

**Section-A (MCQ's)****Q.1 Choose the correct answer for each from the given options:**

- (i) "ULVA" is found attached to hard surface with:  
 (a) Roots (b) Rhizoids (c) Hold-Fast (d) Root-Hairs
- (ii) Most serious plant-pathogen (powdery mildew) belongs to:  
 (a) Zygomycota (b) Ascomycota (c) Basidiomycota  
 (d) Deuteriomycota
- (iii) During Glycolysis, there is net gain of \_\_\_\_\_ ATP molecules:  
 (a) Two (b) Four (c) Six (d) None of these
- (iv) Chlorella reproduces asexually by:  
 (a) Zoospores (b) Zygospores (c) Aplanospores  
 (d) Pneumatophores
- (v) Active transport of sucrose into sieve-elements is a step, commonly called:  
 (a) Osmosis (b) Diffusion (c) Phloem loading (d) Un-loading
- (vi) Which of the following disease is not caused by ARBO-VIRUSES?  
 (a) Encephalitis (b) Dengue (c) Yellow fever (d) Rabies
- (vii) Bacterial growth phase, when it is inactive.  
 (a) LAG-phase (b) LOG-phase (c) Stationary phase  
 (d) Decline phase
- (viii) Group of Bryophytes in which "Sporophyte" is independent and can continue to survive even after the death of gametophyte:  
 (a) Liver-worts (b) Mosses (c) Horn-worts  
 (d) None of these
- (ix) Which one is not the event of light reaction of photosynthesis?  
 (a) Photolysis of water (b) Synthesis of ATP  
 (c) Carboxylation (d) Photophosphorylation

**Section-B (Short Answer)****Note: Answer any TEN of the following questions. Each question carries 02 marks.**

- Q.2 Give the types of viruses on molecular basis causing HEPATITIS-A B and C.
- Q.3 Which part of bacteria provides greater PATHOGENICITY and protects them against adverse conditions?
- Q.4 Name the family to which "GUL-E-MOHAR" plant belongs, Also give its botanical name.
- Q.5 For what reason CYANO-BACTERIA are often called the first colonisers of moist soils?"
- Q.6 Enlist the main factors which greatly influence the opening and closing of stomata.
- Q.7 Write down the botanical names and the families of the following plants:  
 (i) Sweet-pea (b) Red-pepper (c) Pear (d) Amaltas
- Q.8 Define any TWO of the following:  
 (i) Bacterial conjugation (b) Heterospory  
 (iii) Fermentation (d) Di-Karyotic Hypha
- Q.9 Distinguish between any ONE of the following in tabulated form:  
 (i) Micro-Sporangium and Mega-Sporangium of Angiosperm  
 (ii) Schizogony and Sporogony
- Q.10 How bacterial Photosynthesis differ from green plants?
- Q.11 What is Productivity?
- Q.12 What is the digynous character of family Poaceae?
- Q.13 Give salient features of carnivorous plants.
- Q.14 How solute-potential and water potential affect the rate of osmosis?

**Section-C (Descriptive Answer)****Note: Answer any TWO of the following questions Each question carries 07 marks.**

- Q.15 What is Ascent of Sap? Describe the most acceptable theory regarding ascent of sap.
- Q.16 What are the characteristics of PTEROPSIDA? Describe life-cycle of an advanced PTEROPSIDA.
- Q.17 What are fungi? Describe fungal body and mode of reproduction in fungi.  
**OR** Describe the phase of photosynthesis where inorganic carbon is converted into organic carbon without using energy of light.