

**A****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 Epidemics of A.D. 165 to 180 and A.D. 251 to 266 have been caused by
 - (A) Rabies
 - (B) Measles
 - (C) Smallpox
 - (D) Measles and Smallpox both

- 2 Who used the term virus for living infectious disease agent ?
 - (A) Edward Jenner
 - (B) Louis Pasteur
 - (C) Frederick Twort
 - (D) W. Stanley

- 3 What are the observations of Martinus Beijerinck during his studies on TMD ?
 - (A) Disease caused by entity different from bacteria
 - (B) Gave term 'filterable virus'
 - (C) Virus can survive for long periods in dried state
 - (D) All of these

- 4 Which virus is responsible for muscle tumor in chickens ?
 - (A) Rous Sarcoma virus
 - (B) HIV
 - (C) T-even Phage
 - (D) Influenza

- 5 Which of the following is not an acellular agent ?
 - (A) Viroids
 - (B) Virus
 - (C) Rickettsia
 - (D) Prion

- 6 The clear zone that viruses generate by cellular destruction and lysis is called :
 - (A) Cytopathic zone
 - (B) Cyticidal zone
 - (C) Plaque
 - (D) Necrotic leison

- 7 Mumps virus reproduces in which part of the embryonated egg ?
 - (A) Amniotic cavity
 - (B) Allantoic cavity
 - (C) Yolk sac
 - (D) All of these

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

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

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

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

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

- 41 Which kind of changes is found in tobacco plant infected with TMV ?
(A) Formation of microscopically visible intracellular inclusions containing virions
(B) Development of hexagonal crystals of pure TMV sometime develop inside the cell.
(C) Chloroplast will become abnormal and its synthesis is inhibited
(D) All of these
- 42 Which of the following viruses are known to form inclusion bodies in infected cell ?
(A) Granulosis
(B) Nuclear polyhedrosis
(C) Cytoplasmic polyhedrosis
(D) All of these
- 43 The size of virions range from about
(A) 2 to 30 nm in diameter
(B) 1 to 3 nm in diameter
(C) 10 to 400 nm in diameter
(D) 10 to 50 nm in diameter
- 44 Which protein formation is inhibited by ds DNA onco viruses ?
(A) Tumor suppressing (B) Tumor binding
(C) Tumor inducing (D) All of these
- 45 Which of the following are examples of chronic viral infections ?
(A) Hepatitis and HIV (B) Herpes and mononucleosis
(C) Influenza and chickenpox (D) None of these
- 46 Scrapie is caused due to an abnormal form of cellular protein
(A) PrP^{Sc} (B) PrP^C
(C) Hsp (D) None of these
- 47 Which of the following virus infect plants ?
(A) Caulimovirus (B) Reoviridae
(C) Alfamovirus (D) All of these
- 48 State the function of proto-onco genes
(A) Induction of DNA synthesis
(B) Induction of RNA synthesis
(C) Both of these
(D) None of these
- 49 Which of the following is the most intensely studied viroid ?
(A) Potato spindle tuber viroid
(B) Potato mosaic virus
(C) Tobacco mosaic virus
(D) None of these
- 50 Which phenotypic characteristics can be used to classify prokaryotic viruses ?
(A) Envelop (B) Capsid
(C) Genome type (D) All of these

