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O. P. JINDAL SCHOOL, SAVITRI NAGAR

Half Yearly Examination (2026– 2027)

Class: XI **MM: 50**

Subject: Biology (044) **Time: 2Hrs**

General Instructions:

(i) All questions are compulsory.

(ii) Section A has 12 questions of 1 mark each, Section B has 4 questions of 2 marks each, Section C has 4 questions of 3 marks each, Section D has 2 case –based questions of 4 marks each; and Section E has 2 questions of 5 marks each.

(iii) There is no overall choice. However, internal choice have been provided in some questions.

(iv) Where ever necessary, neat and properly labelled diagrams should be drawn.

SECTION-A

Q1. The basic unit of classification is:

(a) Genus (b) Species

(c) Family (d) Order

Q2. Which kingdom includes organisms that are prokaryotic?

(a) Protista (b) Monera

(c) Fungi (d) Plantae

Q3. Bryophytes are commonly known as:

(a) Vascular plants (b) Amphibians of the plant kingdom

(c) Seed plants (d) Flowering plants

Q4. The swollen part at the base of the pistil where ovules are found is called the:

(a) Stigma (b) Style

(c) Ovary (d) Filament

Q5. Venation is a term used to describe the pattern of arrangement of

(a) Floral organs (b) Flowers in inflorescence

(c) Veins and veinlets in a lamina (d) Fruits

Q6. A conjoint and open vascular bundle will be observed in the transverse section of

(a) Monocot root (b) Monocot stem

(c) Dicot root (d) Dicot stem

Q7. Animals belonging to phylum Arthropoda possess:

(a) Jointed appendages (b) Tube feet

(c) Water vascular system (d) Notochord

Q8. In flowering plants, the ovary develops into the:

(a) Seed (b) Fruit

(c) Embryo (d) Endosperm

Direction (Q.No.9-12) Assertion –Reasoning type questions. Mark the correct answer as

(a) Both A and R are true, and R is the correct explanation of A.

(b) Both A and R are true, but R is not the correct explanation of A.

(c) A is true, but R is false.

(d) A is false, but R is true.

Q9.Assertion (A): Viruses are considered to be at the border line of living and non-living organisms.
Reason (R): Viruses can reproduce only inside a living host cell.

Q10.Assertion (A): Xylem is called a complex permanent tissue.
Reason (R): Xylem consists of more than one type of cell performing a common function. [

Q11Assertion: Classification is necessary to study all living organisms.
Reason: Individuals are grouped into categories in classification.

Q12. Assertion: Cnidoblasts are present on the tentacles and the body in cnidarians.
Reason: Cnidoblasts are used for anchorage, defence and capture of the prey.

SECTION-B

Q13. How is gametophyte a dominant phase in the life cycle of bryophytes?

Q14. What is Binomial system of nomenclature? Who proposed this system?

Why is binomial nomenclature the most acceptable mode of naming organism?

Q15. How can you differentiate between free central and axile placentation?

Q16. Epidermal cells are often modified to perform specialized functions in plants.

Name some of them and function they perform.

SECTION-C

Q17.(i) What is diatomaceous earth? Why are diatoms referred to as 'pearls of the ocean'?

(ii) What is male and female sex organs in Bryophytes are called as?

Q18. (i)What are triploblastic animals?

(ii)Differentiate between open and closed circulatory system?

Q19. The stomatal pore is guarded by two kidney shaped guard cells. Name the epidermal cells surrounding the guard cells. How does a guard cell differ from an epidermal cell?

Use a diagram to illustrate your answer.

Q20(i)What is venation?

(ii)How is pinnately compound leaf different from palmately compound leaf?

SECTION-D

Question No. 21 and 22 are case based questions.

Q21 .Nereis, an aquatic form is an example of Phylum Annelida. The body surface of annelida is divided into segments or metameres. For osmoregulation and excretion, nephridia are present. For locomotion, longitudinal and circular muscles are present. They are coelomate animals (mesoderm is present between ectoderm and endoderm). Nereis also possess lateral appendages and parapodia which help in swimming. Neural system consists of paired ganglia. Nereis is dioecious but earthworms and leeches are monoecious.

(a) What is coelom?
(b) Which type of muscle is present in annelida for locomotion?
(c) What do you mean by monoecious and dioecious?

Q22. Androecium is composed of stamens. Each stamen which represents the male reproductive organ consists of a stalk or a filament and an anther. Each anther is usually bilobed and each lobe has two chambers, the pollen-sacs. The pollen grains are produced in pollen-sacs. A sterile stamen is called staminode. Stamens of flower may be united with other members such as petals or among themselves. When stamens are attached to the petals, they are epipetalous as in brinjal, or epiphyllous when attached to the perianth as in the flowers of lily.
Gynoecium is the female reproductive part of the flower and is made up of one or more carpels. A carpel consists of three parts namely stigma, style and ovary. Ovary is the enlarged basal part, on which lies the elongated tube, the style. The style connects the ovary to the stigma. The stigma is usually at the tip of the style and is the receptive surface for pollen grains.

(i) Androecium is a whorl of
(a) Anthers (b) Filaments
(c) Stamens (d) Tepals

(ii) Which of the following is the female reproductive part of the flower
(a) Androecium (b) Gynoecium
(c) Carpel (d) Stamens

(iii) Define Staminode.

(iv)Name the receptive surface for pollen grains.

SECTION-E

Q.23.(a) The heterosporous pteridophytes exhibit certain characteristics which are precursors to the seed habits in gymnosperms. Explain.

(b) How are pneumatic bones and air sacs important in aves?

OR

(a) Describe different types of gametes in algae.

(b) Some symbiotic organisms are very good pollution indicators and are composed of a chlorophyll-us and a non- chlorophyll-us member. Describe them.

Q24. What is aestivation? Describe the five major types of aestivation found in flowering plants with suitable examples and neat diagrams.

OR

Draw a well-labeled diagram of T.S. of dicot stem.

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