



DF-3002

**B. Sc. (Microbiology) (Sem. III) Examination**  
**March/April - 2016**  
**MB-07 : Virology**

Time : 2 Hours]

[Total Marks : 50

**Instructions :**

(1)

નીચે દર્શાવેલ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.  
Fillup strictly the details of signs on your answer book.

Name of the Examination :  
**B. Sc. (MICROBIOLOGY) (SEM. 3)**

Name of the Subject :  
**MB 07 - VIROLOGY**

Subject Code No. : **3 0 0 2** Section No. (1, 2,.....) : **Nil**

Seat No. :

Student's Signature

- (2) This exam contains 50 multiple choice questions, each carries one mark.
- (3) Choose only ONE most appropriate answer per question.
- (4) Do not crease or fold the answer sheet.

***O.M.R. Sheet ભરવા અંગેની અગત્યની સૂચનાઓ આપેલ  
O.M.R. Sheet-ની પાછળ છાપેલ છે.***

***Important instructions to fillup O.M.R. Sheet  
is given on back side of the provided O.M.R. Sheet.***

- 1 Which kind of changes is found in tobacco plant infected with TMV ?
  - (A) Development of hexagonal crystals of pure TMV sometime develop inside the cell.
  - (B) Chloroplast will become abnormal and its synthesis is inhibited
  - (C) All of these
  - (D) Formation of microscopically visible intracellular inclusions containing virions
  
- 2 Which of the following viruses are known to form inclusion bodies in infected cell ?
  - (A) Nuclear polyhedrosis
  - (B) Cytoplasmic polyhedrosis
  - (C) All of these
  - (D) Granulosis
  
- 3 The size of virions range from about
  - (A) 1 to 3 nm in diameter
  - (B) 10 to 400 nm in diameter
  - (C) 10 to 50 nm in diameter
  - (D) 2 to 30 nm in diameter
  
- 4 Which protein formation is inhibited by ds DNA onco viruses ?
 

(A) Tumor binding	(B) Tumor inducing
(C) All of these	(D) Tumor suppressing
  
- 5 Which of the following are examples of chronic viral infections ?
 

(A) Herpes and mononucleosis	(B) Influenza and chickenpox
(C) None of these	(D) Hepatitis and HIV
  
- 6 Scrapie is caused due to an abnormal form of cellular protein
 

(A) PrP <sup>C</sup>	(B) Hsp
(C) None of these	(D) PrP <sup>Sc</sup>
  
- 7 Which of the following virus infect plants ?
 

(A) Reoviridae	(B) Alfamovirus
(C) All of these	(D) Caulimovirus
  
- 8 State the function of proto-onco genes
  - (A) Induction of RNA synthesis
  - (B) Both of these
  - (C) None of these
  - (D) Induction of DNA synthesis
  
- 9 Which of the following is the most intensely studied viroid ?
  - (A) Potato mosaic virus
  - (B) Tobacco mosaic virus
  - (C) None of these
  - (D) Potato spindle tuber viroid
  
- 10 Which phenotypic characteristics can be used to classify prokaryotic viruses ?
 

(A) Capsid	(B) Genome type
(C) All of these	(D) Envelop

- 11 Epidemics of A.D. 165 to 180 and A.D. 251 to 266 have been caused by  
(A) Measles  
(B) Smallpox  
(C) Measles and Smallpox both  
(D) Rabies
- 12 Who used the term virus for living infectious disease agent ?  
(A) Louis Pasteur  
(B) Frederick Twort  
(C) W. Stanley  
(D) Edward Jenner
- 13 What are the observations of Martinus Beijerinck during his studies on TMD ?  
(A) Gave term 'filterable virus'  
(B) Virus can survive for long periods in dried state  
(C) All of these  
(D) Disease caused by entity different from bacteria
- 14 Which virus is responsible for muscle tumor in chickens ?  
(A) HIV  
(B) T-even Phage  
(C) Influenza  
(D) Rous Sarcoma virus
- 15 Which of the following is not an acellular agent ?  
(A) Virus  
(B) Rickettsia  
(C) Prion  
(D) Viroids
- 16 The clear zone that viruses generate by cellular destruction and lysis is called :  
(A) Cytocidal zone  
(B) Plaque  
(C) Necrotic lesion  
(D) Cytopathic zone
- 17 Mumps virus reproduces in which part of the embryonated egg ?  
(A) Allantoic cavity  
(B) Yolk sac  
(C) All of these  
(D) Amniotic cavity

- 18 Which of the following virus reproduction sequence is correct ?  
(A) Attachment, Penetration, Assembly, Biosynthesis, Release  
(B) Attachment, Penetration, Biosynthesis, Assembly, Release  
(C) Attachment, penetration, Biosynthesis, Release, Assembly  
(D) Attachment, Biosynthesis, Penetration, Release, Assembly
- 19 Which sequence is present at plus strand of most RNA animal viruses ?  
(A) Poly T  
(B) Poly G  
(C) Poly C  
(D) Poly A
- 20 In virus which RNA strand can direct the protein synthesis ?  
(A) Negative strand  
(B) t-RNA  
(C) r-RNA  
(D) Positive strand
- 21 Which of the following virus is not having circular DNA as their genome ?  
(A) PM2 phage  
(B) M13  
(C) T5 coliphage  
(D) SV-40
- 22 Which of the following enzyme is located within capsid ?  
(A) RNA dependent RNA polymerase  
(B) DNase  
(C) RNase  
(D) Neuraminidase
- 23 Spikes are also known as :  
(A) Peplomer  
(B) Pentamer  
(C) Hexamers  
(D) Polymer
- 24 ICTV stands for  
(A) International Committee for taxonomy of virus  
(B) Indian Committee for taxonomy of virus  
(C) Indian Council for taxonomy of virus  
(D) International Committee for textbook of virus

- 25 How many virus species classified and catalogued by the ICTV ?  
(A) 1500  
(B) 2000  
(C) 3000  
(D) 1000
- 26 Which unusual morphological characteristics observed among archaeal viruses ?  
(A) Droplet shape  
(B) Spindle shape and Droplet shape both  
(C) None of these  
(D) Spindle shape
- 27 Which of the following are ss DNA phages of *Escherichia coli* ?  
(A)  $\phi X174$  and T4  
(B)  $\phi X174$  and M13  
(C) None of these  
(D)  $\phi X174$  and fd
- 28 What are the examples of ss RNA bacteriophage ?  
(A) MS2 and  $Q\beta$   
(B) T4 and T3  
(C) T2 and TMV  
(D)  $\phi X174$  and fd
- 29 Which one of the following is known as genetically simplest phage ?  
(A) MS2  
(B) T4  
(C) Both  $Q\beta$  and MS2  
(D)  $Q\beta$
- 30 Base plate of T-even bacteriophage is  
(A) Tetragonal  
(B) Pentagonal  
(C) Hexagonal  
(D) Trigonal

- 31 Which part of the T phage can be used to attaches with the host cell ?  
 (A) Tail (B) Nucleic acid  
 (C) Capsid (D) Icosahedron
- 32 Which of the following cannot act as host cell receptor site for phage ?  
 (A) Pili (B) Cell wall  
 (C) Plasma membrane (D) Capsule
- 33 What is prophage ?  
 (A) Incorporation of phage genome into host DNA  
 (B) Both Phage particle after enter in host cell and Incorporation of phage genome into host DNA  
 (C) None of these  
 (D) Phage particle after enter in host cell
- 34 Which of the following is not true for eukaryotic viruses ?  
 (A) All eukaryotic viruses are exclusively enveloped viruses  
 (B) Nucleic acid may be double or single stranded, linear or circular  
 (C) Some of them may contain segmented genome  
 (D) All type of genome are observed among eukaryotic viruses
- 35 Which one of the following is an example of viroid borne disease ?  
 (A) Exocortis disease of citrus tree  
 (B) Chrysanthemum stunt disease  
 (C) All of these  
 (D) Potato spindle-tuber disease
- 36 Which of the following is an example of eukaryotic viruses family having ds DNA with Reverse Transcriptase ?  
 (A) Poxviridae (B) Polyomaviridae  
 (C) Papillomaviridae (D) Hepadnaviridae
- 37 The best studied virusoid is the  
 (A) Hepatitis B  
 (B) Both Human hepatitis D and Hepatitis B  
 (C) None of these  
 (D) Human hepatitis D
- 38 Which of the following insect viruses are used as biocontrol agents ?  
 (A) Tobravirus (B) Baculoviruses  
 (C) Retroviruses (D) Rhabdoviruses
- 39 Which of the following is an example of Cytocidal viruses ?  
 (A) Herpesviruses (B) Denoviruses  
 (C) All of these (D) Picornaviruses
- 40 How does viral infection alter plasma membrane structure ?  
 (A) By membrane destruction  
 (B) By inhibition of membrane synthesis  
 (C) All of these  
 (D) By insertion of specific protein

- 41 Which of the following cells are destroyed by HIV by affecting plasma membrane ?
- (A) CD4<sup>+</sup> T helper cells
  - (B) CD8<sup>-</sup> T helper cells
  - (C) CD8<sup>+</sup> T helper cells
  - (D) CD4<sup>-</sup> T helper cells
- 42 Which of the following is the mechanism observed in cytocidal viral infection ?
- (A) Formation of syncytium
  - (B) Transformation into a malignant cell
  - (C) All of these
  - (D) Chromosomal disruption
- 43 Which one is true for the chronic viral infection ?
- (A) Clinical symptoms may be mild or absent
  - (B) Found in HIV and hepatitis B virus
  - (C) All of these
  - (D) Virus is detectable
- 44 Which host cell enzyme is used by viroid for its replication ?
- (A) RNA dependent RNA polymerase
  - (B) DNA dependent DNA polymerase
  - (C) RNA dependent DNA polymerase
  - (D) DNA dependent RNA polymerase
- 45 Which of the following is true for a tumor ?
- (A) Cells have aberrant shapes
  - (B) Possess unregulated proliferation and differentiation
  - (C) All of these
  - (D) Is a growth or lump of tissue

- 46 What is DI particle ?
- (A) A particle produce by deletion mutation, unable to reproduce and slower down viral reproduction.
  - (B) A particle produce by deletion mutation, able to reproduce and increase the rate of viral reproduction.
  - (C) A particle produce by insertion mutation, able to reproduce and increase the rate of viral reproduction.
  - (D) A particle produce by insertion mutation, unable to reproduce and stop normal viral reproduction.
- 47 Which of the following condition can be caused by HBV and HCV ?
- (A) Cervical cancer
  - (B) Hepatocellular carcinoma
  - (C) Burkitt's lymphoma
  - (D) Kaposi's sarcoma
- 48 What is the function of tyrosine kinase ?
- (A) Dehydrogenation of tyrosine
  - (B) Decarboxylation of tyrosine
  - (C) Phosphorylation of tyrosine
  - (D) Deamination of tyrosine
- 49 Which of the following is an example of plant virus with helical capsid ?
- (A) Turnip yellow mosaic virus
  - (B) Both of these
  - (C) None of these
  - (D) Tobacco mosaic virus
- 50 Protein required for transfer of virus from cell to cell is called
- (A) Movement protein
  - (B) Motility protein
  - (C) Transfer protein
  - (D) Transformation protein

