Anjuman Islam Janjira Degree College of Science

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Affiliated to University of Mumbai

Class: -F.Y.B.Sc	**Subject: - Form and Function- II**
Semester: - I	**Course code: -USBOT102**
Exam Event: - Additional Exam Summer 2024 (FH)	**Marks: -100**
Date: - 26/03/2024	**Duration: - 03:00 Hours**

N.B. -1 – All questions are compulsory.
2 – Figures to the right indicate full marks.
3 – Draw neat labeled diagrams wherever necessary.

Q.1 A) Choose the correct option from the following and rewrite the sentence. (10)

1. Nuclear material is not enveloped in --------- cell.

a. Fungal b. Algal c. Bacterial d. Protozoan

2. ------- type of ribosome are found in chloroplast.

a. 80S b. 90S c. 70S d. 75S

3. Maximum percentage of -------- constitute the plasma membrane.

a. Lipids b. Carbohydrates c. Proteins d. Nucleic acids

4. The ER membrane consist of cisternae, -------- and tubules.

a. Vesicles b. Vacuoles c. Network d. Threds

5. -------- consists of evergreen and tall trees.

a. Desert b. Swamp forest c. Deciduous forest d. Tropical rain forest

6. Each step in the food chain is a --------- level.

a. Strata b. layer c. tropic d. component

7. ---------is the lotic water ecosystem.

a. Strems b. Rivers c. Both a &b d. None of these.

8. In the cross Yy x Yy, -------- percentage of offspring would have the same phenotype as the parents.

a. 25 b.50 c.75 d.100

9. In duplicate recessive epistasis, the mendels dihybrid ratio of 9:3:3:1 is changed to -----

a. 9:3:4 b. 15:1 c. 9:7 d. 13:3

10. When a gene at one locus on a chromosome influence the expression of a gene at another locus, it is called as ----- type of gene interaction.

a. Hypostatic b. Hyperstatic c. Epistatic d. Apostatic

Q.1 B) Answer the following in one sentence. **(10)**

1. What is an extrinsic protein?
2. Define quantasome.
3. Why esturine ecosystem are highly productive?
4. Define producers in a food chain.
5. Define monohybrid cross.

Q.2 Answer <u>any two</u> of following. **(20)**

i. Explain the ultrastructure of plasma membrane. Add a note on its functions.

ii. Distinguish between prokaryotic and eukaryotic cell.

iii. Explain the ultrastructure and function of ER.

iv. Give in details the structure and chemical composition of cell wall.

Q.3 Answer <u>any two</u> of following. **(20)**

i. Describe in brief, biotic and abiotic components of ecosystem.

ii. What is ecological pyramid? Explain different types of pyramids with help of diagram.

iii. Explain energy flow in an ecosystem with the help of Y shaped energy flow model.

iv. What is food chain and food web. Explain different types of food chain.

Q.4 Answer <u>any two</u> of following. **(20)**

i. What is epistasis? Write the types of epistasis gene interaction.

ii. Describe the modification of 9:3:3:1 to 9:7.

iii. Explain gene interaction with reference to coat color in mice.

iv. Define dihybrid ratio. Explain it with suitable example.

Q.5 Write short notes on <u>any four</u>. **(20)**

i. Diagramatic representation of chloroplast.

ii. Plasmodesmata

iii. Pyramid of energy

iv. Y shaped energy flow model

v. Multiple alleles

vi. Test cross