

SAVITRIBAI PHULE PUNE UNIVERSITY
Progressive Education Society's
Modern College of Arts, Science and Commerce, Ganeshkhind, Pune-411016 (Autonomous)
B.Sc. Blended Program
(A degree of Savitribai Phule Pune University equivalent to the degree of University of Melbourne)

End Semester Examination: Nov. –Dec. 2023

Program: B.Sc. Blended Semester: III SET: A
Program (Specific): B. Sc. Blended (Chemistry) Course Type: Core Course Theory
Class: S. Y. B. Sc. Blended Max. Marks: 50
Name of the Course: Functional Biology
Course Code: Bio 304 Time: 2 ½ hrs
Credit: 3

Note:

- 1) All questions as compulsory
- 2) Figures to the right corner indicate full marks
- 3) Use of scientific calculators is allowed
- 4) Draw diagrams wherever necessary.
- 5) Use only Black or blue ink/ball/gel pens for writing.

Q.1] Select the correct option. (Any 10 out of 12) [1M x 10 = 10M]

Write the entire statement in the answer sheet with the correct option.

1. Which one of the following is a Boron (B) deficiency syndrome?
 - a) Elongated stem
 - b) Chlorosis in young leaves
 - c) Chlorosis in older leaves
 - d) Inhibition of cell division
2. At the time of loading of phloem which of the following happens...
 - a) Flaccid Phloem
 - b) High turgor pressure
 - c) Low water potential
 - d) Plasmolysed phloem
3. Which of the following is NOT the class of secondary metabolite.
 - a) Amino acids
 - b) Terpenes
 - c) Phenolics
 - d) Alkaloids
4. The stem of plant is bent down and cover with soil until rooting is called...
 - a) Layering
 - b) Grafting
 - c) Cutting
 - d) Budding
5. Abscisic acid is known as stress hormone because it.....

- a) Breaks seed dormancy
 - b) Induces flowering
 - c) Promotes of closure of stomata
 - d) Promotes leaf fall
6.is gaseous plant hormone.
- a) Ethylene
 - b) IBA
 - c) NAA
 - d) Abscisic acid
7. Multilayer of cells and the lowest layer lying on the basement membrane_____
- a) Muscular tissue
 - b) Simple epithelium
 - c) Nervous tissue
 - d) Compound epithelium
8. A long tube that carries air from the nostril to the lungs
- a) Oesophagus
 - b)Trachea
 - c)Ureter
 - d) Oviduct
9. Gas exchange takes place in the
- a) Alveoli
 - b) Larynx
 - c).Phayrnx
 - d) Trachea
10. What gland is located just superior to the kidneys?
- a). Pituitary
 - b) Adrenal.
 - c) Pancreas
 - d) Ovaries
11. Which if the following gland which can be classified as an endocrine and an exocrine gland?
- a) Thyroid.
 - b) Thymus.
 - c) Pancreas.
 - d) Pituitary.

12. The functional unit of the kidney is called a

- a) Glomerulus
- b) Nephron.
- c) Corpuscle
- d) Calyx

Q.2] Answer in brief. (Any 10 out of 12)

[2M x 10 = 20 M]

1. Define the functional unit of skeletal muscle.
2. Write two functions of kidney.
3. Name the gonads of human.
4. What are tendons and ligaments?
5. Define the term functional biology.
6. Write two characters of epithelial tissue with examples.
7. Differentiate between abiotic and biotic stress?
8. What is non-cyclic photophosphorylation?
9. Draw a well labeled diagram of mitochondria. Write two important functions of it.
10. Comment on plant growth.
11. What are the different pathways exist in plant through which water flow?
12. Comment on Budding.

Q. 3] Answer in detail. (Any 4 out of 6)

[5M x 4 = 20 M]

1. Explain spermatogenesis.
2. Explain HPA axis.
3. With a well labeled diagram describe the working of heart.
4. Explain the pressure flow model of translocation in plants?
5. What is potassium pump theory of opening and closing of stomata?
6. What are secondary metabolites? Explain the various biochemical defense mechanisms present in plant.

-X-