

BIOLOGY

Based on Chapter Cell- Unit of Life answer following questions

Section A: Very Short Answer Questions *(Answer in 1–2 lines)*

1. Who discovered the cell and in which year?
2. What is cell theory? Name the scientists who proposed it.
3. Define protoplasm.
4. What is the function of ribosomes?
5. Name the cell organelle known as the “powerhouse of the cell”.
6. What is plasmodesmata?
7. Write one difference between prokaryotic and eukaryotic cells.
8. What is the role of lysosomes?

Section B: Short Answer Questions *(Answer in 3–5 lines)*

1. Explain the structure of the plasma membrane.
2. Describe the functions of endoplasmic reticulum.
3. Differentiate between smooth and rough endoplasmic reticulum.
4. Write any four functions of Golgi apparatus.
5. Explain the structure and function of mitochondria.
6. What are plastids? Name their types.
7. Write short notes on vacuoles.

Section C: Long Answer Questions *(Answer in detail)*

1. Describe the ultrastructure of a eukaryotic cell with a neat diagram.
2. Explain the structure and functions of the nucleus.
3. Describe the fluid mosaic model of plasma membrane.
4. Compare prokaryotic and eukaryotic cells (minimum five points).
5. Explain the structure and functions of chloroplast with a diagram.

Section D: Diagram Work *(Draw neat, well-labelled diagrams)*

1. Animal cell
2. Plant cell
3. Mitochondrion
4. Chloroplast
5. Nucleus

Section E: Case-Based / HOTS Questions

1. A cell lacks a defined nucleus but contains ribosomes.
 - Identify the type of cell.
 - Name the genetic material present in it.
 - Give two examples of such organisms.
2. Why are mitochondria called **semi-autonomous organelles**?

Section F: Project Work (Any ONE)

1. Make a comparative chart of plant cell and animal cell (diagram + differences).
2. Prepare a 3D model of a cell using waste materials.
3. Research Assignment:
“How cell organelles coordinate to maintain life in a cell”
(Minimum 2 pages with diagrams)

Section G: Value-Based Question

Cells work in coordination just like members of a society.

- Explain this statement by relating it to **cell organelles and their functions**.
- What values do we learn from this coordination?

GEOGRAPHY

Based on Chapter Natural vegetation and Wildlife answer following questions

Section A: Very Short Answer Questions (*Answer in 1–2 lines*)

1. What is natural vegetation?
2. Define flora and fauna.
3. What are biomes?
4. Name the factors affecting natural vegetation.
5. What is endemic species?
6. What is wildlife?
7. Name one area rich in biodiversity in India.
8. What is an ecosystem?

Section B: Short Answer Questions (*Answer in 3–5 lines*)

1. Explain the importance of natural vegetation.
2. Describe the major factors influencing natural vegetation.
3. Differentiate between flora and fauna.
4. Write a short note on tropical evergreen forests.
5. What are temperate grasslands? Give examples.
6. Explain the significance of wildlife in maintaining ecological balance.
7. Write a brief note on conservation of wildlife.

Section C: Long Answer Questions (*Answer in detail*)

1. Describe the major types of natural vegetation of the world.
2. Explain the characteristics and distribution of tropical deciduous forests.
3. Discuss the importance of forests to human life.
4. Describe the distribution and characteristics of wildlife in different regions of the world.
5. Explain the need for conservation of natural vegetation and wildlife.

Section D: Map Work (*On an outline world map*)

1. Mark and label the following:
 - Tropical Rainforests
 - Savanna Grasslands
 - Taiga Forests
 - Temperate Grasslands
 - Mediterranean Vegetation
2. Locate any five National Parks or Wildlife Sanctuaries of India.

Section E: Project Work (Any ONE)

1. Make a comparative study of tropical and temperate forests.
2. Prepare a scrapbook showing different types of natural vegetation with pictures and descriptions.
3. Research Topic:
“Threats to Wildlife and Measures for Conservation in India”
(Minimum 2–3 pages with illustrations)

ENGLISH

1. Convert the poem **“The Tale of Melon City”** by Vikram Seth into a **comic strip** (6–8 frames). Show important events like:
 - The King’s order
 - The hanging
 - The choice of a new king
2. **Dialogue Writing**
Imagine a conversation between **the King and the Chief Justice** before the judgement. Write **10–12 dialogues** showing irony and satire.

HISTORY

Based on Chapter "Paths to Modernization" answer

- 1- Prepare a chart explaining the following terms (2–3 lines each):
 - Modernization
 - Tradition
 - Industrialization
 - Westernization
 - Democracy
- 2- Prepare a comparison between **England, France, and Germany** on the basis of:
 - Role of the state
 - Role of society
 - Nature of change (peaceful/violent)
- 3- Write arguments **for or against** the statement:
"Westernization is necessary for modernization."
(Minimum 5 points)

BUSINESS STUDIES

Based on your chapter International Trade , answer

- 1- Prepare a table showing:
 - Major **exports of India**
 - Major **imports of India**
 - Top 3 trading partners
- 2- Choose any Indian company (e.g., Tata, Reliance, Amul, Infosys).
Explain:
 - Products/services traded internationally
 - Countries it operates in
 - Benefits of international trade for the company
(100–120 words)
- 3- *International trade is not an option but a necessity for developing countries.*
Justify the statement.
(100 words)

ACCOUNTANCY

Based on your chapter **Capital and Revenue**, answer

- 1- Explain why correct distinction between capital and revenue items is important for preparing final accounts.
(80–100 words)
- 2- Ravi started a business with ₹5,00,000. He purchased furniture for ₹50,000, paid ₹10,000 as wages for installation, earned ₹30,000 as commission, and paid ₹5,000 as rent.
 - a) Identify capital and revenue items
 - b) Give reasons for classification
- 3- Create a colourful **mind map** showing classification of
 - 1- Expenditure
 - 2- Receipts

SOCIOLOGY

Based on your chapters **Western** sociologists and **Indian** sociologists, answer

- 1- Write a short note (60–80 words each) on any **two Western** and **two Indian** sociologists:
Western Sociologists (any two):
 - Karl Marx
 - Max Weber

- Émile Durkheim
 - **Indian Sociologists (any two):**
 - G. S. Ghurye
 - M. N. Srinivas
 - B. R. Ambedkar
- 2- Prepare a table comparing **Western and Indian Sociologists** on the basis of:
- Social background
 - Main area of study
 - Nature of society studied
 - Approach to sociology
- 3- Take the example of caste system, family, or village life.
Explain how Indian sociologists studied it differently from Western sociologists.
(100–120 words)

PHYSICS

- 1- Based on your chapters **Gravitation** Create a colourful **mind map** including:
- Newton's Law of Gravitation
 - Gravitational Constant (G)
 - Acceleration due to Gravity (g)
 - Mass vs Weight
 - Free Fall
 - Motion of Planets & Satellites
- Use charts / A4 sheets. Diagrams encouraged.*
- 2- Based on Chapter Mechanical Properties of Solid explain why are steel beams used in buildings instead of rubber or wood?
using:
- Elastic behaviour
 - Stress–strain curve
 - Young's modulus
- 3- Based on Chapter Mechanical Properties of Fluids create a **colourful concept map** including:
- Fluids and their properties
 - Pressure in fluids
 - Pascal's Law
 - Buoyant Force
 - Archimedes' Principle
 - Viscosity
 - Streamline & Turbulent Flow
 - Bernoulli's Theorem
- (Use A4/chart paper, diagrams encouraged.)*

ECONOMICS

- 1- Based on your chapter of **Correlation**, draw **three scatter diagrams** showing:
- a- Perfect positive correlation
 - b- Perfect negative correlation
 - c- No correlation
- Label each diagram clearly.
- 2- Prepare a **2–3 page notebook section** explaining:
- Supply
 - Stock
 - Supply Schedule

Supply Curve
Law of Supply
Price of the commodity
Other factors of supply
Add **one real-life example** for each term.

BANKING

- 1- Based on your chapter of **Correlation** Communication at Workplace , write **120–150 words** on:

A customer is upset due to delay in service. How should a bank employee communicate to handle the situation effectively? Include:

- Tone of voice
- Body language
- Choice of words
- Listening skills

- 2- Based on your chapter of **Green Skills**

a- Define Green Skills in your own words.

Explain why they are important for the **banking and finance sector**.

b-List **any five Green Skills** required by future bankers and explain each in 3–4 lines.

c-What is **Green Banking**?

Mention **three Indian banks** promoting green initiatives.

d-Explain the role of banks in:

Reducing carbon footprint

Promoting digital and paperless banking

e-Write short notes on: Sustainable Development ,
Environmental Responsibility in Banking

PHYSICAL EDUCATION

1. Prepare a project on postural deformities.
2. Prepare a project on Surya-Namaskar Asana.
3. Prepare a project on Pranayam

POLITICAL SCIENCE

Answer the following questions on A4 size papers

1. Which article deals with the amendment process of the constitution of India?
2. What is meant by Special majority?
3. Name the process of the removal of the judges of the Supreme Court.
4. Name any two issues of interstate dispute in India.
5. Describe the Provisions of the constitution that create a strong central government in India
6. Explain 73rd and 74th Amendment related to Local bodies in India.
7. Describe the Amendment process as given in the Constitution of India.
8. Who appoints the judges of the Supreme Court? What is meant by Collegium in case of appointment of judges?
9. Basic Structure Theory was given by Supreme Court incase.
10. The most controversial Amendments to the Indian Constitution are
11. Choose the correct statement from the following.
A constitution needs to be amended from time to time because,
a) Circumstances change and require suitable changes in the constitution.
b) A document written at one point of time becomes outdated after some time.
c) Every generation should have a constitution of its own liking.
d) It must reflect the philosophy of the existing government.

12. Write True / False against the following statements.
- The President cannot send back an amendment bill for reconsideration of Parliament.
 - Elected representatives alone have the power to amend the Constitution.
 - The Judiciary cannot initiate the process of constitutional amendment but can effectively change the Constitution by interpreting it differently.
 - Parliament can amend any section of the Constitution.
13. Describe the features of Federalism in India.
14. How has Powers been divided in India between the central and the State Govt?
15. Describe the structure of Panchayati Raj System.

MUSIC

- 1- Learn and practice one song or composition from your CBSE syllabus (Classical, Light, or Folk). Record a 1–2 minute video/audio performance.
Mention:
- The Raag/Taal (if classical)
 - Composer/Origin (if folk or light music)
 - Share your performance with your family and note their feedback.
- 2- Prepare a **short note (100–150 words)** on one of these topics:
- Difference between **Hindustani and Carnatic music**
 - Importance of **Taal in Indian music**
 - Famous **Indian musical instruments** and their origin
Include **diagrams or illustrations** of instruments or Taal patterns.
- 3- Prepare a collage, presentation, or scrapbook on “Folk Music of India” or “Famous Indian Musicians”.
Include:
- Types of folk music from different states
 - Famous instruments used
 - Notable musicians and their contribution
- Write 50–100 words for each section in English or Punjabi.

COMPUTER SCIENCE

Practical file of Computer Science on following topics.

Make sure minimum problems/programs with next and clean outputs is 15 Topics be covered from

- Python Fundamentals
- Of Conditions
- Loops
- String Manipulations
- List Manipulations

MATHEMATICS

CLASS XI, MATHEMATICS

- Evaluate the limit $\lim_{x \rightarrow 1} \left\{ \frac{x-2}{x^2-x} - \frac{1}{x^3-3x^2+2x} \right\}$.
- Evaluate $\lim_{x \rightarrow 0} \frac{\log(5+x) - \log(5-x)}{x}$
- Evaluate:
 - $\lim_{x \rightarrow \frac{\pi}{6}} \frac{2\sin^2 x + \sin x - 1}{2\sin^2 x - 3\sin x + 1}$
 - $\lim_{x \rightarrow 0} \frac{\tan x - \sin x}{\sin^3 x}$
 - $\lim_{x \rightarrow a} \frac{\sqrt{a+2x} - \sqrt{3x}}{\sqrt{3a+x} - 2\sqrt{x}}$
 - $\lim_{h \rightarrow 0} \frac{(a+h)^2 \sin(a+h) - a^2 \sin a}{h}$
 - $\lim_{y \rightarrow 0} \frac{(x+y) \sec(x+y) - x \sec x}{y}$
 - $\lim_{x \rightarrow \frac{\pi}{4}} \frac{\tan^3 x - \tan x}{\cos\left(x + \frac{\pi}{4}\right)}$
- Let $f(x) = \begin{cases} 3 - x^2 & ; \quad x \leq -2 \\ ax + b & ; \quad -2 < x < 2 \\ \frac{x^2}{2} & ; \quad x \geq 2 \end{cases}$ find a and b if $\lim_{x \rightarrow 2} f(x)$ and $\lim_{x \rightarrow -2} f(x)$ exist.
- $\lim_{x \rightarrow 1} \frac{x-2}{x^2-x} - \frac{1}{x^3-3x^2+2x}$
 - $\lim_{x \rightarrow \frac{\pi}{4}} \frac{\tan^3 x - \tan x}{\cos\left(x + \frac{\pi}{4}\right)}$
 - $\lim_{x \rightarrow a} \frac{(x+2)^{-5/2} - (a+2)^{-5/2}}{x-a}$
- Show that $\lim_{x \rightarrow 4} \frac{|x-4|}{x-4}$ does not exist.
- Find the derivative of following using first principle (ab initio method)
 - $x \cos x$
 - $\tan(2x + 1)$
 - $\frac{2x^2+1}{x-1}$
 - $\sqrt{\tan x}$
 - $\sqrt{\cos x}$
 - $\sin^2 x$
 - $\log(\sin x)$
 - $\sin \sqrt{x}$
 - $x^2 \sin x$
 - $\sqrt[3]{\cos x}$
 - $\frac{\sin x}{x}$
 - $\cos x^2$
- Find the derivative of following w.r.t x
 - $\left(x^2 + \frac{1}{x^2}\right)^3$
 - $\frac{\sin x - x \cos x}{x \sin x + \cos x}$
- If $y = \frac{e^x - e^{-x}}{e^x + e^{-x}}$, prove that $\frac{dy}{dx} = 1 - y^2$

11. Differentiate the following functions w. r. t. x

$$(1) \left\{ x \sin x + \frac{x^3 \sin x}{\cos x} + e^x \cdot \sin x + x^n \cos x \right\} \quad (2) \frac{a \cos x + b \sin x + C}{\sin x}$$

$$(3) 3^x + e^{x \log a} + e^{a \log x} + e^{a \log a} \quad (4) \log_3 x + 3 \log_e x + x^n \cos x$$

$$(5) x^n \cdot \log_a x \cdot e^x \quad (6) \frac{2^x \cot x}{\sqrt{x}} \quad (7) \frac{x + \sin x}{x + \cos x}$$

$$(8) \frac{\sec x + \tan x}{\sec x - \tan x} \quad (9) \sqrt{\frac{1 - \cos 2x}{1 + \cos 2x}} \quad (10) \frac{1 - \tan^2 \frac{x}{2}}{1 + \tan^2 \frac{x}{2}}$$

12. Differentiate the following functions w. r. t. x

$$(1) \cos x^2 \quad (2) \cos [\sin (\log x)] \quad (3) \log \log \log x^3 \quad (4) \sin \left(\sqrt{\sin \sqrt{x}} \right) \quad (5)$$

$$2^{\log (\cos x)}$$

$$(6) e^x \log (1 + x^2) \quad (7) \sin^2 x^2 \quad (8) \log \left(\frac{a + b \sin x}{a - b \sin x} \right) \quad (9) \log \sqrt{\frac{1 + \sin x}{1 - \sin x}} \quad (10)$$

$$\cos x^0$$

$$(11) \log \sqrt{\frac{1 - \cos x}{1 + \cos x}} \quad (12) \frac{e^{2x} + e^{-2x}}{e^{2x} - e^{-2x}} \quad (13) \log \sqrt{\frac{x-1}{x+1}} \quad (14) (\log x) \log (\log x)$$

$$(15) \frac{\sqrt{x^2+1} + \sqrt{x^2-1}}{\sqrt{x^2+1} - \sqrt{x^2-1}} \quad (16) x\sqrt{1+x^2} + \log(x + \sqrt{x^2+1}) \quad (17)$$

$$\frac{\sqrt{a^2+x^2} + \sqrt{a^2-x^2}}{\sqrt{a^2+x^2} - \sqrt{a^2-x^2}}$$

$$(18) e^{\log(x + \sqrt{x^2+a^2})} \quad (19) \sqrt{x^2 + \sqrt{a^2 + x^2}} \quad (20) \sqrt{\frac{x^2 - 2ax}{a^2 - 2ab}} \quad (21) \log_x 2 \quad (22)$$

$$e^{e^x}$$

PUNJABI

1- Prepare a **collage or digital presentation** on “ਪੰਜਾਬ ਦੀ ਲੋਕਸੱਭਿਆਚਾਰ” (Folk Culture of Punjab).

Include:

- Traditional dances (Bhangra, Giddha)
- Folk songs or proverbs
- Festivals
- Traditional dress and cuisine

Write a 50-word description for each element in Punjabi.

2- Write a short story (150–200 words) in Punjabi on “ਮੇਰੀ ਪਸੰਦੀਦਾ ਰਵਾਇਤੀ ਤਿਉਹਾਰ” (My Favorite Traditional Festival).

Highlight:

- How you celebrate it
- Special food, songs, or rituals
- Your feelings about the festival
- Draw or paste pictures related to your festival.

3- Compose a **6–8 line poem** in Punjabi on “ਪ੍ਰਕ੍ਰਿਤੀ ਅਤੇ ਮਨੁੱਖ” (Nature and Human).

- Use at least **two literary devices**: simile, metaphor, alliteration, or personification.
- Recite it to your family and note their reactions briefly.

4- Select any **short story or poem from your Punjabi textbook**.

Summarize it in your own words (80–100 words).

Answer these questions:

1. ਮੁੱਖ ਕਿਰਦਾਰ ਕੌਣ ਹੈ? (Who is the main character?)
2. ਕਹਾਣੀ ਦਾ ਮੁੱਖ ਸੰਦਰਭ ਕੀ ਹੈ? (What is the main theme?)
3. ਤੁਹਾਨੂੰ ਕਿਹੜਾ ਹਿੱਸਾ ਸਭ ਤੋਂ ਵਧੀਆ ਲੱਗਾ ਅਤੇ ਕਿਉਂ? (Which part did you like the most and why?)