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Question Bank Semester V

Paper IX: Virology

Q.1 Multiple choice question.

1. An Adenovirus has ---------- copsomers.

a)252 b) 256

c) 522 d) 625

2. Camcers originating in epithelial tissues are called as --------.

a) Lymphomas b) Sarcomas

c) Carcinomas d) Adenovirus

3. The suffix oma & mia indicate ------- & ---------- respectively.

a) Disease & tumor b) tumor& cancer

c) Cancer & disease d) family & genus

4. Cancer cell shows a loss of ---------- which is characteristic feature of normal cells.

a) Precipitation b) anchorage independence

c) contact inhibition d) Aggregation

5. Protooncogene theory was proposed by -------

a) Temin b) Lederberg

c) Jacob & Monad d) Watson & crick

6. P22 is a temperate phage of -----

a) E.coli b) Staph. aureus

c) B. subtilis d) Sal.typhimurium

7. Brain tumor is ------- type of cancer.

a) Leukemia b) Sarcomas

c) lymphoma d) carcinoma

8. During lysogenic interation lambda phage genome gets integrated in between ----- genes of *E.coli.*

a) gal & bio b) Pro A& Pro B

c) his & bio d) Pro A & gel

9. Capsid of ---------- virus is a rigid helical structure.

a) Lambda b) Adeno

c) Tobacco mosaic d) Poly

10. The genome of Adenovirus has --------ends

a) Redundent b) cohesive

c) Inverted repeat d) Pallindromic

11. ---------- viruse are oncorna viruses.

a) Picorna b) Retro

c) Papova d) Adeno

12. Lytic cycle of Lambda phage is established by ------ gene.

a) Cro b) C I

c) C II d) C III

13. Papiloma viruses contain -------- as genetic material

a) RNA b) ss RNA

c) ds DNA d) Ciraular ds DNA

14. --------- virus was first discovered virus.

a) Adeno b) TMV

c) Rabies d) HIV

15. Adenoviruses are --------- viruses.

a) Helical b) Enveloped

c) Complex d) Non enveloped

16. HIV is a --------- virus

a) Naked b) Complex

c) Helical d) Enveloped

17. The basic structural unit of a capsid is known as --------

a) Hexamer b) Capsomer

c) Icosamer d) Heptamer

18. Precipitation of virues is carried out using ---------

a) Ammonium sulphate b) Calcium sulphate

c) Potassium sulphate d) Sodium sulphate

19. Infectious glycoproteins without any DNA, RNA or capsids are known as --------

a) Viroids b) Prions

c) Capsomers d) Interferons

20. --------- is the initial part of the latent period in which infected host does not contain any complete virion.

a) Lag b) Eclipse

c) Log d) Burst

21. Lysis of bacteria by bacteriophages gives rise to a clear, circular area around the colony, known as --------

a) Phage b) Pock

c) Plaque d) Plague

22. One step growth experiment was designed by ----------

a) Doermann b) Louis Pasteur

c) Hershey & Chase d) Ellis & Delbruck

23. ------- beads are used to enumerate virues under electron microscope.

a) Glass beads b) Sephadex

c) Copper d) Latex

24. Q X 174 bacteriophage contain ------- capsomers in its capsid.

a) 60 b) 32

c) 12 d) 72

25. Infectious RNA without protein is known as ---------

a) Prion b) Virus

c) Viriod d) Viriod & Prion

26. An isometric polyhedral virus has ----- vertices.

a) 30 b) 20

c) 60 d) 12

27. Prions are ------ molecules.

a) Infectious single stranded RNA b) non-infectious single stranded RNA

c) Infectious proteins d) non-infectious proteins

28. ------ discovered filtered nature of virus.

a) Ivanovsky b) Watson & crick

c) Louis Pasteur d) Leuvenhooke

29. Viruses are -------

a) Commensals b) Gram positive

c) Obligate intracellular parasites d) Gram positive

30. The smallest known infectious agent consisting of a small circular RNA molecule is called ------

a) Prions b) Viroids

c) Viruses d) None of these

31. Prions are infectious -------

a) Proteins b) Lipids

c) Glycoproteins d) Phospholipids

32. The time from initiation of infection of infected host cell lysis to end is called as ------

a) Burst period b) Plateau period

c) Latent period d) None of these

33. Adeno viruses are ------ viruses.

a) Non Enveloped b) Complex

c) Helical d) Enveloped

34. TMV genome contains --------- genes encodes essential proteins.

a) 2 b) 6

c) 5 d) 4

35. ------- is process in which cells undergo indefinite no. of divisions.

a) Immortalization b) Metastasis

c) Apoptosis d) Angiogenesis

Q.2 Long answer type question.

1. Explain structural properties of viruses.
2. What is binary symmetry of viruses? Explain structure of T4 bacteriophage.
3. Write in detail nucleic acids of viruses.
4. Define lytic cycle. Discuss in detail lytic cycle of T4 bacteriophage..
5. Explain isolation of animal viruses.
6. Write in detail isolation of T4 bacteriophage.
7. Write in detail methods used to purify viruses.
8. What is enveloped spherical virus? Explain structure of AIDS.
9. What is helical virus? Explain structure of TMV.
10. Explain enumeration of viruses.
11. Explain in brief mechanism of repression and integration in lambda lyogeny.
12. Explain Multiplication of TMV.
13. Write in detail reproduction of adenoviruses.
14. Discuss characteristics of cancer cells.
15. What is oncogenic viruses? Explain DNA tumor viruses with examples.

Q.3 Write short notes on.

1. Envelope of enveloped virus.
2. Structure of AIDS virus.
3. Structure of TMV.
4. Structure of T4 bacteriophage.
5. Various types of ds DNA of ds DNA viruses.
6. One step growth curve.
7. Enumeration of viruses by direct electron microscopy method.
8. Enumeration of animal viruses by pock method.
9. Enumeration of bacteriophage by plaque method.
10. Chick embryo method to cultivate animal viruses.
11. Enumeration of animal viruses by different types if cell culture.

12. Cultivation of plant viruses.
13. Use of whole live animals to cultivate animal viruses.
14. Cultivation of bacteriophages.
15. Characters of viroids.
16. Characters of prions.
17. Features of malignant cell.
18. Replication of adenoviral DNA.
19. Oncogene theory.
20. Somatic mutation Hypothesis about cancer.
21. RNA tumor viruses.