

# WB Board Biological Science — Question Paper with Solutions

<b>Time Allowed :3 Hours</b>	<b>Maximum Marks :100</b>	<b>Total questions :10</b>
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**1. The basic unit of life is —**

- (A) Tissue
- (B) Cell
- (C) Organ
- (D) Organ system

**Correct Answer:** (B) Cell

**Solution:**

All living organisms are made up of cells. The cell is the smallest unit capable of performing all life processes.

**Final Answer:**

(B)

**Quick Tip**

Cell = Basic structural and functional unit of life

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**2. DNA is mainly located in the —**

- (A) Cytoplasm
- (B) Nucleus

- (C) Ribosome
- (D) Cell membrane

**Correct Answer:** (B) Nucleus

**Solution:**

DNA contains genetic information and is primarily present in the nucleus of eukaryotic cells.

**Final Answer:**

(B)

**Quick Tip**

Nucleus stores genetic material

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**3. Photosynthesis occurs in —**

- (A) Mitochondria
- (B) Chloroplast
- (C) Nucleus
- (D) Vacuole

**Correct Answer:** (B)

**Solution:**

Chloroplasts contain chlorophyll which captures sunlight to synthesize food.

**Final Answer:**

(B)

**Quick Tip**

Chloroplast = Site of photosynthesis

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**4. Which hormone regulates blood sugar level?**

- (A) Thyroxine
- (B) Insulin
- (C) Adrenaline
- (D) Estrogen

**Correct Answer:** (B)

**Solution:**

Insulin regulates blood glucose by enabling cells to absorb glucose from blood.

**Final Answer:**

(B)

**Quick Tip**

Insulin controls blood sugar

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**5. The process by which plants lose water vapor is called —**

- (A) Respiration
- (B) Transpiration
- (C) Photosynthesis
- (D) Diffusion

**Correct Answer:** (B) Transpiration

**Solution:**

Transpiration is the loss of water vapor through stomata of leaves.

**Final Answer:**

(B)

**Quick Tip**

Transpiration cools plants and aids water movement

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**6. Describe the structure and functions of the cell membrane.**

**Solution:**

The cell membrane is a thin phospholipid bilayer surrounding the cell. It is selectively permeable and controls movement of substances.

Functions include protection, maintaining shape, transport of materials, and communication.

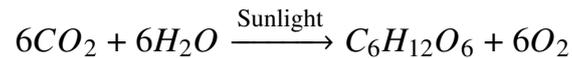
**Quick Tip**

Cell membrane regulates entry and exit of substances

**7. Explain the process of photosynthesis with the help of a diagram.**

**Solution:**

Photosynthesis is the process by which green plants produce food using sunlight, carbon dioxide, and water.



**Quick Tip**

Photosynthesis converts light energy into chemical energy

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**8. Write the differences between mitosis and meiosis.**

**Solution:**

Mitosis produces two identical cells for growth and repair. Meiosis produces four genetically different cells for reproduction.

**Quick Tip**

Mitosis = Somatic cells, Meiosis = Gametes

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**9. Describe the structure and functions of the human heart.**

**Solution:**

The heart is a muscular organ with four chambers that pumps blood throughout the body, supplying oxygen and nutrients.

**Quick Tip**

Heart = Central organ of circulatory system

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**10. Explain the role of hormones in the human body with examples.**

**Solution:**

Hormones are chemical messengers produced by endocrine glands that regulate body processes like growth, metabolism, and reproduction.

Examples include insulin, thyroxine, adrenaline, and growth hormone.

**Quick Tip**

Hormones coordinate body activities

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