



## IPE MODEL :: BOTANY

**Syllabus: MICROBIOLOGY - BACTERIA AND VIRUSES, TRANSPORT IN PLANTS, MINERAL NUTRITION, ENZYMES, PHOTOSYNTHESIS IN HIGHER PLANTS : UPTO PHOTOSYNTHETIC PIGMENTS**

### SECTION-A

- I. VSAQ: Answer ALL the questions.** **10 x 2= 10 M**
1. What are pleomorphic bacteria? Give an example.
  2. What is the shape of TMV? What is its genetic material?
  3. Distinguish between action spectrum and absorption spectrum.
  4. What do the four digits of an enzyme code indicate?
  5. Why proposed ' Lock and Key hypothesis' and induced fit hypothesis?
  6. Define hydroponics.
  7. Explain the role of the pink colour pigment in the root nodule of legume plants. What is it called?
  8. What are apoplast and symplast?
  9. Compare imbibing capacities of pea and wheat seeds.
  10. What are porins? What role do they play in diffusion?

### SECTION-B

- II. SAQ: Answer any six of the following questions.** **6 x 4 = 24 M**
11. Explain the structure of T- even bacteriophages.
  12. Explain the conjugation in bacteria.
  13. Explain the steps involved in the formation of root nodule.
  14. "Transpiration is a necessary evil". Explain.
  15. Explain the mechanism of enzyme action.
  16. Write briefly about enzyme inhibitors.
  17. Draw a neat labelled diagram of chloroplast?
  18. How are bacteria classified on the basis of number and distribution of flagella?

### SECTION-C

- III. LAQ: Answer any TWO of the following questions.** **2 x 8 = 16 M**
19. Explain the nitrogen cycle, giving relevant examples.
  20. a) Define and explain water potential.  
b) Write short notes on facilitated diffusion.
  21. Explain the mechanism of opening and closing of stomata.