



# **BIOLOGY**

## **BOOKS - ARIHANT NEET BIOLOGY**

### **(HINGLISH)**

#### **VIRUSES**

#### **Check Point 3 1**

**1. Who coined the term 'Virus' ?**

**A. M Beijerinck**

B. Louis Pasteur

C. Alexander Fleming

D. Aristotle

**Answer: B**



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2. Viruses are small infective particles which are primarily made up of

A. nucleic acids and polysaccharides

B. lipids and proteins

C. nucleic acids and lipids

D. nucleic acids and proteins

**Answer: D**



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**3.** The fact that supports the concept that viruses are living is that they

A. are made up of common chemicals

B. duplicates themselves

C. causes disease

D. penetrate cell members

**Answer: B**



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4. The occurrence of viruses was discovered for the first time by

A. Francis Rous

B. Landsteiner and Popper

C. FW Twori

D. DJ Ivanowsky

**Answer: D**



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5. The term 'Virion' for a complete infective form of a virus outside the host cell was introduced by

- A. Monod, Jacob and Lwoff
- B. M Bishop and Harold Varmus
- C. FC Boden and Norman W Pirie
- D. Howard Temin and D Baltimore

**Answer: A**



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6. Which among the following is not a characteristic feature of viruses ?

- A. They can pass through bacterial filters
- B. On getting favourable conditions they can reproduce outside host cells
- C. They undergo mutations via making changes in their nucleic acids
- D. They can be preserved as crystals outside host cells

**Answer: B**



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7. Choose the characteristic features of a virus.

A. Multiply by own

B. Unaffected by antimicrobial drugs

C. They may undergo mutations

D. Both (b) and (c)

**Answer: D**



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8. Most specificity of a virus is due to

- A. Its nucleic acid
- B. an external envelope present in the virus
- C. its protein coat
- D. mesosome

**Answer: C**



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9. Enveloped virus containing glycoproteins are helpful in

- A. binding to the host surface
- B. phagocytosis
- C. protection
- D. fusion with the plasma membrane of host

**Answer: A**



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10. Example for icosahedral viruses having an enveloped capsid are

- A. herpes simplex virus and polioviruses
- B. polioviruses and adenoviruses
- C. herpes simplex virus
- D. Vaccinia virus and adenoviruses

**Answer: C**



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11. Average size range of virus is

A. 10-30 nm

B. 20-400 nm

C. 100-1000 nm

D. 1-10 nm

**Answer: B**



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**12. The largest animal virus is**

A. Citrus tristeza virus

B. foot and mouth disease virus

C. smallpox virus

D. rabies virus

**Answer: C**



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**13. Coliphage  $\phi \times 174$  virus contains**

A. ssDNA

B. ssRNA

C. dsRNA

D. dsDNA

**Answer: A**



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**14. Who gave the new system of virus nomenclature ?**

A. M Bishop and Harold Varmus

B. Gibbs and Harrison

C. Landsteiner and Popper

D. Loeffler and Frosch

**Answer: B**



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15. The correct cryptogram for  $T_4$ , bacteriophage is

A.  $R/1, 2.5/30, S/S. V/0$

B.  $D/2, 160/5 - 7.5, X/\star, V/O$

C.  $R/1:2/5: E/E: S/S$

D.  $D/2: 130/40: X/X: B/O$

**Answer: D**



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**Check Point 3 2**

1. Cauliflower mosaic virus has

- A. single-stranded DNA as a genetic material
- B. double-stranded RNA as a genetic material
- C. single-stranded RNA as a genetic material
- D. double-stranded DNA as a genetic material

**Answer: D**



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2. Who among the following demonstrated that RNA is the genetic material in tobacco mosaic virus ?

A. DJ Ivanowsky et. Al.

B. Robert Gallo et. al.

C. Fraenkel Conrat et. al.

D. Flex'd Herelle et. Al.

**Answer: C**



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**3. The reservoir for rabies virus include**

A. humans and mosquiotes

B. dogs, foxes, wolves, coyotes, bats and raccoons



C. foxes, ducks, dogs, chicken and pigs

D. cattle, dogs , sheep, pigs and dogs

**Answer: B**



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4. the SARS (Severe Acture Respiratory Syndrome) is a member of the group of

A. Faramyxoviruses

B. Rhabdoviruses

C. Paramyxoviruses of corona virus family

D. Filoviruses

**Answer: C**



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5. The most mutable virus is

A. chickenpox virus

B. HIV

C. influenza virus

D. dengue virus

**Answer: B**



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6. The glycoproteins present in HIV are numbered as

- A. gp 7 and gp 17
- B. gp 9 and gp 120
- C. gp 41 and gp 160
- D. gp 41 and gp 120

**Answer: D**



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7. Which were the first viruses shown to cause cancer ?

A. Poxviruses

B. Adenoviruses

C. Retroviruses

D. Papovaviruses

**Answer: C**



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8. The first oncovirus (cancer causing virus) from a human sarcoma as isolated by

A. Olaf Bang

B. Francis Rous

C. Withelm Ellerman

D. Sarah Stewart

**Answer: D**



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9. Algal viruses are called

A. cyanophages

B. mycophages

C. phycophages

D. None of these

**Answer: C**



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**10.** A bacteriophage is a

A. virus that is parasitic on bacterium

B. bacterium with a lysed membrane

C. tiny bacterium

D. unusually large bacterium

**Answer: A**



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**11.** Which of the following is called as a non-virulent phage?

A.  $T_2$ -bacteriophage

B.  $T_4$ -bacteriophage

C.  $\lambda$ -phage

D. Mycophage

**Answer: C**



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**12.** In case of a temperate phage, if the host is a plant or an animal cell, the viral DNA which becomes a part of host DNA is called

- A. prophage
- B. provirus
- C. zoophage or phycophage
- D. endophage



**Answer: B**



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**13.** The satellite virus of subterranean clover mottle virus is

- A. helper luteovirus
- B. helper napovirus
- C. dependovirus
- D. helper sobemovirus

**Answer: D**



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14. Select the statement which is correct about viroids.

- A. They were discovered by Karashan in 1966
- B. They range in size from 266-450 nucleotides
- C. The genome of viroids is larger than viruses
- D. They show a lot sequence homology

**Answer: D**



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15. Interferon is a

- A. low molecular weight protein which inhibit viral multiplication
- B. RNA used for DNA synthesis
- C. protein used for the transportation of oxygen
- D. protein which inhibits DNA synthesis

**Answer: A**



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**Chapter Exercises A Taking It Together**

1. Viruses are small infective particles which are primarily made up of

A. intracellular, obligate, parasites

B. intercellular, obligate, parasites

C. intracellular, facultative parasites

D. intercellular, facultative parasites

**Answer: A**



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2. Capsid is

- A. genetic material of virus
- B. protein cover of virus
- C. extra genetic material of bacterium
- D. house keeping genome of bacterium

**Answer: B**



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**3. Latest discovered disease SARS is caused by**

- A. picorna DNA virus
- B. retrovirus

C. corona RNA virus

D. corona DNA virus

**Answer: C**



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4. Prion (or the smallest disease causing agent ) is made up of

A. nucleic acid only

B. proteins only

C. lipids only

D. All of these

**Answer: B**



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5. Inteferrous were discovered by

A. Karsanin

B. Issacs and Linderman

C. Robert Gallo

D. Anderson and Jacob

**Answer: B**



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6. 'contagium vivum fluidum' was proposed by

- A. DJ Ivanowsky
- B. MSW Beijerinck
- C. Stanley
- D. Robert Hook

**Answer: B**



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7. Who demonstrated that the RNA is a genetic material of Tobacco Mosaic Virus (TMV) Using two strains ?

A. Hershey and Chase

B. Gierer and Schramm

C. Jacob and Monod

D. Heinz Fraenkel Conrat et. al.

**Answer: D**



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8. The virus responsible for AIDs is an example of a/an

A. adenovirus

B. mosaic virus

C. T-even virus

D. retrovirus

**Answer: D**



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9. A naked RNA particle causing the symptoms like that of a virus disease is known as

A. viroid

B. virion

C. viral

D. None of these

**Answer: A**



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**10. Viroids enter plant cells only through**

A. roots

B. wounds

C. stomata

D. lenticels

**Answer: B**



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**11. Scrapie disease of cattle is caused by**

A. bacteria

B. virion

C. prion

D. mycoplasma

**Answer: C**



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**12.** The virus discovered for the first time was

- A. an algal virus
- B. an animal virus
- C. a virus infecting higher plants
- D. a bacterial virus

**Answer: C**



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**13.** Inactive protein of a virus is nucleic acid'. It was discovered by

- A. Flex d' Herelle
- B. Hershey and Chase
- C. Stanley
- D. Ivanowsky

**Answer: B**



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**14.** Research has revealed a variety of viral genome types, which of the following is not one of them ?

- A. DNA single-stranded
- B. DNA triple-stranded
- C. DNA double-stranded
- D. RNA double-stranded

**Answer: B**



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15. The parasite that is non-living outside a living cell, but becomes living on entering a living host cell is

A. bacterium

B. bacteriophage

C. Plasmodium

D. yeast

**Answer: B**



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**16.** Sometimes virus attacks a bacterium, but none of them dies. The phenomenon is

A. transduction

B. penetration

C. lysogeny

D. adsorption

**Answer: C**



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**17.** On infection, bacteriophage, inject into the host

A. proteins

B. nucleic acid

C. nucleoproteins

D. lipids

**Answer: B**



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**18.** Which of the following statement gives a proper difference between a virus and a viroid ?

A. Viroids infect their host

B. Viroids have much smaller genome

C. Viroids have RNA as genotic material

D. Viroids caused Creutzfeldt-Jakob disease

**Answer: B**



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**19.** the coevolution theory for the origin of viruses is

A. these have arisen simultaneously and showed evolution with other cells

B. these arose from bacteria as a result of the loss of cell wall, ribosomes etc

C. these arose from some bacteria, which had developed a nucleus only

D. these are modified plasmids, which are in fact the fragments of the nucleic acids of the host.

**Answer: A**



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**20.** Choose the incorrect match from the following .

A. Bacteriophage-FW Twort

B. Reverse transcriptase - Teming and Baltimore

C. Retrovirus - Frosch

D. Crystallised TMV - Stanley

**Answer: C**



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**21. Complete the analogy**

viroid : citrus exocortis :: Prions : ?

A. Kuru disease

B. AIDS

C. Polio

D. Mumps

**Answer: A**



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**22. What do host cells provide for viruses ?**

A. Nucleotides and amino acids

B. ATP

C. Ribosomes

D. All of the above

**Answer: D**

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**23.** Which one of the following statements about viruses is correct

- A. They possess their own metabolic system
- B. All viruses contain both RNA and DNA
- C. Viruses are obligate parasites
- D. Nucleic acid of viruses is known as capsid

**Answer: C**



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**24.** One of the interesting features of viruses is that they

- A. occur only inside the bacteria
- B. multiply only in a living host cytoplasm
- C. are made up of proteins only
- D. behave as if they were plants

**Answer: B**



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25. Which of the following is true about viruses ?

- A. It is not parasite in a living host
- B. It can be cultured on artificial media
- C. It does not have a genetic material of its own
- D. It can be crystallised and kept in a bottle for several years

**Answer: D**



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**26.** The antibodies have no effect on viruses because

A. they kill all bacteria, which act as host of virus

B. viruses are too small in size for antibiotics to act upon them

C. viruses show no metabolism of their own

D. viruses produce a thick covering and encyst themselves as endospores

**Answer: C**



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27. Which statement is correct ?

- A. RNA is genetic material of bacteria
- B. RNA is genetic material of all viruses
- C. RNA is genetic material of some plants
- D. Some viruses have RNA as genetic material

**Answer: D**



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28. Which among the following is not a characteristic feature of protein coat of virus ?

- A. The identical subunits of capsid are called peplomers
- B. The shape and arrangement of subunits determines the shape and symmetry of a virus
- C. It protects the underlying nucleic acid from enzyme nuclease present freely in environment
- D. It serves as a vehicle of transmission for transfer of viral nucleic acid from one host to another

**Answer: A**



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**29.** Choose the incorrect match from the following .

A. Smallest plant virus - Satellite tobacco necrosis

B. Smallest animal virus - Foot and mouth disease  
virus

C. Largest animal virus - Smallpox virus

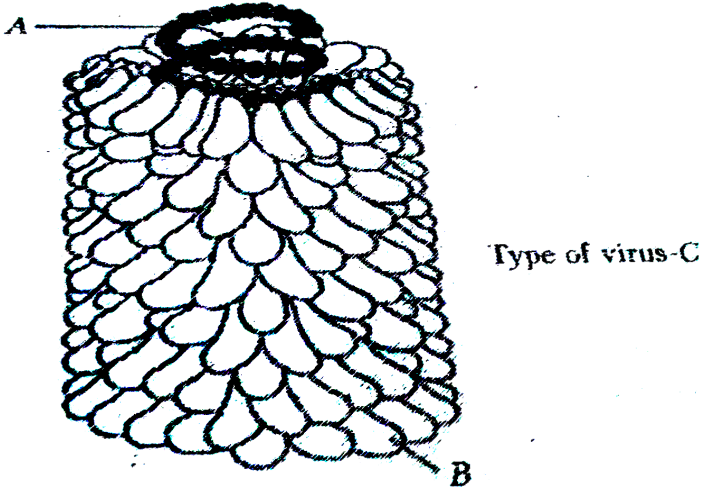
D. Largest plant virus - Tobacco mosaic cells

**Answer: D**



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30. The diagram of a virus is given below. In which of the options. A, B and C are correct ?



- |    |     |         |                      |
|----|-----|---------|----------------------|
|    | A   | B       | C                    |
| A. | RNA | Protein | HIV                  |
|    | A   | B       | C                    |
| B. | RNA | Lipid   | Tobacco Mosaic Virus |
|    | A   | B       | C                    |
| C. | DNA | Capsid  | Tobacco Mosaic Virus |
|    | A   | B       | C                    |
| D. | RNA | Capsid  | Tobacco Mosaic Virus |

**Answer: D**



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**31.** Choose the statement which is incorrect about animal viruses.

A. These are generally polyhedral or spherical in shape

B. In some animal viruses the capsid is surrounded by an envelope

C. Mumps is a dermatotropic virus

D. Pullo virus is a neurotropic virus

**Answer: C**



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**32. What is not true of retrovirus**

- A. DNA has no role in life cycle
- B. There is a gene for RNA dependent DNA polymerase
- C. Genetic material is RNA
- D. They are causative agents for certain cancers

**Answer: A**





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**33.** Reverse transcriptase occurs in virus

- A. HIV virus
- B. influenza virus
- C. Vaccinia virus
- D. All of these

**Answer: A**



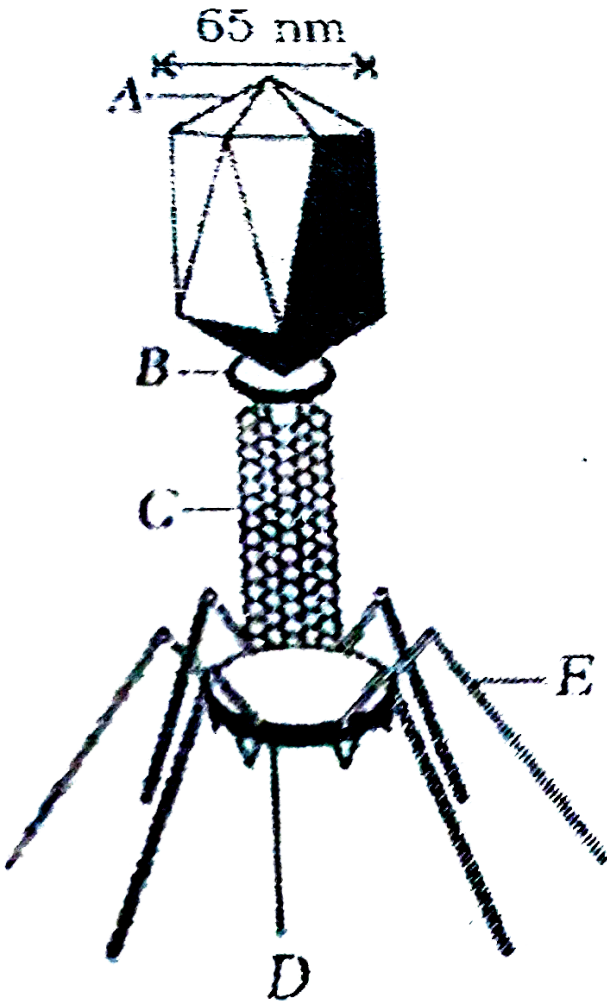
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34. A  $T_4$  bacteriophage has an icosahedral head with
- A. 2500 capsomeres with a 63  $\mu m$  long double-stranded DNA in it
  - B. 2000 capsomeres with a 53  $\mu m$  long double-stranded DNA in it
  - C. 1500 capsomeres with a 40  $\mu m$  long double-stranded DNA in it
  - D. 1000 capsomeres with a 53  $\mu m$  long double-stranded DNA in it

**Answer: B**



35. Mark the correct labelling in the  $T_4$ -bacteriophage from top to the bottom .



A.

A	B	C	D	E
Collar	Head	Base plate	End plate	Tail fibre

B.

A	B	C	D	E
Head	Collar	Sheath	Base plate	Tail fibre

C.

A	B	C	D	E
Head	Sheath	Tail fibre	Collar	Base plate

D.

A	B	C	D	E
Head	Collar	Base plate	Sheath	Tea fibre

**Answer: B**



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36. The period, during which a virus builds up an infective concentration within their vectors is called

A. latent period

B. lysis

C. incubation

D. All of these

**Answer: A**



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37. Which of the following statement is correct ?

A. Viruses carry with them own ribosomes for protein formation

B. New viral ribosomes are formed after viral DNA enters the cell

C. Viruses use-the host ribosomes for their own protein formation

D. Viruses do not need ribosomes for protein formation

**Answer: C**



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**38.** All of the following are true for virus replication except

A. only a subset of viruses contains all of the enzymes necessary for transcribing their own genome

B. no viruses contain the tRNA necessary to translate mRNA

C. viruses can make ribosomes necessary to translate mRNA

D. once a virus has entered a cell, it cannot begin making copies of itself immediately

**Answer: C**



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**39.** Which of the methodologies is incorrect in case of viruses, for the entry there into the host cell ?

A. Viruses can enter animal cells after a sucking insect has disrupted the cell wall with its mouthparts

B. Viruses can enter bacterial cells by binding to a specific molecule on the cell membrane or cell wall



C. Viruses can enter animal cells by binding to a specific molecule on the cell membrane

D. Plant viruses can enter host cells after a sucking insect has disrupted the cell wall with its mouthparts

**Answer: A**



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**40.** Choose the statement which is incorrect about pinocytotic reproduction.

- A. In pinocytotic reproduction, the whole virus including the envelope passes into the host cell
- B. Retroviruses are the best examples to describe pinocytotic reproduction
- C. The reverse transcriptase uses the tRNA as template to form a RNA-DNA hybrid
- D. The host RNA polymerase directs the synthesis of mRNA and new tRNA gene

**Answer: A**



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41. A viral DNA can be made radioactive.

- A. by culturing the viruses on a medium of potato, dextrose and  $P^{32}$
- B. by culturing the viruses in a medium of  $P^{32}$
- C. by providing  $P^{32}$  to a bacterium, which has been infected by a virus
- D. by providing  $P^{32}$  to viruses when they are about to attach the bacteria

**Answer: C**



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## 42. Difference between Virus and Viroid is

- A. absence of protein coat in viroid, but present in virus
- B. presence of low molecular weight RNA in virus, but absent in viroid
- C. Both (a) and (b)
- D. None of the above

**Answer: A**



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**43.** Viruses are non-cellular organisms but replicate themselves once they infect the host cell. To which of the following kingdom do viruses belong to ?

A. Monera

B. Protista

C. Fungi

D. None of the above

**Answer: D**



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44. Which is the first step of pinocytic reproduction ?

- A. Viral RNA packaging and capsid assembly
- B. Viral protein synthesis
- C. Receptor binding and membrane fusion
- D. Reserve transcription

**Answer: C**



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**Chapter Exercises B Medical Entrances Special Format Questions**

1. Consider the following statements.

I. DNA or RNA , II. Proteins

III. Lipids, IV. Carbohydrates

Virus is an infectious agent which may consist of

A. I and II

B. I and II

C. I, II, III and IV

D. II and III

**Answer: B**



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2. Consider the following statements.

I. M. Beijerinck (1898) called virus a living infectious fluid contagium vivum fluidum.

II. Only ribosomes are present in Viruses.

III. Viruses are obligate intracellular parasites.

IV. Viruses use single ATP as an energy source.

The correct option about virus is

A. II and III

B. I, II and III

C. III and IV

D. I and III

**Answer: D**





3. Study the following statements about virus.

I. The presence of nucleic acid as their genetic material.

II. Ability to produce their own copies.

III. Cellular organisation.

IV. Autotrophic nutrition.

The living characteristic of virus is

A. II and III

B. I and II

C. I and IV

D. Only I

**Answer: B**



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4. Which of the following is disease are known to be caused by viruses ?

I. Burkitt's lymphoma

II. Adult II cell leukaemia

III. Phenylketonuria

Select the correct answer from the codes given below.

A. I and II

B. I, II and III

C. I and II

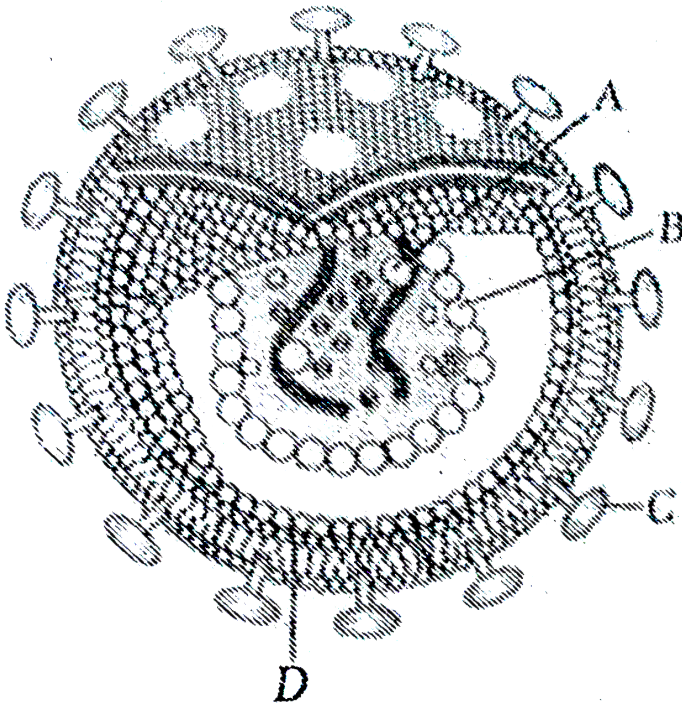
D. II and III

**Answer: A**



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5. Study the diagram given below.



Choose the correct pair(s) from the following.

I. A-Reverse transcriptase

II. B and C-capsid

III. D-External capsid, C-Peplomer

#### IV. C-External capsid

Select the correct option from the codes given below.

A. I and III

B. II and IV

C. I , III and IV

D. I, II and IV

**Answer: A**



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6. Consider the following statements about retrovirus,

I. It has an enzyme located in its coat.

II. In it , the newly formed DNA integrates in host genome.

III. It has a dsDNA as a genetic material.

IV. Some of them are highly oncogenic.

Choose the correct answer using the codes given below .

A. II , III and IV

B. I, III and IV

C. I, II and IV

D. I, II and III

**Answer: C**



7. Select the correct difference between bacteriophage and animal virus multiplication.

<b>Bacteriophage</b>	<b>Animal viruses</b>
I. Biosynthesis occur in cytoplasm.	Biosynthesis occur in nucleus (DNA viruses) or cytoplasm (RNA viruses).
II. Tail fibres attach to the cell wall proteins.	Attachment sites are plasma membrane proteins or glycoproteins.
III. Uncoating is necessary.	Uncoating is not necessary.
IV. Viral DNA enters into host cell by endocytosis.	Viral DNA injected into host cell.

Choose the correct option from the codes given below

A. I and II

B. III and IV

C. II, III and IV

D. I, II, III and IV

**Answer: A**



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8. Which of the following feature (s) are categorised under lysogeny ?

I. A lysogenic cell has lesser chances of reinfection by the same phage.

II. Lysogeny favours specialised transduction.

III. Viral DNA in lysogeny favour specialised transduction.

III. Viral DNA in lysogeny never forms episome, but



always integrates into the host's DNA

IV. The lysogenic cell can never undergo lytic codes.

Choose the correct option from the under given below.

A. I and II

B. I, II and III

C. II and IV

D. II and IV

**Answer: A**



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9. Consider the following statements.

I. Viruses are capable of growth and division independently.

II. Viruses remain unaffected by antimicrobial antibiotics.

III. HIV is the AIDS causing virus, having DNA as genetic material.

IV. Viruses have their own cellular machinery.

The incorrect statement(s) is/are

A. I, III and IV

B. I, II and III

C. Only IV

D. I and II

**Answer: A**



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**10.** Consider the following statements.

I. It is the outermost thin loose covering present in certain animal viruses and rarely in plants or bacterial viruses.

II. It is a virus without an envelope.

III. There are the identical protein subunits is viral capsid.

Choose the correct words with respect to the above statements.

- A. I-Capsid, II-Loose, III-Capsomeres
- B. I-Capsid, II-Empty, III-Peplomeres
- C. I-Envelope, II-Naked, III-Capsomeres
- D. I-Envelope, II-Spike, III-Peplomeres

**Answer: C**



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**11.** Consider the following statements.

I. T-even phages possess lytic cycle.

II. Lysogeny is a common feature of lambda ( $\lambda$ ) phages,

III. Latent period follows the eclipse phase.

Choose the correct statement(s) from the codes given below.

A. I and II

B. I, III and IV

C. Only IV

D. I, II and III

**Answer: B**



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**12.** Consider the following statements.

I. It is an entire virus particle, consisting of an outer protein shell called capsid and an inner core of nucleic acid.

II. It is a circular single -standard RNA dependent on virus for replication and encapsidation.

III. It is an infections, non-protein coding highly structured small circular Ribonucleic Acids (RNAs) and induce disease in plants.

Select the correct option referring to the statements given above.

A. I-Prion, II-Virion, III-Virusoid

B. I-Virion, II-Virusoid, III-Viriod

C. I-Virion, II-Viriod, III-Virusoid

D. I-Viriod, II-Prion, III-Virusoid

**Answer: B**



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## Match The Columns

1. Match the following Columns.

Column I	Column II
A. Double-stranded DNA viruses	1. Reovirus of humans
B. Single-stranded DNA viruses	2. TMV
C. Double-stranded RNA viruses	3. Polyoma virus
D. Single-stranded RNA viruses	4. Adeno associated viruses

- A.    A    B    C    D  
       1    2    3    4
- B.    A    B    C    D  
       4    3    2    1
- C.    A    B    C    D  
       3    4    1    2
- D.    A    B    C    D  
       2    1    3    4

**Answer: C**



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**2. Match the following Columns.**

<b>Column I</b>		<b>Column II</b>
A. Plant virus	1.	Potato spindle tuber disease
B. Animal virus	2.	Kuru disease
C. Viroid	3.	Tobacco necrosis disease
D. Prions	4.	Polio



- A.    A   B   C   D  
       2   1   3   4
- B.    A   B   C   D  
       3   4   1   2
- C.    A   B   C   D  
       4   3   2   1
- D.    A   B   C   D  
       1   2   3   4

**Answer: B**



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**3. Match the following Columns.**

**Column I**

**Column II**

A. Flex d' Herelle	1. Bacteriophage
B. Loeffler and Frosch	2. Foot and mouth disease
C. Robert Gallo	3. Prions
D. Stanley Prusiner	4. HIV

- A.    A    B    C    D  
       1    2    3    4
- B.    A    B    C    D  
       4    3    2    1
- C.    A    B    C    D  
       2    1    3    4
- D.    A    B    C    D  
       1    2    4    3

**Answer: D**



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**4. Match the following Columns.**

<b>Column I</b>	<b>Column II</b>
A. Filovirus	1. Mumps
B. Paramyxoviridae	2. Ebola
C. Deltaviridae	3. Influenza virus
D. Orthomyxoviridae	4. Hepatitis-D

- A.    A   B   C   D  
      2   1   4   3
- B.    A   B   C   D  
      3   4   1   2
- C.    A   B   C   D  
      1   2   3   4
- D.    A   B   C   D  
      2   3   4   1

**Answer: A**



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## Assertion And Reason

1. Assertion Flu is a bacterial disease.

Reason Flu viruses are animal retroviruses.

- A. Both Assertion and Reason are true and Reason is the correct explanation of Assertion
- B. Both Assertion and Reason are true and Reason is not the correct explanation of Assertion
- C. Assertion is true, but Reason is false
- D. Assertion is false , but Reason is true

**Answer: D**



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2. Assertion Viruses can contribute to various types of cancer in human.

Reason It is esimated that about 15 % of all human cancer cases world wide are due to viruses.

- A. Both Assertion and Reason are true and Reason is the correct explanation of Assertion
- B. Both Assertion and Reason are true and Reason is not the correct explanation of Assertion
- C. Assertion is true, but Reason is false
- D. Assertion is false , but Reason is true

**Answer: B**



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3. Assertion HIV does not follow central dogma of molecular biology.

Reason HIV has enzyme reverse transcriptase.

A. Both Assertion and Reason are true and Reason is the correct explanation of Assertion

B. Both Assertion and Reason are true and Reason is not the correct explanation of Assertion

C. Assertion is true, but Reason is false

D. Assertion is false , but Reason is true

**Answer: A**



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4. Assertion The clinical symptoms of HIV infection generally begin after 8-10 years.

Reason The latency period of HIV is 8-10 years.

- A. Both Assertion and Reason are true and Reason is the correct explanation of Assertion
- B. Both Assertion and Reason are true and Reason is not the correct explanation of Assertion
- C. Assertion is true, but Reason is false
- D. Assertion is false , but Reason is true

**Answer: A**



5. Assertion Viruses possess only a portion of the properties of organisms.

Reason Viruses are simpler than bacteria.

- A. Both Assertion and Reason are true and Reason is the correct explanation of Assertion
- B. Both Assertion and Reason are true and Reason is not the correct explanation of Assertion
- C. Assertion is true, but Reason is false
- D. Assertion is false , but Reason is true



**Answer: B**



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6. Assertion Viruses possess only a portion of the properties of organisms.

Reason Viruses are simpler than bacteria.

A. Both Assertion and Reason are true and Reason is the correct explanation of Assertion

B. Both Assertion and Reason are true and Reason is not the correct explanation of Assertion

C. Assertion is true, but Reason is false

D. Assertion is false , but Reason is true

**Answer: A**



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## C Medical Entrances Gallery

1. Which of the following statement is wrong for viroids ?

- A. They are smaller than viruses
- B. They cause infections
- C. Their RNA is of high molecular weight

D. They lack a protein coat

**Answer: C**



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2. Select wrong statement.

A. The viroids were discovered by DJ Ivanowsky

B. WM Stanley showed that viruses could be  
crystallised

C. The term 'contagium vivum fluidum' was coined  
by MW Beijerinck

D. Mosaic disease in tobacco and AIDS in human belong are caused by viruses

**Answer: A**

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3. Which of the following statement is wrong for viroids ?

A. It is observed in Gram positive and Gram negative bacteria

B. Bacteria should be in state of competence

C. Transfer of DNA by a bacteriophage takes place

D. Packaging of both host and phage DNA takes place

**Answer: A::C::D**



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**4. Match the following Columns .**

<b>Column I</b>	<b>Column II</b>
A. HIV	1. Host
B. Pilus	2. Prophage
C. Virus penetration	3. Retroviridae
D. Lysogeny	4. Donor
	5. Polyhedral virus

- A.    A   B   C   D  
      1   2   3   4
- B.    A   B   C   D  
      5   4   3   2
- C.    A   B   C   D  
      5   3   2   1
- D.    A   B   C   D  
      3   4   1   2

**Answer: D**



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5. Which of the following statement(s) is/are correct for transduction ?

A. single-stranded RNA

B. double-stranded RNA

C. single-stranded DNA

D. double-stranded DNA

**Answer: D**



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**6. Match the following Columns.**

A. transformation

B. conjugation

C. recombination

D. transduction

**Answer: D**



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7. Bacterial viruses usually have

A. Pollo virus

B. Tobacoo mosaic virus

C. Measles virus

D. retrovirus

**Answer: B**





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8. The transfer of genetic material from the bacterium

A. DNA enclosed in a protein coat

B. prokaryotic nucleus

C. single chromosome

D. Both DNA and RNA

**Answer: A**



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9. Identify the correct sequence of events in the viral replication process.

I. Eclipse , II. Maturation

III. Adsorption, IV. Assembly V. Penetration , VI. Lysis

A. I, II, III , IV, V, VI

B. II, I, III, IV, V, VI

C. III, V, I, II, IV, VI

D. III, V, VI, IV, II, I

**Answer: C**



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**10.** Identify the correct pairs of combinations.

I. Viroid - Bovine spongiform encephalitis

II. Prion - Creutzfeldt-jakob disease

III. Measles virus - Glycoprotein projections

IV. Rabies virus - Polyhedral symmetry

A. III and IV

B. I and III

C. I and II

D. II and III

**Answer: D**



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11. Which of the following statement is false ?

- A. TMV has a double-stranded RNA molecule
- B. Most plant viruses are RNA viruses
- C. The bacteriophage has a double-stranded DNA molecule
- D. Most animal viruses are DNA viruses

**Answer: A**



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12. Cell theory is not applicable for

A. bacteria

B. algae

C. fungus

D. virus

**Answer: D**



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**13. LPP-1 is a**

A. bacterium

B. fungus

C. bacteriophage

D. cyanophage

**Answer: D**



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**14. Infectious proteins are presents in**

A. gemini viruses

B. prious

C. Viroids have RNA as genotic material

D. satellite viruses

**Answer: B**



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**15. Find out the correct statement.**

- A. In lichens, the algal component is called phycobiont and fungal component is known as mycobiont, which are heterotrophic and autotrophic respectively
- B. Viroid contains RNA of low molecular weight and protein coat

C. A virus contains both RNA and DNA

D. Viruses are obligatory parasites

**Answer: D**



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**16.** A virus differs from a bacterium as its contains

A. a cell wall

B. cytosol

C. DNA as genetic material



D. DNA or RNA as genetic material with no ribosomes

**Answer: D**



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**17. Double-stranded RNA is found in**

A. reovirus

B. TMV

C.  $\phi \times 174$

D. None of these

**Answer: A**



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**18.** Which one of the following viruses contains both

A. cyanophages

B. Herpesvirus

C. Leuko virus

D. Polio virus

**Answer: C**



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**19. Bacteriophages kill**

A. fungi

B. parasite

C. bacteria

D. viruses

**Answer: C**



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**20. Virus envelope is known as**

A. core

B. capsid

C. virion

D. nucleoprotein

**Answer: B**



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**21.** Which one of the following does not follow the central dogma of molecular biology ?

A. HIV virus

B. Pea

C. Mucor

D. Chlamydomonas

**Answer: A**



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22. Who discovered an infectious agent that was to be a free RNA of low molecular weight, it also lacked protein coat ? This agent caused potato spindle tuber

A. MW Beijerinck

B. TO Diener

C. J Ivanowsky

D. WM Stanley

**Answer: B**



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**23. Viron is a**

A. bacterium

B. bateriophage

C. virus

D. form of viroid

**Answer: C**



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**24.** Genetic material found in Human Immunodeficiency Virus (HIV) is

A. double-stranded RNA

B. single -stranded RNA

C. double-stranded DNA

D. single-stranded DNA

**Answer: B**



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**25.** The protein coat of virus is called

A. plasmid

B. capsid

C. vector

D. genome

**Answer: B**



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**26.** In which of the following patterns of viral replication, viruses enter a cell, replicate and then cause the cell to burst, releasing new viruses ?

A. Lytic

B. Lysogenic

C. Both (a) and (b)

D. Reprogenic

**Answer: A**



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## 27. Severe Acute Respiratory Syndrome (SARS)

A. is caused by a variant of *Pneumococcus pneumoniae*

B. is caused by a variant of the common cold virus (corona virus)

C. is an acute form of asthma

D. affects non-vegetarians much faster than the vegetarians

**Answer: B**



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28. Small proteins produced by vertebrate cells naturally in response to viral infections and which inhibit multiplication of viruses are called

A. immunoglobulins

B. interferons

C. antitoxins

D. lipoproteins

**Answer: B**



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**29.** Prions consist mainly of :-

A. protein

B. DNA

C. RNA

D. Both (b) and (c)

**Answer: A**



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**30.** A provirus is

- A. a free virus
- B. primitive virus
- C. integrated viral genome
- D. a free DNA

**Answer: C**



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**31. Bacteriophage releases lysozyme at**

- A. penetration phase
- B. eclipse phase

C. absorption phase

D. maturation phase

**Answer: D**



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**32. Viruses which infect bacteria, multiply and cause**

A. lysozymes

B. lipolytic

C. lysogenic

D. lytic

**Answer: D**



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