

# ANNUAL EXAMINATION

## CLASS IX — BIOLOGY

### 2019-Style Final Examination Paper

Cell Biology • Tissues • Health • Life Processes • Diversity • Environment

**Time: 3 Hours**

**Maximum Marks: 80**

**Class: IX**

### General Instructions

1. Read all questions carefully before answering.
2. Answer all questions unless an internal choice is provided.
3. Draw neat and labelled diagrams wherever required.
4. Use appropriate biological terms in your answers.
5. This is a newly written 2019-style practice paper, not a reproduction of an original paper.

### Section A — Very Short Answer

**Q1.**

Name the basic structural and functional unit of life.

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**Q2.**

What is the main function of the cell membrane?

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**Q3.**

Name the cell organelle responsible for cellular respiration.

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**Q4.**

What is osmosis?

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**Q5.**

Name the tissue that transports water and minerals in plants.

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**Q6.**

What is the function of red blood cells?

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**Q7.**

Name the tissue that connects muscle to bone.

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**Q8.**

What is a communicable disease?

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## Section B — Cell and Tissues

**Q9.**

Differentiate between a plant cell and an animal cell on the basis of cell wall, plastids and vacuoles.

**Q10.**

Explain the functions of the nucleus, mitochondria and ribosomes.

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**Q11.**

Why are lysosomes sometimes called the waste-disposal system of the cell?

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**Q12.**

Explain the difference between diffusion and osmosis with one example each.

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**Q13.**

Describe the structure and function of parenchyma, collenchyma and sclerenchyma.

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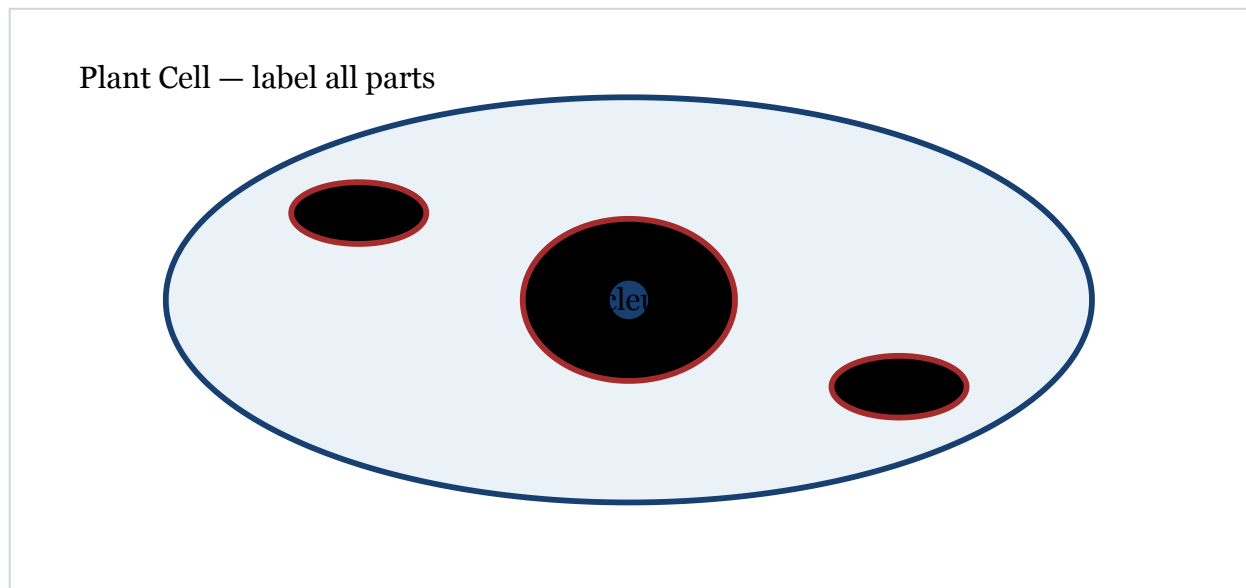
**Q14.**

Differentiate between xylem and phloem.

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### Q15. Diagram Question

Draw a neat labelled diagram of a typical plant cell and label the nucleus, cell wall, cell membrane, cytoplasm, vacuole and chloroplast.



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### Section C — Life Processes

#### Q16.

Explain the process of nutrition in green plants. Mention the role of sunlight, chlorophyll, carbon dioxide and water.

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#### Q17.

Describe the pathway of food through the human digestive system.

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#### Q18.

Explain the mechanism of breathing in humans during inhalation and exhalation.

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**Q19.**

What is the role of haemoglobin in the transport of gases?

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**Q20.**

Differentiate between aerobic and anaerobic respiration.

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**Q21.**

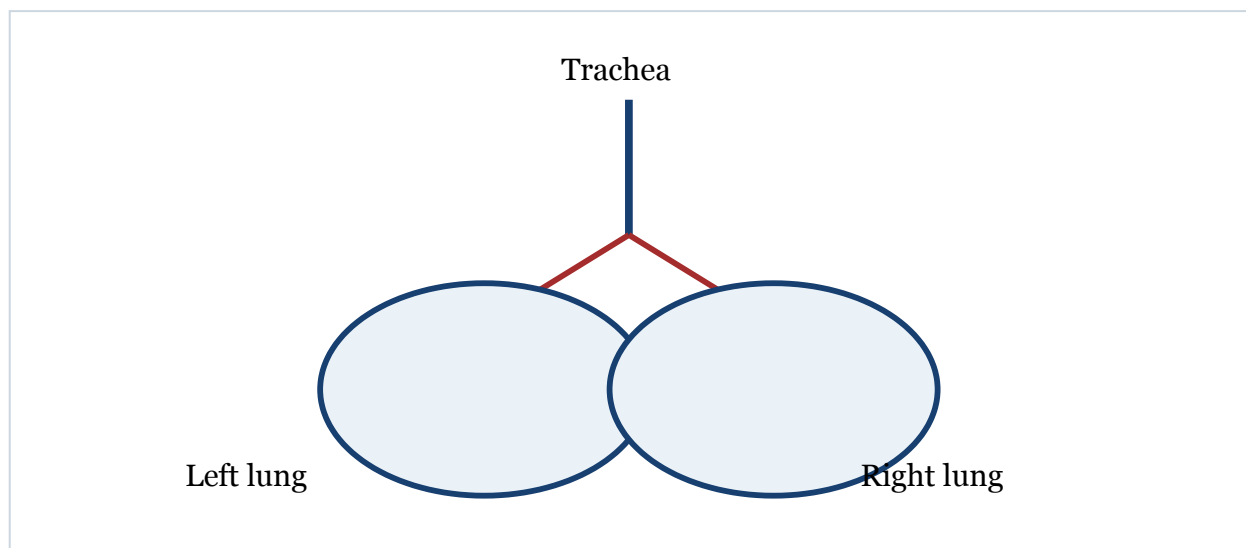
Explain how water and minerals are transported from roots to different parts of a plant.

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**Q22. Diagram Question**

Draw and label a simple diagram of the human respiratory system showing the trachea, bronchi and lungs.



**Q23.**

Differentiate between infectious and non-infectious diseases with examples.

**Q24.**

Explain how vaccination helps protect individuals and communities from infectious diseases.

**Q25.**

Why is classification of living organisms necessary? Explain two advantages.

**Q26.**

Explain the main characteristics used to classify organisms into different groups.

**Q27.**

What is a food chain? Explain the roles of producers, consumers and decomposers.

**Q28.**

Explain how human activities can disturb the balance of an ecosystem.

**Q29.**

A plant is kept in darkness for several days. Predict what happens to its food production and explain the biological reason.

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**Q30.**

A student places a plant cell and an animal cell in suitable laboratory conditions. Compare the structures they would observe and explain why the two cells are different.

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**Q31.**

A person has difficulty breathing during intense physical activity. Explain why the breathing rate increases during exercise.

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**Q32.**

Explain why a balanced diet is important for growth, repair and protection from disease.

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**Q33.**

Construct a simple food chain using four organisms and explain what may happen if the producer population suddenly decreases.

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**Q34.**

Explain why biodiversity is important for maintaining stable ecosystems.

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**Q35.**

“Prevention is better than cure.” Explain this statement using examples related to personal hygiene, nutrition and communicable diseases.

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