (a) PCR and its applications
    - (b) Immunosorbent electron microscopy (ISEM)
    - (c) Requirements of molecular virology laboratory
  10. Write in detail on in-vitro tissue culture methods. Include a note on nutritional requirements with cytopathic effects.
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