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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 of the following cells are destroyed by HIV by affecting plasma membrane ?

(A) $CD8^+$ T helper cells

(B) $CD4^-$ T helper cells

(C) $CD4^+$ T helper cells

(D) $CD8^-$ T helper cells

2 Which of the following is the mechanism observed in cytocidal viral infection ?

(A) All of these

(B) Chromosomal disruption

(C) Formation of syncytium

(D) Transformation into a malignant cell

3 Which one is true for the chronic viral infection ?

(A) All of these

(B) Virus is detectable

(C) Clinical symptoms may be mild or absent

(D) Found in HIV and hepatitis B virus

4 Which host cell enzyme is used by viroid for its replication ?

(A) RNA dependent DNA polymerase

(B) DNA dependent RNA polymerase

(C) RNA dependent RNA polymerase

(D) DNA dependent DNA polymerase

5 Which of the following is true for a tumor ?

(A) All of these

(B) Is a growth or lump of tissue

(C) Cells have aberrant shapes

(D) Possess unregulated proliferation and differentiation

6 What is DI particle ?

(A) A particle produce by insertion mutation, able to reproduce and increase the rate of viral reproduction.

(B) A particle produce by insertion mutation, unable to reproduce and stop normal viral reproduction.

(C) A particle produce by deletion mutation, unable to reproduce and slower down viral reproduction.

(D) A particle produce by deletion mutation, able to reproduce and increase the rate of viral reproduction.

7 Which of the following condition can be caused by HBV and HCV ?

(A) Burkitt's lymphoma

(B) Kaposi's sarcoma

(C) Cervical cancer

(D) Hepatocellular carcinoma

8 What is the function of tyrosine kinase ?

(A) Phosphorylation of tyrosine

(B) Deamination of tyrosine

(C) Dehydrogenation of tyrosine

(D) Decarboxylation of tyrosine

9 Which of the following is an example of plant virus with helical capsid ?

(A) None of these

(B) Tobacco mosaic virus

(C) Turnip yellow mosaic virus

(D) Both of these

10 Protein required for transfer of virus from cell to cell is called

(A) Transfer protein

(B) Transformation protein

(C) Movement protein

(D) Motility protein

11 Which kind of changes is found in tobacco plant infected with TMV ?
(A) All of these
(B) Formation of microscopically visible intracellular inclusions containing virions
(C) Development of hexagonal crystals of pure TMV sometime develop inside the cell.
(D) Chloroplast will become abnormal and its synthesis is inhibited

12 Which of the following viruses are known to form inclusion bodies in infected cell ?
(A) All of these
(B) Granulosis
(C) Nuclear polyhedrosis
(D) Cytoplasmic polyhedrosis

13 The size of virions range from about
(A) 10 to 50 nm in diameter
(B) 2 to 30 nm in diameter
(C) 1 to 3 nm in diameter
(D) 10 to 400 nm in diameter

14 Which protein formation is inhibited by ds DNA onco viruses ?
(A) All of these (B) Tumor suppressing
(C) Tumor binding (D) Tumor inducing

15 Which of the following are examples of chronic viral infections ?
(A) None of these (B) Hepatitis and HIV
(C) Herpes and mononucleosis (D) Influenza and chickenpox

16 Scrapie is caused due to an abnormal form of cellular protein
(A) None of these (B) PrP^{Sc}
(C) PrP^{C} (D) Hsp

17 Which of the following virus infect plants ?
(A) All of these (B) Caulimovirus
(C) Reoviridae (D) Alfamovirus

18 State the function of proto-onco genes
(A) None of these
(B) Induction of DNA synthesis
(C) Induction of RNA synthesis
(D) Both of these

19 Which of the following is the most intensely studied viroid ?
(A) None of these
(B) Potato spindle tuber viroid
(C) Potato mosaic virus
(D) Tobacco mosaic virus

20 Which phenotypic characteristics can be used to classify prokaryotic viruses ?
(A) All of these (B) Envelop
(C) Capsid (D) Genome type

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

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

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

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

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

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

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

28 Which of the following virus reproduction sequence is correct ?
(A) Attachment, penetration, Biosynthesis, Release, Assembly
(B) Attachment, Biosynthesis, Penetration, Release, Assembly
(C) Attachment, Penetration, Assembly, Biosynthesis, Release
(D) Attachment, Penetration, Biosynthesis, Assembly, Release

29 Which sequence is present at plus strand of most RNA animal viruses ?
(A) Poly C
(B) Poly A
(C) Poly T
(D) Poly G

30 In virus which RNA strand can direct the protein synthesis ?
(A) r-RNA
(B) Positive strand
(C) Negative strand
(D) t-RNA

31 Which of the following virus is not having circular DNA as their genome ?
(A) T5 coliphage
(B) SV-40
(C) PM2 phage
(D) M13

32 Which of the following enzyme is located within capsid ?
(A) RNase
(B) Neuraminidase
(C) RNA dependent RNA polymerase
(D) DNase

33 Spikes are also known as :
(A) Hexamers
(B) Polymer
(C) Peplomer
(D) Pentamer

34 ICTV stands for
(A) Indian Council for taxonomy of virus
(B) International Committee for textbook of virus
(C) International Committee for taxonomy of virus
(D) Indian Committee for taxonomy of virus

35 How many virus species classified and catalogued by the ICTV ?

(A) 3000

(B) 1000

(C) 1500

(D) 2000

36 Which unusual morphological characteristics observed among archael viruses ?

(A) None of these

(B) Spindle shape

(C) Droplet shape

(D) Spindle shape and Droplet shape both

37 Which of the following are ss DNA phages of *Escherichia coli* ?

(A) None of these

(B) $\phi X174$ and fd

(C) $\phi X174$ and T4

(D) $\phi X174$ and M13

38 What are the examples of ss RNA bacteriophage ?

(A) T2 and TMV

(B) $\phi X174$ and fd

(C) MS2 and $Q\beta$

(D) T4 and T3

39 Which one of the following is known as genetically simplest phage ?

(A) Both $Q\beta$ and MS2

(B) $Q\beta$

(C) MS2

(D) T4

40 Base plate of T-even bacteriophage is

(A) Hexagonal

(B) Trigonal

(C) Tetragonal

(D) Pentagonal

41 Which part of the T phage can be used to attaches with the host cell ?
(A) Capsid (B) Icosahedron
(C) Tail (D) Nucleic acid

42 Which of the following cannot act as host cell receptor site for phage ?
(A) Plasma membrane (B) Capsule
(C) Pili (D) Cell wall

43 What is prophage ?
(A) None of these
(B) Phage particle after enter in host cell
(C) Incorporation of phage genome into host DNA
(D) Both Phage particle after enter in host cell and Incorporation of phage genome into host DNA

44 Which of the following is not true for eukaryotic viruses ?
(A) Some of them may contain segmented genome
(B) All type of genome are observed among eukaryotic viruses
(C) All eukaryotic viruses are exclusively enveloped viruses
(D) Nucleic acid may be double or single stranded, linear or circular

45 Which one of the following is an example of viroid borne disease ?
(A) All of these
(B) Potato spindle-tuber disease
(C) Exocortis disease of citrus tree
(D) Chrysanthemum stunt disease

46 Which of the following is an example of eukaryotic viruses family having ds DNA with Reverse Transcriptase ?
(A) Papillomaviridae (B) Hepadnaviridae
(C) Poxviridae (D) Polyomaviridae

47 The best studied virusoid is the
(A) None of these
(B) Human hepatitis D
(C) Hepatitis B
(D) Both Human hepatitis D and Hepatitis B

48 Which of the following insect viruses are used as biocontrol agents ?
(A) Retroviruses (B) Rhabdoviruses
(C) Tobravirus (D) Baculoviruses

49 Which of the following is an example of Cytocidal viruses ?
(A) All of these (B) Picornaviruses
(C) Herpesviruses (D) Denoviruses

50 How does viral infection alter plasma membrane structure ?
(A) All of these
(B) By insertion of specific protein
(C) By membrane destruction
(D) By inhibition of membrane synthesi