Short Answer Type Questions-II

Q. 1. Compare photosynthesis with chemosynthesis.

Ans.

S. No.	Photosynthesis	Chemosynthesis
(i)	Photosynthesis occurs in sunlight.	It occurs day and night both.
(ii)	Light is necessary.	Light is not necessary.
(iii)	Photosynthetic bacteria have bac-terio-chlorophyll which help in trapping the solar energy and converting it into chemical energy.	The energy required for synthesis of food is obtained by oxidizing chemical substances found in the surrounding medium.

Q. 2. Distinguish between autotrophic and heterotrophic bacteria.

Ans.

S. No.	Autotrophic Bacteria	Heterotrophic Bacteria
(i)	The bacteria synthe-sise their own food.	The bacteria obtain organic food or organic growth factors from outside sources.
(ii)	They depend on an external sources of energy for synthesis of food.	An external source of energy is not required.
(iii)	Autotrophic bacteria live on inorganic substrata.	Heterotrophic Bacteria live on organic substratum Or living host.

Q. 3. Give the important features of Protozoa.

Ans. (i) They are microscopic unicellular organisms with varied forms and shapes.

(ii) They lack cell wall.

(iii) Locomotion occurs by pseudopodia, flagella and cilia.

(iv) They Show heterotrophic mode of nutrition which may be holozoic, parasitic or saprobic.

(v) These reproduces asexually by binary fission.

Q. 4. Draw a well labelled diagram to show E.M view of a cyanobacterial cell.

Ans.

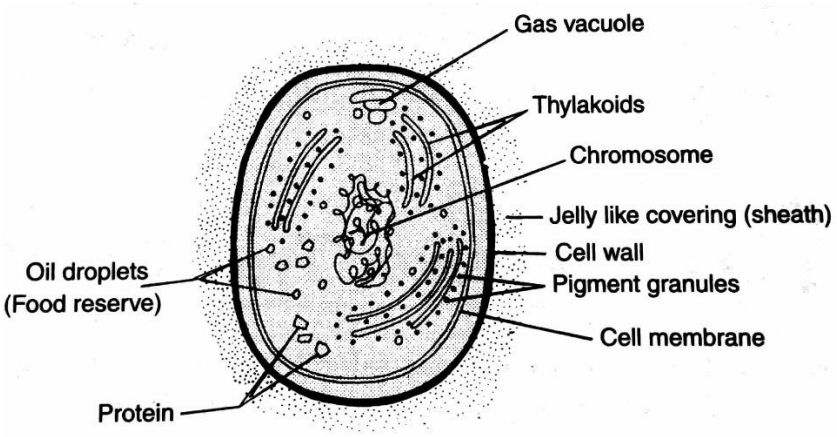

Fig. Structure of a cyanobacterial cell : Revealed by Electron Microscope

Q. 5. What are chemoautotrophic bacteria? How they obtain energy+?

Ans. Chemoautotrophic Bacteria : (i) They are bacteria which are able to manufacture their organic food from inorganic raw materials with the help of energy derived from exergonic chemical reactions involving oxidation of an inorganic substance present in the external medium.

(ii) The chemical energy obtained from oxidation reaction is trapped in ATP molecules

(**iii**) For example, nitrifying bacteria, sulphur oxidizing bacteria and iron bacteria.

Q.6. Write a short note on Mycoplasma.

Ans. (i) Mycoplasma are the simplest unicellular prokaryotes.

(ii) They are often called as PPLO (pleuropneumonia like organisms).

(iii) They occur in soil, sewage, human and plants.

(iv) Plasma membrane is present.

(v) Due to absence of cell wall they can change their shape easily

(vi) They lack organised nucleus, endoplasmic reticulum, plastids, mitochondria, golgi bodies, lysosomes. etc.

(vii) A single naked DNA duplex lies coiled in the cytoplasm.

(viii) They cause several diseases such as Pneumonia in man and animals.

Q.7. Write a brief note on the economic importance of bacteria.

Ans. (i) Bacteria are very important for humans. They causes decay and decomposition of dead bodies of plants and animals, so they help in cleaning the earth.

(ii) They fix atmospheric N_2 into nitrates, lactic acid bacteria convert milk sugar lactose into lactic acid.

(iii) They convert ethyl alcohol into vinegar, produces butyl alcohol and acetone.

(iv) A number of antibiotics are obtained from mycelial bacterium like streptomycin from Streptomyces bacterium.

Q.8. What are hormogonia ? Give one examples of cyanobacteria which reproduce by binary fission.

Ans.(i) Hormogonia are motile filaments of cells formed by some cyanobacteria.

(ii) They are formed during asexual reproduction unicellular, filamentous cyanobacteria.

(iii) The thick walled hormongonium is referred to as hormocyst. Hormocysts are helpful in reproduction.

(iv) Unicellular cyanobacteria which reproduce binary fission is *Chroococcus*.

Q.9. What are the economic importance of diatoms ?

Ans. (i) Diatoms are an important source of food to aquatic animals.

(ii) Diatomite is porous and chemically inert, therefore used in filtration of sugar, alcohols and antibiotics.

(iii) It is also employed as a cleansing agent in tooth pastes and metal polishes.

(iv) It is also employed as insulation material in refrigerators, boilers and furnaces.