



Benha university Time: one hr.

Faculty of Science

Code: ٢١٠٠

Botany Department

Botany exam for 1st level students

Answer the following questions:

The 1st question: complete:(18 degrees)

- 1- Viruses are still biologists "puzzle" because they show both **living** and **non living** characters.
- 2- Fungi lacking chlorophyll, therefore they may be live as **parasite** or **saprophytes** or **symbiotic**.
- 3- Chemically virus is composed of **protein** and **nucleic acid**.
- 4- Higher bacteria include the **actinomycetes** and **spirochates**.
- 5- Spiral-shaped bacteria divided into **vibrions** and **spirella**.
- 6- Gills of *Agaricus* consists of three layers **sub hymenium** layer , **hymenium layer** and **trama**.
- 7- In tetracocci bacteria the cell divides in **two** planes.
- 8- Cell wall of *Diatoms* consists of two overlapping valves, the outer called **epitheca** and the inner called **hypotheca**.
- 9- Chemical analysis of isolated bacterial flagella shows that it composed of a protein called **flaglin**.
- 10- The fragment between each two heterocysts is called **hormogonia**.
- 11- In cyanophyta the asexual reproduction takes place by means of **endospore** and **exospore**.

- 12- Algae have **eucaryotic** nucleus.
- 13- Bacteriophages are replicated by **lytic** or **lysogenic** cycle.
- 14- Chlorophyta include unicellular forms e.g **chlamydomonas**, colonial forms e.g **volvox** or **pandorina** and filamentous forms e.g **spirogyra**.
- 15- The cells inside *Volvox* are inclosed in a **gelatinous** sheath and are connected by **cytoplasmic** strands.
- 16- Diatoms stored food in the form of **fats**
- 17- Bacteria posses three shapes which are **cocci**, **bacilli** and **spiral**
- 18- Bacteria placed in the division **monera**
- 19- Viruses that cause diseases in fungi are called **mycoviruses** and viruses that attack blue green algae are called **cyanophages**

The 2nd question: Put (✓) or (X): **(15 degrees)**

- 1- Viruses are defined as ultramicroscopic, disease causing intra cellular obligate parasites. (✓)
- 2- *Streptomyces* actinomycetes are abundant in the air (X)
- 3- bacteriophages are head and tail viruses. (✓)
- 4- In streptococci division of cell is in several planes (X)
- 5- Viruses can be crystallized outside a host. (✓)
- 6- The cytoplasmic membrane of bacteria is thin elastic membrane formed of three layers. (X)
- 7- Viruses can't pass through bacterial filters. (X)
- 8- Both vibriones and spirilla move by flagella. (X)
- 9- Spirochaetes bacteriaare resembling fungi. (X)
- 10- bacteria which cause diseases to a host are known as parasites (✓)
- 11- The virus contains both DNA and RNA together as nucleic acid material. (X)
- 12- *Pandorinais* spherical motile hollow colony. (X)

- 13- *Rhizopus* is a parasitic fungus. (X)
- 14- *Penicillium* conidiophore is branched (✓)
- 15- *Spirogyra* reproduces by budding. (X)
- 16- Heterotrophic bacteria which obtain their food from living organisms are called saprophytes. (X)
- 17- Aerobes are the groups of bacteria which require free supply of oxygen for growth. (✓)
- 18- *Volvox* is more advanced colony than *Pandorina* (✓)
- 19- Bacterial cell structures have a no typical nucleus. (✓)
- 20- *Spirogyra* is a coenocytic filament. (✓)
- 21- A tuft of flagella at one pole of the bacterial cell called lophotrichous. (✓)
- 22- Bacterial viruses (phages) contain RNA. (✓)
- 23- *Agaricus* is related to class Ascomycetes. (X)
- 24- The kingdom protista include all prokaryotic organisms. (X)
- 25- The generation time ranges from 10 minutes to 5 hours. (X)
- 26- The female sex cells in *Volvox* are called oogonia. (✓)
- 27- The capsid is in close contact with the nucleic acid and hence known as nucleocapsid. (✓)
- 28- Fungi are eukaryotic organisms (✓)
- 29- Diatoms are motile by many flagella. (X)
- 30- Yeast is filamentous fungi. (X)

The 3rd question: Choose the correct answer: (15 degrees)

- 1- *Pandorina* is consisting of 16 *Chlamydomonas* cells.
- 2- Actinomycetes bacteria resembling fungi.
- 3- The general method of reproduction in bacteria is by cell division.

- 4- Bacteria are generally unicellular .
- 5- HIV is cubic symmetry virus.
- 6- The capsid is often composed of many identical subunits called capsomeres.
- 7- Recent evidence indicates that the bacterial flagella originate from cytoplasm.
- 8- Bacterial spores may stand temperatures as low as -260°C .
- 9- In sarcina bacterial form the cell divides in three planes.
- 10- The spiral shape chloroplast in spirogyra contain many pyrenoids.
- 11- anaerobes include the bacteria which grow in complete absence of oxygen.
- 12- Diatoms reproduce asexually by cell division.
- 13- Chloroplast of *Chlamydomonas* contains pyrenoid.
- 14- Conidiophore of *Aspergillus* is usually unbranched .
- 15- Acircular molecule of ssRNA without a capsid called viroids.

With Our Best wishes

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كود المادة: ١٠٠ ان

امتحان: نصف العام ٢٠١٤-٢٠١٥

تاريخ الامتحان: ٢٠١٥/١/١٢

زمن الامتحان: ساعة

الفرقة: الاولى

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