

**Shivaji University , Kolhapur**  
**B.Sc. (Part- III (Semester –V) Examination, October-2020**  
**BOTANY (PAPER-XI) Subject. Code: 65838**  
**(Fundamentals of Plant Physiology & Ecology)**

Signature of Student

Signature of Jr. Supervisor

Seat No.-

PRN:

**Day and Date: October, 2020****Total Marks: 50****Time:**

- Instructions:** **A Attempt any 25 questions**  
**B Each question carries 2 marks.**  
**C First 25 solved questions will be considered for the evaluation.**  
**D Write the correct alternative answer in the box**

1.The term ecology was coined from Greek word \_\_\_\_\_

- a) oikos                      b) logous  
c) ecos                        d) house

2.Kranz anatomy is characteristic of \_\_\_\_\_

- a) C<sub>4</sub> plants                b) C<sub>3</sub> plants  
c) CAM plants              d) Succulent plants

3.In photosynthesis light is converted to \_\_\_\_\_

- a) Chemical energy        b) Kinetic energy  
c) Radiant energy         d) Photochemical energy

4.During night, the stomata are open in \_\_\_\_\_

- a) CAM plants              b) C<sub>4</sub> plants  
c) C<sub>3</sub> and C<sub>4</sub> plants        d) C<sub>3</sub> plants

5.\_\_\_\_\_number of elements are called essential elements.

- a) 17                            b) 20  
c) 25                            d) 30

6.\_\_\_\_\_ are the micronutrients to the plants.

- a) Cu, Fe, Mn                b) N, P, K  
c) Ca, K, Na                 d) C, N, O

7. Which of the following is a micronutrient \_\_\_\_\_
- a) Cu                                      b) K  
c) Ca                                      d) Na
8. Process of selective transmission of liquid through semipermeable membrane is called as \_\_\_\_\_
- a) Diffusion                              b) Osmosis  
c) Plasmolysis                              c) Transmission
9. Nitrogen is converted to ammonia in presence of \_\_\_\_\_ enzyme.
- a) Peroxidase                              b) Catalase  
c) Ligase                                      d) Nitrogenase
10. Glycolysis process occurs in \_\_\_\_\_
- a) Cytosol                                      b) Endoplasmic reticulum  
c) mitochondria                              d) chloroplast
11. Nif-genes are reported in bacterium \_\_\_\_\_
- a) Escherichia coli                              b) Xanthomonas campestris  
c) Cercosporarosicola                              d) Klebsiella pneumoniae
12. In C<sub>4</sub> cycle, the first stable compound is three carbon organic acid named as \_\_\_\_\_
- a) Pyruvic acid                                      b) Oxaloacetic acid  
c) 3-Phosphoglyceric                                      d) Phosphoric acid
13. Heterocysts in blue green alga consists of enzyme \_\_\_\_\_
- a) nitrate reductase                                      b) nitrogenase  
c) catalase    d) dehydrogenase
14. \_\_\_\_\_ number of elements are „essential elements“.
- a) seventeen    b) Seven  
c) twenty one    d) twenty Seven
15. In photophosphorylation process, sunlight is used for synthesis of \_\_\_\_\_
- a) PGA    b) ATP  
c) AMP    d) ADP

16. During light reaction, splitting of water molecule occurs, the process is referred as \_\_\_\_\_
- a) Photolysis.                      b) Phosphorylation  
c) Photoperiodism                  d) Photorespiration
18. The plants are called \_\_\_\_\_ of Ecosystem.
- a) Producers      b) Decompose      c) Consumers      e) Rotifers
19. Ecological pyramids are \_\_\_\_\_ in nature.
- a) triangular      b) Quadrangular      c) Pentangular      d) hexagonal
20. The mangrove ecosystem shows \_\_\_\_\_ type of food chain.
- a) Grazing              b) Detritus              c) Natural      d) Heterotrophs
21. The electron transport system consist \_\_\_\_\_ large macromolecular complex.
- a) one                  b) two                  c) three                  d) four
22. Conversion of Pyruvic acid to Acetyl Co- A requires \_\_\_\_\_ is one cofactor.
- a) Mg ions              b) Fe ions      c) Zn ions              d) Cu ions
23. \_\_\_\_\_ are the sites of photorespiration.
- a) chloroplast peroxisomes and Mitochondria  
b) Mitochondria , ribosomes and peroxisomes  
c) chloroplast, Golgi complex , ribosomes  
d) Mitochondria , ribosomes and chromosomes
24. \_\_\_\_\_ cycle is sedimentary cycle.
- a) Phosphorus              b) water      c) Nitrogen              d) Carbon
25. Energy flow is always \_\_\_\_\_
- a) Unidirectional                      b) Multidirectional  
c) Circular                                  d) Bidirectional
26. \_\_\_\_\_ is product of aerobic Respiration
- a) Pyruvic acid              b) alcohol  
c) Ethylene                  d) Malic acid

27. In Pond ecosystem the pyramid of biomass is \_\_\_\_\_

- a) upright
- b) inverted
- c) spindle shaped
- d) None of this

28. \_\_\_\_\_ are the elements, without which, the plants will not be able to complete its life cycle.

- a) Fertilizers
- b) Microelements
- c) Macroelements
- d) Essential elements

29. Diffusion of water through selectively permeable membrane is \_\_\_\_\_

- a) osmosis
- b) imbibition
- c) translocation
- d) diffusion

30. Community refers to \_\_\_\_\_ components of the ecosystem.

- a) living and non-living
- b) non-living
- c) living
- d) none of the above