Salahaddin University -Erbil

College of Education

Department of Biology

Question Bank of Virology

Fill the Blank with suitable and correct words

1. Defective viruses do not have ----------.
2. In viral replication process Eclipse period between ----------and---------- steps.
3. ----------has helical symmetry ----------has icosahedral symmetry, and ---------- has complex symmetry.
4. A structural component that is found in all viruses is ----------.
5. Epstein-Bar virus causes disease called ---------- and ----------
6. Viroid define as ----------.
7. Virus nucleic acid can be ----------, ----------, ----------, or ----------
8. Viral envelopes form when ---------- and ---------- associate with the plasma membrane of the host cell.
9. Prion not virus it produces ---------- disease and ---------- disease in human.
10. Virus divided into cubic, helical, and complex symmetry based on --------- and ----------
11. Synthesis of capsid components during replication process is directed by ----------
12. Varicella-zoster virus causes disease called ---------- and ----------
13. All DNA virus replicate in nucleus only ---------- virus replicate in cytoplasm.
14. During uncoating step cell enzymes like--- in the vacuole dissolve the viral envelope and capsid.
15. Some groups of bacteria…… are classified into strains on the basis of the spectrum of phages to which they are susceptible.
16. The smallest and simplest form of life on earth which can replicate only in living cells called……
17. ---------- enzyme carried by viruses with negative-sense RNA genomes that are needed to copy the first mRNAs.
18. The protein + nucleic acid complex representing the packaged form of the viral genome called----------
19. ---------- is the complete or partial removal of the capsid to release the virus genome
20. Virus nucleic acid can be ----------, ----------, ----------, or ----------
21. Viral envelopes form when -------- and ----- associate with the plasma membrane of the host cell
22. Prion not virus it produces ---------- disease and ---------- disease in human
23. Virus divided into cubic, helical, and complex symmetry based on ---------- and ---------
24. Synthesis of capsid components during replication process is directed by ----------
25. Varicella-zoster virus causes disease called ---------- and ----------

26. All DNA virus replicate in nucleus only ---------- virus replicate in cytoplasm.
27. During uncoating step cell enzymes like---------- in the vacuole dissolve the viral envelope and capsid.
28. Smallest infectious virus is……and largest one is ……
29. Some groups of bacteria…… are classified into strains on the basis of the spectrum of phages to which they are susceptible.
30. The smallest and simplest form of life on earth which can replicate only in living cells called……
31. ---------- enzyme carried by viruses with negative-sense RNA genomes that are needed to copy the first mRNAs.
32. The protein-nucleic acid complex representing the packaged form of the viral genome called----------
33. ---------- can be defined as the complete or partial removal of the capsid to release the virus genome.
34. During viral replication the capsid sometimes encloses host nucleic acid rather than viral nucleic acid and produce ----------

Read the sentence carefully, write (True) if the sentence is correct and (False) if it is incorrect

1. All DNA virus replicate in nucleus
2. Varicella-zoster virus causes chicken pox and shingles disease
3. The Pandemic virus which distributed in 2012 called SARSCoV-1
4. Holmes is a classification system that places viruses into one of seven groups
5. The SARSCoV-2 is negative segmented single stranded RNA virus
6. Cubic virus is composed of 20 equilateral triangles, 12 vertices and has 2, 3, 5 rotational symmetries.
7. Many viruses that infect humans and other animals are enveloped.
8. Only capsid serves as antigens which elicit an immune response.
9. Envelope is composed of regular, repeating subunits that give rise to their crystalline appearance.
10. Enveloped virus accumulates in cytoplasm and released during lysis.
11. Virus attachment to host cell does not required energy.
12. Abortive infection produces infectious virus which may be defective
13. Sample specimen of non-enveloped viruses like adenovirus more stable than enveloped virus like VZV.
14. Primary infection usually less severe than recurrent infection, triggered by menstruation, and stress.

15. Virus is not cell and independently fulfills the characteristic of life.
16. Envelope is molecular structure composed of regular, repeating subunits that give rise to their crystalline appearance.
17. Only capsid serves as antigens which elicit an immune response.
18. Some proteins form a binding layer between the envelope and the capsid
19. Many viruses that infect humans and other animals are enveloped.
20. Genome packaging has an important role in the infection.
21. Defective viruses require a second (helper) virus for replication.
22. Prions are viruses responsible for transmissible and spongiform encephalopathies.
23. Cubic symmetry is composed of 20 equilateral triangles, 12 vertices and has 2,3,5 rotational symmetry.
24. Enveloped virus accumulates in cytoplasm and released during lysis.
25. RNA viruses- replicated and assembled in the cytoplasm
26. Components of capsid synthesis directed by late genes
27. Enveloped viruses (adenovirus, enteroviruses) more stable than non-enveloped (e.g., RSV, VZV, CMV).
28. Tegument is viral matrix and a cluster of proteins that lines the space between the envelope and nucleocapsid of all herpesviruses.
29. Virus does not affect with Interferon.
30. In contrast to the viral envelope which are derived from the host cell membrane, the glycoproteins are virus-encoded.
31. Although virus can mutate, they consider as non-living particle.
32. Virus attachment is energy-dependent step in replication process.
33. Virus attachment to host cell does not required energy.
34. Virus considers as simplest and smallest particle in the world.
35. Although virus can replicate, they consider as non-living particle.
36. Virus Entry is energy-dependent step in replication process.
37. All RNA virus replicates in nucleus except poxvirus
38. Baltimore scheme is a classification system that places viruses into one of seven groups
39. The protein + nucleic acid complex representing the packaged form of the viral genome called envelop

40. Attachment is the complete or partial removal of the capsid to release the virus genome.
41. Tegument is defined as the layer located between capsid and Envelope
42. Eclipse phase start from the attachment of virus to host cell till assembly process in replication
43. Herpes virus cause persistent infection and they remain latency in neuron cell
44. Tegument more commonly known as a viral matrix, is a cluster of proteins that lines the space between the envelope and nucleocapsid of all herpesviruses.
45. Envelope morphologic units seen in the electron microscope on the surface of icosahedral virus particles and represents clusters of polypeptides.
46. Virus does not affect with antibiotics
47. Radiation can be used to distinguish viruses that possess an envelope from those that do not
48. In contrast to the lipids in viral membranes, which are derived from the host cell, the envelope glycoproteins are virus-encoded
49. Viruses are obligate intracellular parasites. They replicate only inside living cells
50. Virus considers as non-living particle cause it, they are acellular, they contain no cytoplasm or cellular organelles
51. Virus attachment is energy-dependent step.
52. Tegument is viral matrix and a cluster of proteins that lines the space between the envelope and nucleocapsid of all herpesviruses.
53. Envelope morphologic units seen in the electron microscope on the surface of icosahedral virus particles and represents clusters of polypeptides.
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56. In contrast to the lipids in viral membranes, which are derived from the host cell, the envelope glycoproteins are virus-encoded.
57. Viruses are obligate intracellular parasites; they replicate only inside living cells.
58. Virus considers as non-living particle cause it, they are acellular, they contain no cytoplasm or cellular organelles.

- Count types of DNA and RNA virus that infect human (in diagram)

- Make difference between Picornavirus and Astrovirus through (virus size, shape, genome, and one example)
- Make difference between Picornavirus and Calicivirus through (virus size, shape, genome, and one example)
- Explain briefly genetic re-assortment with example
- Mention family name of below virus

A- Rotavirus B- Influenza A viruses C- Torovirus D- Rubella virus

E- Coxsackievirus

- Short definition

Pseudovirus Regressive hypothesis Capsomer Eclipse Phase Prion Tegument Viroid

- Mention the unique characters of these family

A. Poxvirus
B. Adenovirus

- Mention name of Herpes group virus associated with the following disorders:

1. Chicken pox varicella virus
2. Infectious Mononucleosis Epstein Bar virus
3. Fetus microcephaly Cytomegalovirus
4. Fever blister Herpes simplex virus 1

- Mention family name of virus below

A. Cytomegalovirus Herpesviridae
B. Molluscum contagiosum Poxviridae
C. Epstein-Barr virus Herpesviridae
D. JC virus Polyomaviridae
E. SARSCoV-2 Coronaviridae

- Count the architecture of virus with one example
- Describe the principle of Baltimore classification and draw the scheme of groups
- Explain the basic criteria use in modern classification system
- Mention the usage (application) of virus in general (only five)

with graph show the immune responses to words viral infection in general

- Write type of viral architecture with one example for each group
- with graph show the immune responses to words viral infection in general
- Write type of viral architecture with one example for each group

- Write name of Herpes group virus which establish latent infection in:

1- Cranial nerve 2-B-cell

- Mention name of Herpes group virus associated with the following disorders:

1-Chicken pox

2-Infectious Mononucleosis

3-Fetus microcephaly

4-T-cell leukemia

5- Roseola

- Write virus name for each statement below:

A-Non-enveloped, single stranded DNA virus

B-Large brick-shaped, enveloped DNA virus

C-Star shaped outline surface (+SSRNA) virus

D-Petal shape outline surface, non-segmented (+SSRNA) virus

E-Bullet shape, non-segmented (–SSRNA) virus

- Mention family name of virus below

A- Respiratory syncytial virus

B- Molluscum contagiosum

C- Epstein-Barr virus

D- JC virus

E- Rhinovirus

- Viral envelope Vary in:
- Write Lytic infection steps of animal virus
- Enveloped viruses are liberated from infected cell by:

- Exocytosis

- Budding

- Count Mechanisms of viral transmission
- Draw and label architecture (Symmetry) of virus with one example.

1-Helical

2-Icosahedral

3-Complex (binomial)

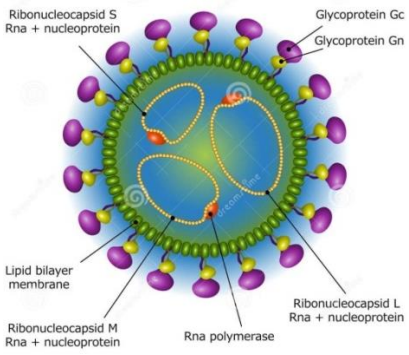
B- Count Biosynthesis steps in Viral replication (Sequentially).

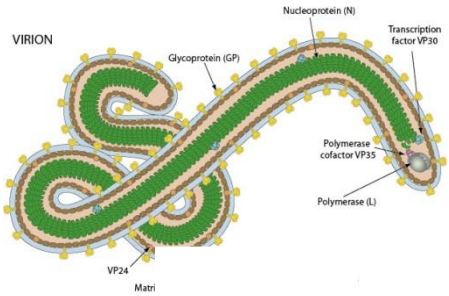
- Make difference between

1-Pseudovirus and Defective virus

2-Virus and Viroid

- Explain the Evolutionary Hypothesis of virus
- Draw and label the typical structure of virus.
- Count viral replication steps (Sequentially).
- Write five general characters of virus
- Mention the unique characters of Adenovirus family
- count the usage of virus
- Define an Icosahedral virus and draw it
- Write scientific name of each family

- 
Ribonucleocapsid S
Rna + nucleoprotein
Glycoprotein Gc
Glycoprotein Gn
Lipid bilayer
membrane
Ribonucleocapsid M
Rna + nucleoprotein
Rna polymerase
Ribonucleocapsid L
Rna + nucleoprotein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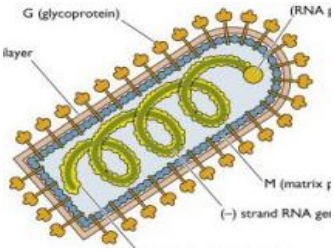
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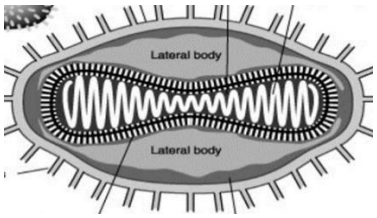
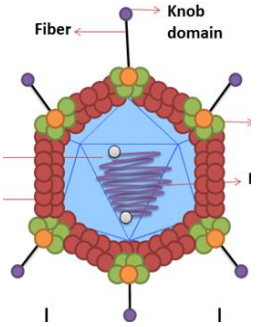
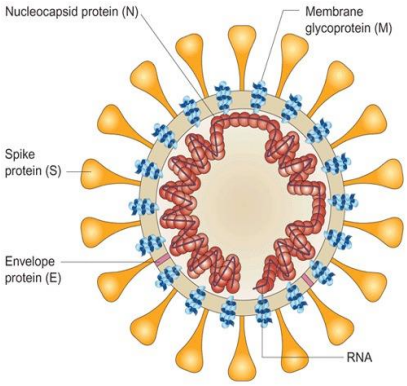

Lateral body
Lateral body


Fiber
Knob
domain


Nucleocapsid protein (N)
Membrane
glycoprotein (M)
Spike
protein (S)
Envelope
protein (E)
RNA