BUDHA DAL PUBLIC SCHOOL, PATIALA
First Term Examination (1 September 2025)
Class XI (Science)
Subject - Biology (Set - A)

M.M. 70

Time: 3hrs.

General Instructions:

(i) All questions are compulsory.
(ii) The question paper has five sections and 33 questions. All questions are compulsory
(iii) Section–A has 16 questions of 1 mark each; Section–B has 5 questions of 2 marks each; Section– C has 7 questions of 3 marks each; Section– D has 2 case-based questions of 4 marks each; and Section–E has 3 questions of 5 marks each.
(iv) There is no overall choice. However, internal choices have been provided in some questions. A student has to attempt only one of the alternatives in such questions
(v) Wherever necessary, neat and properly labelled diagrams should be drawn.

Section - A

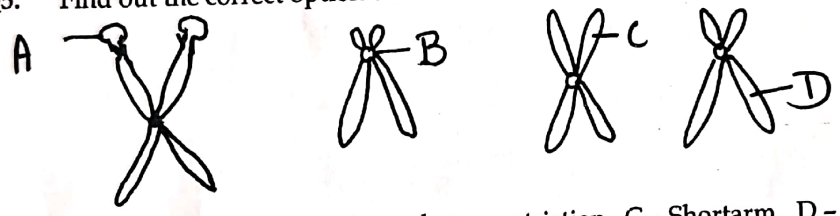
Q1. Which of the following is not associated with gynaecium of Solanaceae?
a) Bicarpellary b) Syncarpous c) Parietal Placentation d) Superior

Q2. Nietrogenous excretory product of tadpole of the frog is
a) Urea b) Guanine c) Uric acid d) Ammonia

Q3. Variation in the length of flaments within a flower is seen in?
a) Salvia b) China rose c) Argemone d) Primrose

Q4. Select the taxon mentioned that represents both marine and fresh water species.
a) Echinodermata b) Ctenophora c) Cnidaria d) Hemichordata

Q5. Find out the correct option on the basis of following diagrams.



a) A – Satellite, B – Secondary constriction, C – Shortarm, D – Long arm
b) A – Satellite, B – Centromere, C – Short arm, D – Long arm
c) A – Secondary Constriction, B – Satellite, C – Long arm, D – Short arm
d) A – NOR, B – Secondary, C – Short arm, D – Long arm

Q6. Read the following and identify correct statements with respect to fungi.
A) The Mycelium is a network of hyphae
B) Some hyphae are continous tubes filled with multinucleated cytoplasm
C) The coenocytic hyphae are seen in Phycomycetes
D) The cell walls of fungi are composed of chitin and polysaccharides.
E) Fungi prefer to grow in cool and damp places

Options:
a) A, B, C, D, E b) A, B, C only c) A, B, C, D only d) A, B, C, E only

Q7. Match List – I with List – II

List – 1	List – II
A) Dipteria	I) Phylum
B) Chordata	II) Order
C) Anacardiaceae	III) Class
D) Monocotyledonae	IV) Family

Options:
a) A – I, B – II, C – III, D – IV b) A – I, B – III, C – II, D – IV
c) A – I, B – IV, C – III , D – II d) A – II, B – I, C – IV, D - III

A-1

Q8. Green multicullular asexual buds on thallus of Marchantia are called
a) Gemmules b) Bulbis c) Gemmae d) Rhizoids

Q9. The first reaction of TCA cycle involoes
a) Condensation of CoA to OAA
b) Removal of H_2O
c) Condensation of Acetly group with OAA
d) Release of Acetly group

Q10. Which of the following is a anatomical feature of Monocot Stem?
a) Ring Arrangement of Vascular Bundles
b) Phloem Parenchyma Present
c) Water containing cavities present
d) Cells of endodermis rich in starch grains

Q11. Specialised excretory structures are absent in
a) Echinodermata b) Aschelminthis c) Platyhelminthis d) Arthropoda

Q12. "Precurson to seed habit", an important step in evolution was found in
a) Gymnosperms b) Monocots c) Dicots d) Pteridophytes

Two statements are given - one labelled Assertion (A) and the other labeleld Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below:
a) **Both assertion and reason are true, and the reason is correct explanation of the assertion.**
b) **Both assertion and reason are true, and the reason is not the correct explanation of the assertion.**
c) **Assertion is true but reason is false.**
d) **Assertion is false and reason is true.**

Q13. **Assertion :** During unfavourable conditions plasmodium of slime moulds differentiate to form fruiting bodies and spores.
Reason : Spores possess true cell walls and are extremely sensitive to harsh environment.

Q14. **Assertion :** All vertebrates are chordates but all chordates are not vertebrates
Reason : Notochord is replaced by vertebral coloumn in adult vertebrates.

Q15. **Assertion :** Nucleus is a single membrane structure.
Reason : The nuclear matrix or the nucleoplasm contains nucleolus and chromatin.

Q16. **Assertion :** Apical meristem of root is subterminal.
Reason : At the terminal end of root, root cap is present.

Section - B

Q17. Name the fungus that has been used as a biological tool to understand plant genetics. What makes it so important as a genetic tool?

Q18. Give one basic difference between Apocarpous ovary and syncarpous ovary.

Q19. Name the additional chambers (other than atria and ventricles) in the heart of a frog and mention their functions.

Q20. Name and describe the two types of glycocalyx found in bacterial cells.

Q21. Some animals of phylum 'Cnidaria' show metagenesis. What is it? Give an example of animal that shows metagenesis.

OR

a) Define RQ.
b) What is RQ value when Glucose Oxidized completely? Name the process involved and what are the end products formed during process.

A-2

Section – C

Q22. a) What are two stages of gametophytic plant body in mosses?
b) What are ecological importance of mosses?

Q23. Differentiate between the group Agnatha and Gnathostomata. Name the class present under Agnatha with example.

Q24. Different types of phyllotaxy are shown in the given figures. Name the phyllotaxy shown in (a), (b) and (c). Give one example of each type and define each.

(a) (b) (c)

Q25. Answer the following questions with reference to the anatomy of dicot stem:
a) Type of cells present in the hypodermis.
b) Why is the endodermis layer referred to as starch sheath?
c) Why are the vascular bundles present here referred to as 'open' and 'conjoint'?

Q26. Explain male reproductive system of Frog with diagram.

Q27. What is the significance of step-wise release of energy in respiration?

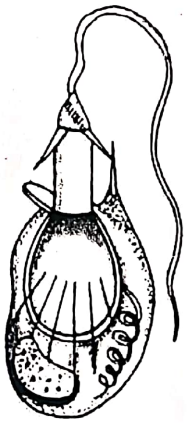
Q28. a) Comment on the cartwheel structure of centriole.
b) Describe the structure of oxysome

OR

What is 9 + 0 and 9 + 2 arrangement?

Section – D

Q29.



a) Identify the structure given above and name its phylum.
b) Where is it generally present in the body of the animals?
c) Name the cell it contains.
d) Mention two of its functions.

Q30. Generally seeds are endospermic in monocotyledonous plants with a few exceptions. In cereals like maize, the seed coat is membranous and is fused with the fruit wall; in them the endosperm is bulky and stores food.
a) Give an example of a monocot, in which the seed is non-endospermic.
b) What is the outer covering of endosperm is maize, called?
c) Name the sheaths in which (i) the plumule and (ii) the radical, are enclosed, respectively in a maize grain.
d) What is scutellum?

Section - E

Q31. Define the following types of aestivation with e.g.

a) Twisted
b) Vexillary
c) Draw its diagram
d) Name the type of aestivation found in (i) gulmohar (ii) calatropis

OR

i) Androecium is composed of stamen(s). Each stamen representing the male reproductive organ of a flower consists of a filament and anther. The pollen grains are produced inside the anther in the pollen sacs.

a) How many pollen sacs does an anther contain?
b) What is a staminode?
c) What are epipetalous stamens? Give an example.

ii) Differentiate between (a) petrole and puluvinus

iii) Write the function of micropyle in a seed

Q32. Explain life cycle of Bryophytes. Differentiate between sporophyte of Gymnosperm and sporophyte of Bryophytes.

OR

a) (i) Name one gymnosperm in which the male and female cones/strobili are borne on (i) the same plant and (ii) different plants, respectively
(ii) Where are pollen grains formed in a gymnosperm?
(iii) Mention the economic uses of agar.
b) Differentiate between Red Algae and Brown Algae
c) Liverworts and Mosses

Q33. Explain the structure and function of two semiautonomous organelles.

OR

Explain with help of schematic representation Kreb cycle for respiration in plants.

A-4