**No of Printed Pages: 3**

**INDIAN SCHOOL SOHAR**

**Class: XI** **TERM II EXAMINATION (2018 -19)** **Max. Marks: 70**

**Date:18.11.18** **BIOLOGY** **Duration: 3Hrs**

***General Instructions:-***

- *All questions are compulsory. There are 27 questions in all.*
- *This question paper consists of four sections **A, B, C & D.***
- *Section **A** contains **5** questions of **1**mark each, Section **B** contains **7** questions of **2** marks each. Section **C** contains **12** questions of 3 marks each and Section **D** **contains 3** questions of **5** marks each.*
- *Internal choices have been provided in two questions of one mark, two questions of two marks, four questions of three marks and three questions of five marks weightage. **A student has to attempt only one of the alternatives in such questions.***
- *Questions of Section **A** are to be answered in one word or **one sentence** each, Section **B** in approximately **20-30** words each, Section **C** in **30-50** words each and Section **D** in **80-120** words each.*
- *Wherever necessary, the diagrams drawn should be neat and properly labeled.*

## SECTION-A

1. Imbibition is a special type of diffusion. Mention the pre-requisites for imbibition to occur.

**OR**

What would be the (i) water potential of pure water and (ii) pressure potential of a flaccid cell? 1

2. Why is fertilisation in plants termed as double fertilisation? 1

3. The leaves in gymnosperms are well adapted to withstand extreme environmental conditions. List two adaptive features in gymnosperm leaves. 1

4. Why is cockroach called an uricotelic organism? 1

5. Why does starch give a blue black colour when iodine is added?

**OR**

Some cells in adult animals do not appear to exhibit division. What is meant by $G_0$ phase of the cell cycle? 1

## SECTION-B

6. Define Phyllotaxy. How do leaves differ based on the phyllotaxy?

**OR**

How does a cymose infloresence differ from that of racemose type? 2

7. Write the floral formula of an actinomorphic, bisexual, hypogynous flower with five united sepals, five free petals, five free stamens and two united carpels with superior ovary and axile placentation. 2

8. Draw a neat labelled diagram depicting the parts of a drupe fruit. 2

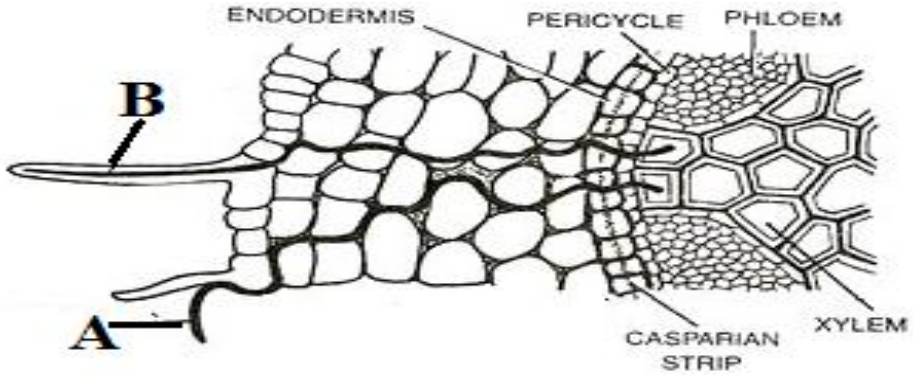
9. A common pulse plant on uprooting shows outgrowths called nodules. Mention the biochemical components found in the nodule and their role in nitrogen fixation.

**OR**

Water is vital for plants, two of the words transpiration and guttation are related to water movement in plants. How will you differentiate between them?(Two points) 2

10. Phylum Arthropoda is the largest phylum of Animalia. List four salient features that assigns organisms to this phylum. 2

11. Study the given figure showing the pathways of water and ion transport and answer the following:




a) Identify the pathway labelled A and B in the given figure.
b) Which pathway is considered to be more efficient and why? 2

12. Justify the following:
a) Ethylene is considered the most widely used PGR in agriculture.
b) ABA is called the stress hormone. 2

**SECTION-C**

13. The abdomen in both male and female cockroaches consists of ten segments. How do their abdominal region differ from each other? 3

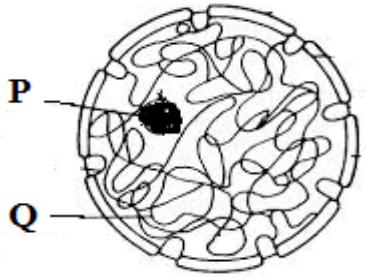
14. Different plant groups differ in their pattern of life cycle. Explain, briefly how they differ from each other. 3

**OR**

The gametophytic and sporophytic phases of bryophytes and pteridophytes differ from each other. Write three distinguishing features between them.

15. Mention the function of the following in the plant body:
a) Trichomes b) Companion cell c) Lenticels. 3

16. Study the given figure and answer the following:




a) Label the parts marked P and Q in the given figure and mention their function.
b) Name two mature cells that lack nucleus.

**OR**

Give reason for the following:
a) Golgi apparatus remains in close association with the endoplasmic reticulum.
b) Lysosomes are called the suicide bags of the cell.
c) Mitochondria are the sites for aerobic respiration. 3

17. In nearly all animal tissues, specialized junctions provide both structural and functional links between individual cells. How are they classified and give its function? 3

18. Explain the catalytic action of an enzyme action. How does substrate concentration and temperature affect enzyme action? 3

19. How do plants differ in their flowering pattern based on the periodic exposure to light?

**OR**

Compare and contrast between fermentation and aerobic respiration. (Any three points). 3

20. The interphase is divided into three phases. Briefly explain the events that occur during each phase. 3

21. The fluid nature of the plasma membrane is important. How do materials move across the membrane? 3

22. Only certain prokaryotic species are capable of fixing nitrogen. Explain biological nitrogen fixation. 3

23. Explain the most accepted mechanism used for translocation of sugars from source to the sink.

**OR**

What are the physical properties that help in the transpiration driven ascent of sap? 3

24. The chemiosmotic hypothesis has been put forward to explain the mechanism of ATP synthesis In the chloroplast and mitochondria. How does ATP synthesis differ in the two organelles? (Any three points) 3

**SECTION-D**

25. How are simple epithelium divided on the basis of structural modification of cells?

**OR**

a) Plants have different kinds of meristems. How are meristems classified based on their origin, location and function?

b) How does the heartwood differ from that of sapwood? 5

26. Proteins are heteropolymers containing strings of amino acids. How do proteins differ in their structure? Give an example each.

**OR**

Explain, the Prophase-I phase of cell division that reduces the chromosome number by half resulting in the production of haploid daughter cells. 5

27. a) Schematically represent the 'Z'-scheme of photosynthesis.
b) Why are $C_4$ plants special? (Any two points).

**OR**

a) Schematically represent the fate of pyruvic acid in the mitochondria.
b) "Respiratory pathway is an amphibolic pathway". Justify. 5

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