

**I-Answer the following questions: (each 10 marks)**

**1-Give a short account on each of the following bacterial cell structures:**

**2-Discuss viral structure and classification.**

**3-Discuss different types of poliomyelitis vaccine.**

**4-Give a short account on virulence factors, diseases, and laboratory diagnosis of each following bacteria:**

**II-Choose the best one answer: (each 2 marks)**

1-A structural component that is found in all viruses is:

- a- The envelope
- b- DNA
- c- Capsid
- d- Spikes

2- the genome of viruses is:

- a- DNA only
- b- RNA only
- c- Both DNA and RNA
- d- DNA or RNA

3-a chemical component of the capsid is:

- a- Protein
- b- Lipid
- c- Glycoprotein
- d- Carbohydrates

4-all the following are the symptoms of tuberculosis except:

- a- Weakness and fatigue
- b- Decreased body temperature.
- c- Weight loss
- d- Cough

5-the best method of sterilization of surgical instrument is:

- a- Boiling water
- b- Ultraviolet radiation

- c- Autoclave
- d- Chemical disinfectants as chlorine

**III- Put true or false: (each 2 marks)**

- 1- Peptidoglycan of bacterial cell wall is composed of lipids.
- 2- Viral envelope is composed of proteins.
- 3- Staphylococci cause localized infections like abscess.
- 4- Pharyngitis is caused by streptococcus pyogenes.
- 5- Spore formation protects bacteria from unfavorable environment conditions .