

Benha University

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Faculty of Science

Botany Department

Virology exam for 4th year Botany & chemistry students

Answer the following questions:

1- Give explanation about:

- a. Functions of viral capsid.
- b. Rickettsia.
- c. Characters of Interferon

2- Complete:

- a- Adenovirus has pentons and hexons
- b- Viruses are classified according to type of nucleic acid into Or
- c- Local infections occur at e.g.
- d- Structural forms of viruses in nature are,.....,.....,.....or
- e- is used to detect virus particles in fluid or tissue extracts treated with special stains.

3- Put (✓) or (X)

- a- All viruses contain envelope ()
- b- Hepatitis B is transmitted by injection ()
- c- Viruses are sensitive to antibiotics ()
- d- Short incubation periods less than a week ()

Best wishes



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اجابة امتحان مادة الفيروسات للفرقة الرابعة نبات و كيمياء الأربعاء ٢٤ - ١٢ - ٢٠١٤

1- Give a brief explanation about:

a- Functions of viral capsid: it protects viral genome against inactivation by nucleases, it responsible for the structural symmetry of the virion, it facilitates attachment of the virus to the host cell in the process of infection and it is the site of antigens.

b- Rickettsia are intermediate between bacteria and virus, the outer cell wall is very thin, it contains DNA and RNA, it is obligate intracellular parasite, replicates by binary fission, sensitive for antibiotics, posses metabolic activities, cannot cultivated in artificial media, insects are the vectors for transmission of Rickettsia and feeds on xylem or between xylem.

c- Characters of Interferon: they are small protein containing all amino acids without nucleic acid, they are sensitive to proteolytic enzymes, they are weakly antigenic, they are thermostable at 4.5C and resist heating at 50.5C for one hour.

2- Complete:

a- Adenovirus has **12** pentons and **240** hexons

b- Viruses are classified according to type of nucleic acid into **DNA** or **RNA**

c- Local infections occur at **the part of entry** e.g. **Influenza viruses**

d- Structural forms of viruses in nature are **naked icosahedral, naked helical, enveloped icosahedral, enveloped helical** or **complex**.

e- **Electron microscopy** is used to detect virus particles in fluid or tissue extracts treated with special stains.

3- Put (✓) or (X)

- a-** All viruses contain envelope (X)
- b-** Hepatitis B is transmitted by injection (✓)
- c-** Viruses are sensitive to antibiotics (X)
- d-** Short incubation periods less than a week (✓)
- e-** ELISA is a sensitive and rapid detection method (✓)

أستاذ المادة: دا صباح أبو المعاطي أحمد

كلية العلوم / قسم النبات