**H M SENIOR SECONDARY SCHOOL**
**SHEETLA COLONY, GURUGRAM**
**CLASS – XI**
**SESSION – 2026-27**

# SUMMER HOLIDAY HOMEWORK

**Success doesn't come from what you do occasionally, it comes from what you do consistently.**

The holiday homework has been thoughtfully designed by our mentors to be engaging and enjoyable. It serves as a meaningful step towards helping you fulfill the spirit of our motto.

## Prepare Practice Progress

The activity based assignments will foster curiosity, develop creativity, enhance knowledge and instill the joy of learning among you all.


## Contents



**NOTE:**

**Revise the work done in all the subjects till now. Learn whole syllabus of Periodic Assessment-1.**

# ENGLISH

INSTRUCTIONS: Do your holiday homework in fair notebook.

Read the following chapters carefully and create a visual presentation (handmade

or digital) on any one of the following themes:

1. Silk Road – Nick Middleton

2. Discovering Tut: The Saga Continues – A. R. Williams

3. We're Not Afraid to Die… if We Can All Be Together – Gordon Cook &

Alan East

1. Trace the Route of the Silk Road:

Illustrate the historic journey along the Silk Road by mapping out its significant trade routes, connecting the East and the West. Highlight key cities, cultural exchanges, and the impact of this ancient network on global history.

2. Chronicle the Discovery of Tutankhamun's Tomb:

Create a detailed timeline beginning with the discovery of King Tut's tomb by Howard Carter in 1922 and extending through the various stages of exploration, preservation, and scientific investigations, including the CT scan conducted in

2005. Optionally, include recent developments or studies up to the year 2025.

3. Bring the Adventure to Life – Storyboard Activity:

Design a comic strip or storyboard that depicts a significant moment from the story "We're Not Afraid to Die... if We Can All Be Together". Capture the characters' emotions, challenges, and perseverance through creative visuals and dialogue.

4. Discover the Mystique of the Valley of the Kings – Travel Brochure Activity: Create an informative and visually appealing travel brochure for the Valley of the Kings. Emphasize its historical, cultural, and archaeological significance as

the final resting place of pharaohs and a treasure trove for Egyptologists and tourists alike.

5. English Advertisement

# MATHS

**Chapters Covered: Sets, Relations & Functions, Complex Numbers, Linear Inequalities**

**□ Instructions**

1. Attempt all questions in Notebook.
2. Show all necessary steps and provide clear reasoning.
3. The activity is compulsory and will be assessed.

**□ Questions**

1. If A = {1, 2, 3}, B = {2, 3, 4}, find A ∪B, A ∩ B, and A – B.

2. Prove that $(A \cup B)' = A' \cap B'$ using a Venn diagram.

3. If $n(A) = 15$, $n(B) = 20$, and $n(A \cup B) = 30$, find $n(A \cap B)$.

4. Let $U = \{1,2,3,4,5,6,7,8,9\}$, $A = \{2,4,6,8\}$, $B = \{1,2,3,4,5\}$. Find $(A \cup B)'$.

5. If $A = \{x : x \text{ is a natural number less than } 10\}$, list all subsets of A with exactly two elements.

6. Let $A = \{1,2,3\}$, $B = \{a,b\}$. Find the Cartesian product $A \times B$ and $B \times A$.

7. If $A = \{x : x \text{ is a prime number less than } 10\}$, $B = \{2,3,5,7\}$, verify whether A = B.

8. Find the number of subsets of the set $A = \{1,2,3,4\}$.

9. Define a relation R from set $A = \{1,2,3\}$ to set $B = \{4,5\}$ such that $R = \{(a,b) : a + b \text{ is even}\}$. List all elements of R.

10. Let $A = \{1,2,3\}$, $B = \{4,5\}$. Find the number of relations from A to B.

11. Draw the arrow diagram of a function $f: A \rightarrow B$ where $A = \{1,2,3\}$, $B = \{4,5,6\}$, defined by $f(x) = x + 3$.

12 **Assertion Reasoning**

A. Both A and R are true and R is the correct explanation of A

B. Both A and R are true but R is not the correct explanation of A

C. A is true but R is false

D. A is false but R is true

**Assertion (A):** Every function is a relation, but every relation is not a function.

**Reason (R)**: In a function, each element of the domain is associated with exactly one element of the codomain.

13. **Assertion (A)**: If z1 and z2 are purely imaginary numbers, then z1 + z2 is also purely imaginary.

**Reason (R)**: A purely imaginary number has the form z= ib

14. Find the modulus and conjugate of the complex number 1 + i.

15. Simplify: (2 + 3i) + (4 - 5i).

16. Multiply: (3 + 2i)(1 - 4i).

17. Find the multiplicative inverse of the complex number 5 - 7i.

18. If $z_1 = 2 + 3i$ and $z_2 = 1 - i$, find $z_1 + z_2$ and $z_1z_2$.

19. Solve $3x - 7 < 5x + 3$.

20. Solve the inequality $2x - 3 > 7$ and $x + 4 \leq 2$.

21. A cab service charges ₹100 fixed fare and ₹15 per kilometre. A person has only ₹250.

Form the inequality and find the maximum distance the person can travel.

22. Find all real numbers x satisfying $(2x - 1)/(x + 3) > 0$.

23.**Case Study 1**

A survey was conducted in a class of 60 students. 25 students like Maths, 30 like Science, and 20 like English. 10 students like both Maths and Science, 8 like both Science and English, 6 like both Maths and English. 3 students like all three subjects.

1. How many students like only Maths?

2. How many students like at least one of the three subjects?

3. How many students like none of the subjects?

24.**Case Study 2**

Riya wants to buy pens and pencils for her class. A pen costs Rs 15 and a pencil costs Rs 5. She has Rs 200 to spend and needs at least 10 items in total for her group activity. She wants the number of pens to be more than the number of pencils.

1. If x = number of pens and y = number of pencils, write the system of linear inequalities for this situation.

2. Is it possible for Riya to buy 8 pens and 5 pencils? Justify using the inequalities.

3. Find one possible combination of pens and pencils she can buy.

25.Find the value of:

$i^{45} + i^{63} - i^{101}$

**Activity – Real-Life Application of Sets**

**Objective:** Understand and apply the concept of sets in real-life scenarios.

**Task:**

1. Survey at least 10 classmates about their preferences among the following activities: Reading Books (Set A), Watching Movies (Set B), Playing Sports (Set C).
2. Represent your data using a 3-circle Venn diagram.
3. Find the number of students who like: (a) Only one activity (b) Exactly two activities (c) All three activities

# COMPUTER SCIENCE

## Chapter 1 - Computer System overview

1. What is a computer system? Explain its main components.
2. Differentiate between hardware and software with suitable examples.
3. What is an Operating System (OS)? State any four functions of an operating system.
4. Compare single-user operating systems and multi-user operating systems.
5. What is a computing platform? Give examples of desktop, mobile, and cloud platforms.
6. What is a CPU? Why is it called the "brain" of the computer?
7. Explain the functions of the following CPU components:
8. Arithmetic Logic Unit (ALU)
9. Control Unit (CU)
10. Registers
11. Differentiate between ALU and Control Unit.
12. What are registers? Why are they faster than RAM?
13. Explain the memory hierarchy of a computer system.
14. Differentiate between primary memory and secondary memory.
15. What is cache memory? Why is it required in modern computer systems?

16. Compare cache memory, RAM, and secondary storage based on speed, capacity, and cost.
17. What is flash memory? Mention any four devices that use flash memory.
18. Differentiate among RAM, ROM, Cache Memory, and Flash Memory in terms of purpose, speed, volatility, and usage.

## Chapter - 2 Data Representation

1. Convert $\mathbf{101101_2}$ to decimal.
2. Convert $\mathbf{157_{10}}$ to binary.
3. Convert $\mathbf{101.101_2}$ to decimal.
4. Convert $\mathbf{25.625_{10}}$ to binary.
5. Convert $\mathbf{745_8}$ to decimal.
6. Convert $\mathbf{389_{10}}$ to octal.
7. Convert $\mathbf{17.34_8}$ to decimal.
8. Convert $\mathbf{45.375_{10}}$ to octal.
9. Convert $\mathbf{2AF_{16}}$ to decimal.
10. Convert $\mathbf{1023_{10}}$ to hexadecimal.
11. Convert $\mathbf{A.F_{16}}$ to decimal.
12. Convert $\mathbf{26.8125_{10}}$ to hexadecimal.
13. Convert $\mathbf{110101101_2}$ to octal.
14. Convert $\mathbf{7D3_{16}}$ to binary.
15. Convert $\mathbf{654.3_8}$ to hexadecimal.

## Chapter - 2 Python

1. Write a Python program to check whether a number is prime or not.
2. Write a Python program to find the factorial of a number.
3. Write a Python program to generate the Fibonacci series up to N terms.
4. Write a Python program to check whether a number is an Armstrong number.
5. Write a Python program to find the greatest common divisor (GCD) of two numbers.
6. Write a Python program to find the least common multiple (LCM) of two numbers.
7. Write a Python program to reverse a number.
8. Write a Python program to check whether a number is a palindrome.
9. Write a Python program to count the digits in a number.
10. Write a Python program to find the sum of digits of a number.
11. Write a Python program to swap two numbers without using a third variable.
12. Write a Python program to check whether a number is even or odd.
13. Write a Python program to find all factors of a number.
14. Write a Python program to calculate the power of a number without using `**`.
15. Write a Python program to check whether a number is a perfect number.
16. Write a Python program to find the largest among three numbers.
17. Write a Python program to print multiplication tables of a given number.
18. Write a Python program to calculate the sum of first N natural numbers.
19. Write a Python program to calculate the area of a circle using user input.
20. Write a Python program to convert temperature from Celsius to Fahrenheit and vice versa.

# CHEMISTRY

**INSTRUCTIONS:**

- Question-Answer assignment is to be done in chemistry note book.
- Practical work is to be done in lab manual.
- Project work is to be done in project file.

**REMEMBER**

- Neatness and presentation are common parameters for most of the activities assigned.
- Please maintain the quality of work done.
- Complete and submit the holiday homework by 1st July. Note down late submission after this date is not acceptable and you will be losing the marks/grades for the same if you miss the date.
- Holiday homework will be assessed on certain parameters and marks/grade will be awarded accordingly.


## Chapter 1: Some Basic Concepts of Chemistry

1. If 4 g of NaOH dissolves in 36 g of H2O, calculate the mole fraction of each component in the solution. Also, determine the molarity of solution (specific gravity of solution is 1g ml-1)
2. A sample of a compound contains 4.8 g of oxygen and 3.2 g of sulfur. Determine the empirical formula.
3. What is the law of multiple proportions? Explain with an example.
4. If 2.0 g of $H_2$ reacts with 16.0 g of $O_2$ to form water, identify the limiting reagent and calculate the amount of water formed.
5. If 500 mL of a 5 M solution is diluted to 1500 mL, what will be the molarity of the solution obtained?
6. Calculate the mass of sodium carbonate required to make 250 mL of 0.1 M solution.

## Chapter 2: Structure of Atom

7. According to de Broglie, the matter should exhibit dual behaviour, that is, both particle and wave like properties. However, a cricket ball of mass 100 g does not move like a wave when it is thrown by a bowler at a speed of 100 km/h. Calculate the wavelength of the ball and explain why it does not show wave nature.
8. Calculate the wavelength of light emitted when an electron in a hydrogen atom falls from n=3 to n=1.
9. Define quantum numbers. Give the significance of each.
10. What is the difference between orbit and orbital?.
11. What is Heisenberg's Uncertainty Principle? Derive its expression.
12. Calculate the energy of an electron in the second orbit of hydrogen atom.

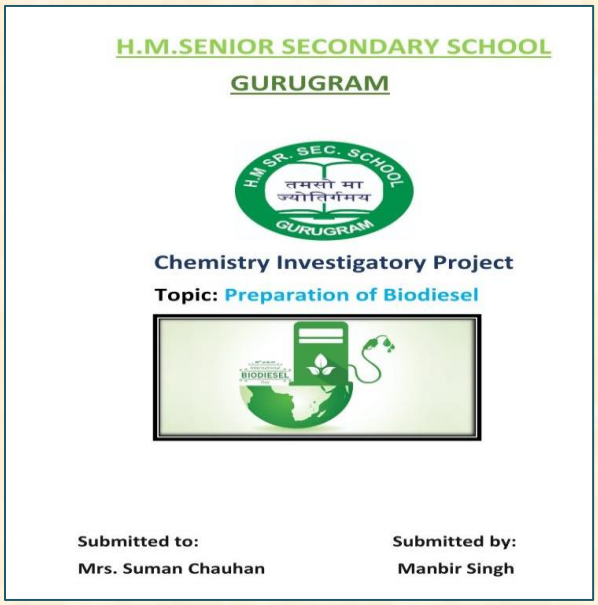

**DO THE ASSIGNED EXPERIMENTS IN LAB MANUAL.**


**PREPARE AN INVESTIGATORY PROJECT INDIVIDUALLY**

- CHOOSE ONE TOPIC OF YOUR CHOICE ANF GET IT APPROVED FROM YOUR SUBJECT TEACHER.
- RESEARCH ON THAT TOPIC THEORTICALLY AND PRACTICALLY AND PREPARE A REPORT ON THAT.

**REPORT WILL CONSIST FOLLOWING THINGS:**

- FRONT PAGE(SAMPLE IS GIVEN BELOW)


H.M.SENIOR SECONDARY SCHOOL

GURUGRAM

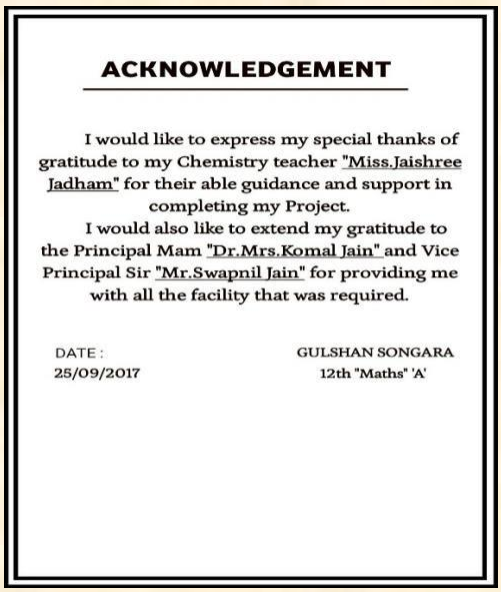
Chemistry Investigatory Project

Topic: Preparation of Biodiesel

Submitted to:
Mrs. Suman Chauhan

Submitted by:
Manbir Singh

- ACKNOWLEDEMENT ( SAMPLE IS GIVEN BELOW)



**ACKNOWLEDGEMENT**

I would like to express my special thanks of gratitude to my Chemistry teacher "Miss.Jaishree Jadham" for their able guidance and support in completing my Project.

I would also like to extend my gratitude to the Principal Mam "Dr.Mrs.Komal Jain" and Vice Principal Sir "Mr.Swapnil Jain" for providing me with all the facility that was required.

DATE :
25/09/2017

GULSHAN SONGARA
12th "Maths" 'A'

- CERTIFICATE (SAMPLE IS GIVEN BELOW)

Certificate

This is to certify that I, _____
of class XII of *Nehru Smaraka Vidyalaya* has successfully completely the _____ Investigatory Project as prescribed by the All India Senior Secondary Certificate Examination (AISSCE) for the academic year 2017-18.

Date:

_____
*Principal's Signature*

_____
*Signature of External Examiner*

_____
*Signature of Internal Examiner*

- RESEARCH CONTENT
- BIBLIOGRAPY

# PHYSICS

## Chapter 1: Units and Dimensions

### Conceptual Questions

1. A student measures the length and breadth of a rectangle as (15.2cm) and (8.4cm).
   Calculate the area and express the answer using correct significant figures. Why are significant figures important?
2. A cube has side (2.00cm).
   Calculate its volume and explain how precision affects the final result.

## Logical / HOTS Questions

3. A physical quantity depends on mass (m), velocity (v), and radius (r) as:

$Q=mv^2/r$

Find dimensions of (Q) and identify the physical quantity represented.

4. The time period (T) of a simple pendulum depends on length (l) and acceleration due to gravity (g). Use dimensional analysis to derive the relation between them.

## Case-Based Questions

5. Two students measure diameter of a wire using a meter scale and a screw gauge. The screw gauge gives more accurate results.
   Why is screw gauge more precise? What is least count? If diameter is (0.50 mm), calculate radius in SI units.
6. A scientist records density of a material as (13.6 $g/cm^3$).
   Convert it into SI units. Why is unit conversion important? How do dimensions help in checking conversions?

## Assertion–Reason Questions

7. **Assertion (A):** Physical equations must be dimensionally homogeneous.
   **Reason (R):** Quantities with different dimensions cannot be added or subtracted.
8. **Assertion (A):** Dimensional analysis can determine numerical constants in equations.
   **Reason (R):** Dimensions provide complete mathematical information about physical relations.

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# Chapter 2: Motion in a Straight Line

## Conceptual Questions

1. A person walks (4 km) east and then (3 km) west.
   Calculate total distance and displacement. Why are they different?
2. A ball is thrown vertically upward with speed (30 m/s).
   Calculate maximum height reached. What happens to velocity at the highest point? Why does acceleration remain constant?
   (Take ($g=10\ m/s^2$))

## Logical / HOTS Questions

3. A car starts from rest and accelerates uniformly at ($2m/s^2$) for (10s).
   Calculate final velocity and distance travelled. Explain how equations of motion apply.
4. A body moves according to: $x=t^3-6t^2+9t$

Find velocity and acceleration at (t=2s).

## Case-Based Questions

5. A driver moving at (72km/h) applies brakes and stops in (5s).
   Convert speed into SI units, find retardation and stopping distance. Explain importance of stopping distance in road safety.
6. A stone is dropped from a tower and reaches ground in (4s).
   Find height of tower and velocity before striking ground. Why is this motion uniformly accelerated?
   (Take ($g=10m/s^2$))

## Assertion–Reason Questions

7. **Assertion (A):** A body can have zero velocity and non-zero acceleration simultaneously.
   **Reason (R):** Velocity may become zero momentarily during motion.
8. **Assertion (A):** Distance travelled can never be less than displacement.
   **Reason (R):** Displacement is the shortest path between initial and final positions.

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# Chapter 3: Motion in a Plane

## Conceptual Questions

1. Two vectors of magnitudes (6) units and (8) units act perpendicular to each other.
   Find magnitude of resultant and name the theorem used.
2. A force of (20N) acts at angle ($60^0$).
   Resolve it into horizontal and vertical components. Why is vector resolution important?

## Logical / HOTS Questions

3. A projectile is projected with velocity (20m/s) at angle ($30^0$).
   Find time of flight, maximum height, and horizontal range.
   (Take ($g=10m/s^2$))
4. Two equal vectors each of magnitude (10) units act at angle ($120^0$).
   Find resultant magnitude. Under what condition can resultant become zero?

## Case-Based Questions

5. A plane flies north at (200km/h) while wind blows east at (150km/h).
   Find magnitude of resultant velocity. Why does the plane not move exactly north? Explain importance of vectors in navigation.
6. A ball is thrown horizontally from a building with speed (15m/s) and reaches ground after (3s).
   Find height of building and horizontal distance travelled. Which component of velocity remains constant?

## Assertion–Reason Questions

7. **Assertion (A):** Horizontal acceleration in projectile motion is zero.
   **Reason (R):** Gravity acts only vertically downward.
8. **Assertion (A):** The resultant of two vectors can be smaller than either vector.
   **Reason (R):** Resultant depends on angle between vectors.

## *Projectile Motion Activity*

### *Aim: To study projectile motion using a soft ball.*

*Procedure:*

- *Throw a ball at different angles.*
- *Measure approximate horizontal range each time.*
- *Observe which angle gives maximum range.*

*Physics Concepts:*

- *Projectile motion*
- *Motion in a plane*
- *Horizontal range*

*Observation:*

*Identify and write relation between angle of projection and range in three different case.*

## *Balloon Rocket Experiment*

*Aim:*

*To observe motion produced by air pressure.*

*Materials:*

*Balloon, straw, thread, tape*

*Procedure:*

- *Pass thread through straw.*
- *Inflate balloon and tape it to straw.*
- *Release the balloon.*

*Physics Concepts:*

- *Motion*
- *Force and direction*
- *Newton's ideas of motion*

*Task:*

*Explain why balloon moves forward.*

## Manual work

1. To measure diameter of a small spherical using vernier calliper.
2. To measure internal diameter and depth of a given beaker using vernier calliper and hence find its volume.

3. To measure diameter of a given wire and thickness of a given sheet using screw gauge.
4. Using a simple pendulum , plot L-t and L-$t^2$ graph and hence find its effective length of second pendulum.

## PREPARE AN INVESTIGATORY PROJECT INDIVIDUALLY

CHOOSE ONE TOPIC OF YOUR CHOICE FROM CLASS 11 PHYSICS AND GET IT APPROVED FROM YOUR SUBJECT TEACHER. IT SHOULD NOT BE COPIED FROM OTHER STUDENT.
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# BIOLOGY

**I. Make a Herbarium, using different plants, along with their common names, biological names and the economic uses.**

**II.Make a project on given topic,the project should be in minimum 10 to 15 pages.(Topics already given in class individually)**

**NOTE: Learn all chapters of 'Human Physiology' unit and complete your notebook also.**

**CASE STUDY BASED QUESTIONS:**

**Case Study -1**

**A mountaineer experiences breathing difficulty at high altitude.**

**1.Why is oxygen availability less at high altitudes?**

**2.Why does breathing rate increase?**

**3.Which respiratory pigment carries oxygen?**

**4.Suggest one adaptation useful at high altitude.**

**Case Study -2**

**A smoker develops chronic cough and breathing problems.**

**1.Which organ system is affected?**

**2.What are alveoli?**

**3.How does smoking damage lungs?**

**4.Name one respiratory disease caused by smoking.**

**Case Study-3**

**A patient loses a large amount of blood in an accident.**

**1.Why is blood transfusion necessary?**

**2.Which component carries oxygen?**

**3.Which blood cells help in clotting?**

**4.What may happen if blood loss is severe?**

**Conceptual Questions**

**1.Why are alveoli highly efficient for gas exchange?**

**2.Why is breathing different from respiration?**

**3.Why do athletes have greater lung capacity?**

**4.Why does carbon dioxide diffuse faster than oxygen?**

**5.Why is oxygen essential for aerobic respiration?**

**6.Why does left ventricle have thicker walls?**

**7.Why are valves present in veins?**

**8.Why is blood called connective tissue?**

**9.Why is double circulation important in humans?**

**10.Why is lymph important in body?**

**ASSERTION AND REASON BASED QUESTIONS:**

**1.Assertion: Alveoli provide large surface area.**

**Reason: Efficient gaseous exchange requires larger surface area.**

**2.Assertion: Veins contain valves.**

**Reason: Blood pressure in veins is low.**

**3.Assertion: Kidneys help maintain homeostasis.**

**Reason: They regulate water and salt balance.**

**4.Assertion: Reflex actions are quick responses.**

**Reason: Brain is not involved initially.**

**5.Assertion: Insulin decreases blood sugar level.**

**Reason: It promotes conversion of glucose into glycogen.**

**CONCEPT MAPPING TASK;**

**Prepare a concept map linking:**

**1.Respiration**

**2.Circulation**

**3.Excretion**

**4.Nervous Coordination**

**5.Hormonal Coordination**

# POLITICAL SCIENCE

Political Science **equips students with an understanding of the political institutions and laws that govern all businesses function**. It also sharpens students' understanding of organizational dynamics and human relations, and hones their writing, communication, and statistical skills.

**General Instructions:**

**(a) All questions are necessary.**
**(b) Do all questions in neat and clean handwriting.**

Q. 1. How does a constitution serve as a tool for coordination and assurance in such a diverse society? Does the imposition of a single language align with the spirit of the Indian Constitution?
Q.2. Based on the principles of the Indian Constitution, why is this provision highly problematic? Analyze the role of "public reason" in constitution-making.
Q.3. Why is constitution needed?

Q.4. What is an unwritten constitution?
Q.5. What is the fundamental purpose of having a constitution in a society?
Q.6. What is the significance of Cabinet Mission Plan?
Q.7. How are powers are demarcated in Indian constitution?
Q.8. Why are free, fair, and periodic elections considered the heartbeat of a democracy? What value does a transparent electoral process teach the citizens of a country?
Q.9. Why are fundamental rights are necessary?
Q.10. Which liberties are given in article 19?
Q.11. The Constitution of India provides for a system of reserved constituencies for Scheduled Castes and Scheduled Tribes. What ethical and social value does this system promote?
Q.12. What is the importance of Directive Principles of State Policy?
Q.13. The Indian Constitution grants the right to vote to every adult citizen above 18, regardless of their wealth, education, or social status. Which democratic value is reflected in this provision? How does it empower marginalized sections of society?
Q.14. Describe the Fundamental Duties of the Constitution.
Q.15. Difference between direct and indirect democracy.
Q.16. What is an election? Why it's necessary?.
Q.17. What is Functional Representative?
Q.18. Write five features of Indian Electoral System
Q.19. The Indian Constitution provides for the reservation of seats in legislative bodies for Scheduled Castes (SCs) and Scheduled Tribes (STs). Which democratic value is upheld by this provision, and how does it ensure equitable representation for marginalized communities?
Q.20. Discuss the composition of Indian Election Commission of India.
Q.21. If a ruling party heavily uses state machinery (such as government vehicles and funds) for election campaigning, which democratic value is violated? What role does the Election Commission play in upholding this value?
Q. 22. What happens if a society does not have a basic set of enforceable rules?
Q.23. Read the given passage and answer the questions that follow:

The independence of India should mean the independence of the whole of India… Independence must begin at the bottom. Thus, every village will be a republic… It follows therefore that every village has to be self-sustained and capable of managing its affairs. In this structure composed of innumerable villages, there will be ever-widening, ever-ascending circles. Life will be a pyramid with the apex sustained by the bottom – Mahatma Gandhi.

a. Which concept is Gandhiji explaining in the above passage?
b. What are the Gandhiji's views regarding the decentralization of powers?
c. "Do you take decentralization as a means to minimize the conflicts?" Give your viewpoint.

**PROJECT WORK: -**

**MAKE A PPT ON ELECTION.**

# GEOGRAPHY

Q1 How did the Earth's atmosphere evolve?

Q2.Who coined the term 'Geography'? (a) Herodotus, (b) Eratosthenes, (c) Galileo

Q. 3Which planet has the highest density in our solar system?

Q. 4Name the direct source of information about the Earth's interior.

Q. Which scale is used to measure the magnitude of an earthquake?

Q. 5 Define the holistic nature of geography. Why is it called an integrating discipline?

Q. 6 Geography is the study of areal differentiation."

Q. 7 Explain this statement.Describe the process of differentiation that led to the formation of different layers inside the Earth.

Q.8 Why do earthquake waves develop shadow zones? Explain.

Q. 9 Which zone is formed when earthquake waves are not recorded by seismographs?

Q. 10 Who proposed the 'Continental Drift Theory' in 1912?

Q. 11 Name the supercontinent that existed before its breakup into Laurasia and Gondwanaland.

Q. 12 What are 'convectional currents' responsible for according to the mantle convection theory?

Q 13 Fill in the blank: The earth's mantle extends up to a depth of _____ km.

Q. 14 What are seismic waves? Differentiate between Body waves and Surface waves.

Q. 15 Explain the concept of sea floor spreading with reference to mid-oceanic ridges.

Q. 16 Differentiate between convergent and divergent tectonic plate boundaries.

Q. 17

Define geomorphic processes. Name the two primary categories into which they are divided.

Q18 What is denudation? List the four main processes included under denudation.

Q19. Differentiate between endogenic and exogenic forces.

Q.20 Explain the physical process of frost wedging (or frost weathering).

PRACTICAL WORK

Q.1What is a map scale, and what are the ways to represent it?

Q. 2 Differentiate between a Map and a Sketch.

Q. 3 What is Latitude and Longitude?

**Q**. 4 Why is Map Design important**?**

# WEB APPLICATION

## Instructions:

- Do the work in a **neat notebook** or **A4 sheets**.
- Use diagrams, tables, and code where required.
- Make it colorful and creative to make learning fun!

## Summer Vacation – June 2026

**Part A: Networking Concepts (25 Questions)**

1. What is a computer network? Explain with an example.
2. Define IP address. What are its types?
3. What is a private IP and public IP address?
4. What is the format of an IPv4 address? Give 2 examples.
5. What is a MAC address? How is it different from an IP address?
6. Explain the concept of **DNS (Domain Name System)**.
7. What is a URL? Write an example.
8. What is a domain name? Mention any 5 examples.
9. Write the full form and purpose of the following:
    - TCP
    - IP
    - HTTP
    - HTTPS
    - FTP
10. What is a protocol? Why is it important in networking?
11. What is a **modem**? What is its role?
12. Define the following:
    - Router
    - Switch

- Hub
- Access Point

13. What is a firewall? How does it work?
14. What are the types of network topologies? Draw diagrams.
15. Explain **star topology** and **bus topology**. Write 1 advantage and disadvantage each.
16. What is a LAN, MAN, and WAN? Give 1 example each.
17. What is bandwidth? How does it affect internet speed?
18. Difference between wired and wireless network.
19. What is a peer-to-peer and client-server network?
20. What is network security? Why is it important?
21. What is cloud computing? Mention two cloud storage examples.
22. What is a static IP vs dynamic IP address?
23. What are the basic components of a network?
24. What are the steps to connect a computer to a Wi-Fi network?
25. List 5 common networking devices and their purposes.

**Part B: HTML & CSS (15 Questions + Activities)**

26. What is HTML? Write its full form.
27. Write the basic structure of an HTML page.
28. What is a tag in HTML? Give 5 examples.
29. What is the difference between  and ?
30. What are attributes in HTML? Give 2 examples with syntax.
31. How to insert an image in HTML? Write the code.
32. How to create a hyperlink in HTML?
33. What is the difference between <ul>, <ol>, and <li>?
34. Write the HTML code to create a table with 3 rows and 3 columns.
35. Create an HTML form with fields: Name, Email, and Submit button.
36. What is CSS? Write its full form.
37. Difference between internal, external, and inline CSS.
38. Write CSS to make text red and center-aligned.

39. How to apply background color and border using CSS?
40. Write CSS to make a button look stylish (rounded border, padding, color).

**Activities:**

41. Design a **Student Profile Page** using HTML & CSS.
42. Create a **"My School Website Homepage"** using HTML.
43. Make a simple **photo gallery layout** using HTML & CSS.
44. Build a contact form using HTML and style it with CSS.

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**Part C: Web Technology Basics (15 Questions)**

45. What is the Internet? How is it different from the Web?
46. What is WWW (World Wide Web)?
47. What is a web browser? Name 5 popular web browsers.
48. What is a search engine? How does it work?
49. What is the difference between a website and a webpage?
50. What is a web server? Give an example.
51. What is hosting? Why is it needed?
52. What are cookies in a web browser?
53. What is responsive web design?
54. What is the use of JavaScript in web development?
55. What are front-end and back-end in web development?
56. What is a CMS (Content Management System)? Give 2 examples.
57. What is GitHub and how is it used in web development?
58. Define SEO. Why is it important?
59. What is mobile-friendly design? Why is it important?

**Optional Creative Chart Work Ideas:**

**Choose any one you :**

- Chart on "Types of Network Topologies" with diagrams
- Flowchart on "How Internet Works"
- Poster on "HTML Tag Family Tree"
- Chart of "IP Address Classification and Ranges"
- Comparison chart between LAN, MAN, WAN

# BUSINESS ADMINISTRATION

I. Case Study & Scenario-Based Questions

1. The Accidental Florist

Scenario: Rohan has a profound interest in organic farming. Over the weekends, he cultivates exotic vegetables in his backyard for his family's consumption. Seeing the high quality of his produce, his neighbor offered him ₹2,000 for a batch of fresh lettuce. Rohan accepted the money and delivered the veggies. Encouraged by this, Rohan decides to consistently buy organic seeds, farm on a leased plot of land, and sell fresh vegetables weekly to local supermarkets under the brand name "GreenBite".

(a) Was Rohan's first transaction with his neighbor a "Business activity"? Explain using a specific characteristic of business.

(b) Identify the point at which Rohan's farming activity officially converted into a business venture. Cite the relevant business characteristic.

(c) Identify and contrast the two types of human activities mentioned in this scenario.

2. The Evolving Local Grocer

Scenario: "SuperMart", a highly successful brick-and-mortar departmental store in a posh residential sector, suddenly saw its monthly sales plummet by 35% in 2026. This happened shortly after two major online quick-commerce apps started operational warehouses within a 2 km radius, promising grocery deliveries within 10 minutes.

(a) Identify the specific component of the business environment that directly impacted "SuperMart's" sales.

(b) Which characteristic feature of the business environment is highlighted by this sudden, unpredictable shift? Explain briefly.

(c) If you were the manager of SuperMart, how would you use a Creative Approach to turn this challenge into an opportunity?

Higher-Order Thinking Skills (HOTS) & Application Questions

3. Classification of Economic Activities:

Examine the following four individuals and classify their economic activities into Business, Profession, Employment, or Services. Justify your classification based on features like specialized skills, risk, or remuneration.

Individual A: A chartered accountant practicing independently in her own firm.

Individual B: A software engineer working at an IT corporate office receiving a monthly salary.

Individual C: An individual setting up a warehouse and buying plastic products from factories to sell them to retail shops.

Individual D: A private logistics firm organizing the quick movement of finished goods from factories directly to users.

4. The Dilemma of Profit:

A newly established eco-friendly manufacturing unit claims, "Our sole objective is to provide high-quality biodegradable packaging to society, and we do not care about making a profit." * As a student of business administration, explain to the firm's founders why their stance is unsustainable by discussing three distinct roles of profit (beyond mere greed) that are crucial for their survival.

Interrelated Forces:

The government announces a strict ban on single-use plastic packaging materials (Political/Legal Environment). Consequently, there is a massive surge in consumer demand for handmade paper bags and jute items (Social/Economic Environment).

Which feature of the business environment is illustrated by this chain reaction? Explain how a manager can use Strategic Planning to adapt to it.

ASSERTION-REASON QUESTIONS

Directions: In each of the following questions, a statement of Assertion (A) is followed by a statement of Reason (R). Mark the correct choice as:

(a) Both Assertion (A) and Reason (R) are true, and Reason (R) is the correct explanation of Assertion (A).

(b) Both Assertion (A) and Reason (R) are true, but Reason (R) is NOT the correct explanation of Assertion (A).

(c) Assertion (A) is true, but Reason (R) is false.

(d) Assertion (A) is false, but Reason (R) is true.

1.Assertion (A): If a person sells their old personal smartphone on an online resale platform to buy a new one, it is classified as a business activity.

2. Reason (R): Business activities must involve regular and continuous dealings in goods and services; a single isolated transaction does not constitute a business.

3. Assertion (A): Profit is considered the ultimate index and yardstick for measuring the efficiency of a business enterprise's management.

Reason (R): Higher profitability improves a business's market standing, making it significantly easier to raise loans and obtain external credit for expansion.

4. Assertion (A): Businesses operating in the services sector can scale up operations just as easily and rapidly as factory-based manufacturing industries.

Reason (R): Scaling up a service business relies heavily on the complex recruitment, induction, training, and retention of human service providers.

5. Assertion (A): A business structure where an individual owner bears all structural risks, invests the initial capital, and claims all output profits is known as a Sole Proprietorship.

MULTIPLE CHOICE QUESTIONS (MCQs)

1. Which of the following human activities is correctly categorized as a Non-Economic activity?

(a) A software developer building an app for a commercial client.

(b) A teacher conducting an evening remedial class at a private coaching center.

(c) A corporate executive volunteering to manage accounts at an old age home on Sunday.

(d) A medical practitioner treating patients inside a private hospital room.

2. According to Lewis H. Haney, business is a human activity specifically directed toward:

(a) Satisfying emotional and societal obligations without private gain.

(b) Producing or acquiring wealth through buying and selling goods.

(c) Maximizing employee enrichment through automated tech systems.

(d) Eliminating all marketplace risks via government protections.

3. The spectrum of business requires that an output is produced regularly. If a toy shop owner sells toys to consumers, it is business, but giving a toy to his own child is not." Which characteristic is highlighted here?

(a) Uncertainty of Return

(b) Sale or Exchange of Goods & Services for monetary worth

(c) Consumer Orientation and Goodwill

(d) Optimization of Fixed Assets

4. A manufacturing industry with an investment in fixed assets, plant, and machinery that strictly exceeds ₹10 crores is officially classified as a:

(a) Small Scale Business. (b) Micro-Enterprise Unit

(c) Medium Scale Organisation. (d) Large Scale Business Organisation

5. Which strategic business function involves designing quick order-processing, tracking, inventory management, and warehousing to move finished products safely to buyers?

(a) Technological decisions. (b) Logistics decisions

(c) Market research and development. (d) Internal process review

6. Activities like Banking, Insurance, and Advertising that directly step in to systematically remove hurdles of finance, risk, and information are grouped under:

(a) Extractive Industries. (b) Genetic Industries. (c) Auxiliaries to Trade. (d) Construction Operations

7. When a corporate entity conducts a SWOT Analysis, positive internal factors controlled by the enterprise are called _____, whereas negative external factors in the market are called _____.

(a) Opportunities; Weaknesses. (b) Strengths; Threats. (c) Strengths; Weaknesse. (d) Opportunities; Threats

8. The creation of new administrative states directly alters regional transport, tourism, and mining infrastructure. This serves as an example of the:

(a) Technological Environment. (b) Political Environment

(c) Legal Environment. (d) Internal Work Environment

9.Which component of the Internal Environment is considered the absolute "lifeblood" of any business enterprise?

(a) Brand Image. (b) Capital / Finance. (c) Promotional Strategy. (d) Work Environment

10. The concept of integrating a domestic national economy seamlessly with the wider global economy is defined as:

(a) Liberalization. (b) Privatization. (c) Globalization. (d) Environmental Scanning

11. Define "Business" as per administrative terminology. Detail any four defining characteristics of a business operation that differentiate it from other non-commercial human pursuits.

12. Explain the System Approach to business operations. Use a neat flow diagram within your answer to demonstrate how a business absorbs inputs from the external environment, processes them internally, and releases outputs back into society.

PROJECT 1: Scale of Operations & The Entrepreneurial Journey ( Roll no 1 to 5)

Objective: To understand how businesses operate on different scales and how they evolve over time.

Tasks:

Select a local successful business in your locality (e.g., a bakery, a boutique, a local fast-food brand, or a printing press).

Interview the owner/manager or research their history online to find out:

How did the business start? (Analyze their initial funding, strategy, and challenges).

Classify its current scale of operation: Is it Small, Medium, or Large Scale based on investment limits, labor intensity, and market reach?

Identify the key Strategic Functions they perform daily (e.g., Logistics decisions, financing decisions, maintaining customer relationships).

Create a detailed growth timeline of the business showing how it adapted to shifting consumer demands.

PROJECT 2: Real-World Business Environment Mapping ( Roll no 6 onwards)

Objective: To analyze how the external environment dictates the success or failure of corporate giants.

Tasks:

Pick one major company that has gone through a massive transition or struggle due to environmental factors (e.g., Nokia failing to adapt to touch-screen smartphones, Netflix capitalizing on high-speed internet, or a car manufacturer shifting to Electric Vehicles).

Conduct a detailed environmental scan for your chosen company:

Specific Forces: How did competitors, investors, or changing customer expectations impact them?

General Forces: Detail how Technological advancements, Legal guidelines, or Social trends altered their market presence.

Conclude with a "Managerial Review Report" stating what the company did right or wrong, and what technological/strategic decisions you would recommend to keep them ahead of their rivals.

# PHYSICAL EDUCATION

| | |
|---|---|
| 1 | What do you mean by Yoga? Outline the importance of yoga. |

| | |
|---|---|
| 2 | Explain in detail the Somatotypes. |
| 3 | Explain in detail the Physical Education development in India after Independence? |
| 4 | Describe Olympic Educational Values with suitable Examples? |
| 5 | List few important Pranayama. |
| 6 | What are the types of Disability? Explain briefly. |
| 7 | Define Endurance. |
| 8 | Write short note on:<br>A)The Flame and torch relay<br>B) Olympic Flag<br>C)The Motto and Maxim |
| 9 | Revise chapter-1,2,3,4 for test. |
| 10 | Complete practical file :<br><br>(I)SAI Khelo India Fitness Test<br>(II)Yoga Ashana<br>(III)Any one Olympic Game |

# ECONOMICS

Part A – Statistics for Economics

Chapter 1: Concept of Economics & Significance of Statistics in Economics

Q1. Answer the following:

What is Economics?

Define Statistics.

Write any four importance of Statistics in Economics.

Difference between Micro Economics and Macro Economics.

Why do economists use statistics?

Activity 1 – “Economics Around Me”

Paste or draw 5 pictures showing economics in daily life such as:

Market

Bank

Shopping Mall

Online Shopping

Farming

Write 2 lines below each picture explaining its economic importance.

Chapter 2: Collection of Data

Q2. Fill in the blanks:

Data collected for the first time is called _____ data.

Information already collected by others is called _____ data.

Questionnaire method is used for _____ collection.

Investigator method is an example of _____ data collection.

Activity 2 – Survey Activity

Conduct a small survey of 10 students in your neighborhood or class.

Ask the question:

“How many hours do you spend on mobile phones daily?”

Prepare:

A table of responses

Average hours

Conclusion in 4–5 lines

Chapter 3: Census and Sample Methods of Collection of Data

Q3. Short Answer Questions:

What is Census Method?

What is Sample Method?

Give two advantages of Census Method.

Give two advantages of Sample Method.

Which method is more economical and why?

Activity 3 – Compare & Learn

Make a colorful chart showing differences between:

Census Method

Sample Method

Add at least 5 points with suitable drawings/icons.

Chapter 4: Organisation of Data

Q4. Answer the following:

What is classification of data?

What is tabulation?

Name different types of classification.

Why is organisation of data necessary?

Activity 4 – Organise the Data

Collect marks of 15 students in Economics and arrange them:

In ascending order , In descending order

In grouped form. ,Decorate the page neatly.

Chapter 5: Presentation of Data – Textual & Tabular Presentation

Q5. Very Short Questions:

What is textual presentation?

What is tabular presentation?

Write any two advantages of tables.

What are rows and columns?

Activity 5 – Make Your Own Table

Prepare a table showing:

Favourite Subject

Number of Students

Take responses from at least 10 students and present them neatly using colors.

Part B – Micro Economics

Chapter 1: Introduction

Q6. Answer the following:

Define Micro Economics.

What are the features of Micro Economics?

Why is Micro Economics called price theory?

Difference between Micro and Macro Economics.

Activity 6 – Mind Map

Make a colorful mind map on:

“Scope of Micro Economics”

Include:

Consumer ,Producer ,Price determination,Market , Demand & Supply.

Use sketches and diagrams.

Chapter 2: **Central Problems of an Economy**

Short Answer Questions:

What are the three central problems of an economy?

What to produce?

How to produce?

For whom to produce? Why do central problems arise?

Rohan, a local entrepreneur in Gurugram, inherits a small manufacturing facility and

He is faced with a critical choice. He can either use the facility to produce high-end solar panels that require imported, expensive machinery (high initial investment), or he can manufacture affordable, manually assembled educational toys using local, unskilled laborers. Furthermore, given the low purchasing power of the local community, he must decide whether to price the products as premium items for affluent buyers or as budget-friendly items for the general public.

## Questions Based on the Case

**1. Which central economic problem is Rohan trying to solve when he considers making solar panels versus educational**

**2. When Rohan evaluates using expensive, imported machinery versus employing unskilled local laborers, which economic problem he is facing.**

**3. By contemplating who will ultimately buy his toys or panels based on income levels, which central problem is Rohan addressing**

**4. Why does Rohan face these economic problems in the first place**

Activity 7 – Poster Making

Make a poster on:“Problem of Scarcity and Choice”

Use slogans like: “Resources are limited” “Choose wisely” “Save resources”

Chapter 3: Consumer’s Equilibrium

Q8. Answer the following:

What is utility?

Define marginal utility.

State the law of diminishing marginal utility.

What is consumer equilibrium?

Explain MU and TU relationship.

Activity 8 – Chocolate Utility Activity

Take chocolates/toffees and note your satisfaction level after eating each one.

Prepare a table like this:

Number of Chocolates

Marginal Utility

1

2

3

Write your conclusion about diminishing marginal utility.

Make a PPT of the following topics. For commerce student

1. Marginal oppurtunity cost . ( Roll no. 1and 14)
2. Total utility vs Marginal utility ( Roll no. 2 and 15)
3. Scarcity and economic problem ( Roll no. 3 and 16)
4. consumers equilibrium ( Roll no 4 and 17 )
5. Scarcity and economic problem ( Roll no . 5 and 18)
6. consumers equilibrium ( Roll no. 6 and 19)
7. Indifference curve Analysis .( Roll no. 7 and 20 )
8. significances of statistics . ( Roll no. 8 and 21 )
9. collection of Data . ( Roll no. 9 and 22 )
10. Organisation of data. ( Roll no. 10 and 23 )
11. census method and sources of data. ( Roll no. 11 and 24 )
12. presentation of data .( Roll no. 12 and 25)
13. Bar diagram, histograms and ogives. ( Roll no 13 and 26 )

Make a PPT of the following topics. For Humanity Students

1. consumers equilibrium ( Roll no. 1 and 7)

2. Indifference curve Analysis .( Roll no. 2 and 8 )

3.significances of statistics . ( Roll no. 3 and 9)

4. collection of Data . ( Roll no. 4 and 10 )

5. Organisation of data. ( Roll no. 5 and 11 )

6. census method and sources of data. ( Roll no. 6 and 12 )

# BUISNESS STUDIES

**Section A – Statement Based Questions**

**Q1**. State whether the following statements are True or False:

a) Business activities are performed only for social service.

b) Profession requires specialised knowledge and training.

c) Warehousing helps in overcoming the hindrance of time.

d) Partnership business can have only two partners.

e) A company has a separate legal entity.

**Q2.** Fill in the blanks:

a) Economic activities are undertaken to earn ____.

b) The minimum number of members in a cooperative society is ____.

c) Business risk arises due to ____.

d) The owner of a sole proprietorship has ____ liability.

e) Transfer of ownership in a company is done through ____.

**Q3.** Choose the correct option:

Which of the following is not an auxiliary to trade?

(a) Banking

(b) Insurance

(c) Manufacturing

(d) Transport

Which form of business is suitable for personalised services?

(a) Company

(b) Sole Proprietorship

(c) Cooperative Society

(d) Joint Hindu Family

The maximum number of partners in a banking partnership firm is:

(a) 10

(b) 20

(c) 50

(d) 100

Which organisation is based on mutual help?

(a) Company

(b) Partnership

(c) Cooperative Society

(d) Sole Proprietorship

The head of a Joint Hindu Family business is called:

(a) Director

(b) Partner

(c) Karta

(d) Manager

## Section B – Assertion and Reason Questions

**Q4.** Assertion (A): Business activities involve risk.

Reason (R): Business risks arise due to uncertainties.

(a) Both A and R are true and R is the correct explanation of A.

(b) Both A and R are true but R is not the correct explanation of A.

(c) A is true but R is false.

(d) A is false but R is true.

**Q5.** Assertion (A): A company enjoys perpetual succession.

Reason (R): A company comes to an end with the death of shareholders.

Options same as above.

**Q6.** Assertion (A): Sole proprietorship is easy to form.

Reason (R): It requires very few legal formalities.

Options same as above.

**Q7.** Assertion (A): Cooperative societies promote the welfare of members.

Reason (R): Their main objective is maximum profit earning.

Options same as above.

## Section C – Short Answer / Competency-Based Questions

**Q8.** Differentiate between economic and non-economic activities with two examples each.

**Q9.** Explain any four characteristics of business activities.

**Q10.** Why is partnership considered better than sole proprietorship in certain situations? Give any four reasons.

**Q11.** Rohan started a bakery near his school. Initially he managed everything alone, but after expansion he included his friend Aryan in the business.

Identify:

The initial form of business

The new form of business after expansion

Any one advantage of the new form

**Q12.** Explain any four merits of a company form of organisation.

## Section D – Case Study Questions

**Case Study 1**

**Q13.** Aman started a mobile repair shop with his own savings. He takes all decisions himself and bears all profits and losses alone. Due to good customer service, his business became popular in the locality.

Answer the following:

a) Identify the form of business organisation.

b) State any two features of this form.

c) Mention one limitation of this business form.

**Case Study 2**

**Q14.** Three friends — Kunal, Raj, and Vivek — opened a coaching institute together. They shared profits equally and signed a legal agreement regarding duties and capital contribution.

Answer the following:

a) Name the form of business organisation.

b) What is the legal agreement called?

c) State any two advantages of this form.

**Case Study 3**

**Q15.** A group of farmers formed an organisation to purchase seeds and fertilizers at reasonable prices. All members had equal voting rights irrespective of capital contribution.

**Answer the following:**

a) Identify the organisation.

b) Which principle is followed here?

c) State two advantages of such organisations.

**Case Study 4**

A textile company continues its business operations even after the retirement and death of some shareholders. Ownership can easily change by buying and selling shares.

**Questions:**

a) Identify the form of organisation.

b) Mention the feature highlighted in the first line.

c) Why is transfer of ownership easy in this form?

**Case Study 5**

The Sharma family runs a traditional jewellery business. The eldest male member manages all business activities and decisions are taken for the welfare of the family.

**Questions:**

a) Identify the form of business organisation.

b) Who is the head of this business called?

c) Mention any two features of this form.

# ACCOUNTANCY

SECTION I: Assertion and Reasoning Questions (5 Questions)

Directions: Choose the correct option:

(a) Both (A) and (R) are true and (R) is the correct explanation of (A).

(b) Both (A) and (R) are true but (R) is not the correct explanation of (A).

(c) (A) is true but (R) is false.

(d) (A) is false but (R) is true.

Question 1 Assertion (A): A business entity treats its owner as a creditor to the extent of the capital introduced by them.

Reason (R): According to the Business Entity Concept, a business enterprise is viewed as a separate legal and accounting unit distinct from its owners.

Question 2 Assertion (A): Standard trade discounts allowed by a manufacturer to a retailer at the time of a bulk sale are never recorded in the ledger books.

Reason (R): Trade discount is a reduction from the catalog price allowed to promote sales, whereas only cash discounts are recorded to incentivize prompt payments.

Question 3 Assertion (A): A balance sheet is prepared to ascertain the net profit or net loss earned by an enterprise during an accounting period.

Reason (R): Profit or loss is calculated through the Income Statement (Profit & Loss Account), while the Balance Sheet depicts the financial position at a specific point in time.

Question 4 Assertion (A): Livestock (horses, cattle used in a farming business) and loose tools are classified as Current Assets because their individual life cycles fluctuate rapidly.

Reason (R): Current Assets are those assets that are held by a business for resale or are expected to be converted into cash within one year.

Question 5 Assertion (A): Window dressing in accounting helps external investors look at a more reliable, transparent, and verified position of a company's financial health.

Reason (R): Window dressing refers to the practice of manipulating financial statements to present a better financial position than what actually exists.

SECTION II: Case-Based Conceptual Questions (5 Questions)

Question 6 (Evaluating Types of Liabilities)

An apparel manufacturing unit takes a 5-year bank loan of ₹1,000,000 on 1st April, 2025. The terms of the loan state that an annual installment of ₹200,000 must be repaid at the end of every financial year.

How should this liability be classified in the firm's Balance Sheet prepared on 31st March, 2026?

(a) The entire ₹1,000,000 will be classified as a Non-Current Liability.

(b) The entire ₹1,000,000 will be classified as a Current Liability.

(c) ₹800,000 is classified as a Non-Current Liability, and ₹200,000 is classified as a Current Liability.

(d) ₹200,000 is classified as a Non-Current Liability, and ₹800,000 is classified as a Current Liability.

Question 7 (Deconstructing the Nature of Receipts)

A sports club receives two major inflows of cash during the month:

₹5,000,000 as a life membership fee from a prominent citizen to build a permanent badminton court.

₹150,000 as monthly subscription fees from regular members utilizing the gymnasium.

Identify the correct accounting nature of these receipts:

(a) 1 is a Revenue Receipt; 2 is a Capital Receipt.

(b) Both 1 and 2 are Revenue Receipts.

(c) Both 1 and 2 are Capital Receipts.

(d) 1 is a Capital Receipt; 2 is a Revenue Receipt.

Question 8 (Pinpointing the Accounting Boundary)

A business manager signs a contract to supply goods worth ₹500,000 to a client next month. On the same day, a fire breaks out in the warehouse destroying raw materials valued at ₹80,000.

Which of these events can be recorded immediately in the books of accounts?

(a) Both the signing of the contract and the loss due to fire.

(b) Only the loss of raw materials due to fire.

(c) Only the contract for supplying goods worth ₹500,000.

(d) Neither of the events, as transactions are only recorded at the end of the year.

Question 9 (Identifying Fictitious Assets)

A newly incorporated logistics startup spends ₹300,000 on massive initial promotional campaigns and legal setup costs. The benefit of this campaign is expected to last for 3 to 4 years. The firm lists this balance on the asset side under a specific category.

Identify the correct term for this unamortized balance:

(a) Tangible Fixed Asset. (b) Intangible Fixed Asset

(c) Fictitious Asset (or Deferred Revenue Expenditure) (d) Liquid Asset

Question 10 (Deciphering Vouchers and Transactions)

A cashier issues a specific document internally to record a transaction where ₹5,000 was spent on office refreshments. No external receipt was provided by the local tea vendor.

What type of internal document is prepared here to establish a source trail?

(a) Invoice / Bill. (b) Cash Memo. (c) Debit Note. (d) Internal Petty Cash Voucher

SECTION III: Comprehensive Case-Based Scenarios (5 Questions)

Read the following business narrative and answer Questions 11 to 15:

Sameer establishes a high-end furniture retail showroom on 1st April, 2025. He rents a commercial outlet and injects ₹1,200,000 cash as his personal capital.

To build inventory, he buys premium timber tables and designer chairs. He buys ₹400,000 worth of furniture from "Woodcraft Ltd." on credit, and ₹200,000 worth of furniture for cash.

During the year, he buys office computers and billing machinery worth ₹100,000 for long-term administrative use.

By January 2026, he sells 80% of his total furniture stock to various clients for ₹750,000.

He allows a 5% discount to a regular corporate buyer who bought furniture worth ₹100,000 and settled the amount via an instant bank transfer.

Question 11

What is the total value of Goods (Inventory) purchased by Sameer during the financial year?

(a) ₹400,000. (b) ₹600,000. (c) ₹700,000. (d) ₹200,000

Question 12 How should the office computers and billing machinery worth ₹100,000 be classified in Sameer's books?

(a) It should be added to "Purchases" as it is a core business expense.

(b) It should be treated as a Current Asset since technology changes quickly.

(c) It should be treated as a Non-Current, Tangible Fixed Asset.

(d) It should be treated as a Revenue Expenditure.

Question 13

Calculate the value of Cost of Goods Sold (COGS) and the Closing Stock at the end of the year.

(a) COGS: ₹600,000; Closing Stock: ₹0

(b) COGS: ₹480,000; Closing Stock: ₹120,000

(c) COGS: ₹560,000; Closing Stock: ₹140,000

(d) COGS: ₹400,000; Closing Stock: ₹200,000

Question 14

In the transaction with the corporate buyer, what type of discount was allowed by Sameer, and will it be recorded in his books?

(a) Trade Discount; it will not be recorded in the books.

(b) Trade Discount; it will be debited to the Discount Account.

(c) Cash Discount; it will be credited to the Discount Account.

(d) Cash Discount; it will be debited to the Discount Account.

Question 15

Who is "Woodcraft Ltd." in relation to Sameer's business, and under what heading will they appear in the final balance sheet?

(a) Debtor; Current Asset

(b) Creditor; Current Liability

(c) Creditor; Non-Current Liability

(d) Debtor; Current Liability

(Analytical & Applied)

Question 1 (Reversal of GST & Exceptional Losses)

Scenario: On 15th May 2026, a fire broke out in the godown of M/s Sharda Traders, Gurugram. Goods costing ₹60,000 were destroyed. These goods were originally purchased from a local wholesaler within Haryana by paying CGST and SGST @ 9% each. The insurance company settled the claim at 80% of the cost price and transferred the amount directly to the firm’s bank account.

Task: Pass the necessary journal entries to record the loss, the reversal of GST, and the insurance claim settlement.

Question 2 (Banking Operations & Dishonour Mechanics)

Scenario: Pass the journal entries for the following sequence of events in the books of Radhika Textiles:

May 10: Received a 2-month promissory note/cheque of ₹40,000 from a debtor, Amit, along with a cash payment of ₹10,000 in partial settlement of a ₹52,000 debt. The discount allowed was ₹2,000.

May 12: The cheque was deposited into the bank.

May 18: The bank returned the cheque as "Dishonoured due to Insufficient Funds" and charged ₹200 as bank noting charges.

(Comprehensive Problems)

Question 3 (Advanced Trade/Cash Discount and Interstate GST Worksheet)

Scenario: M/s Gupta Electronics (Gurugram, Haryana) carries out the following comprehensive transactions. Journalize them by showing working notes clearly. CGST & SGST are 9% each for local transactions, and IGST is 18% for interstate transactions.

Transaction A: Bought 10 premium laptops listed at ₹40,000 each from HP Computers (Noida, U.P.) subject to a 20% Trade Discount. Paid 50% amount immediately via bank transfer to avail of a 5% Cash Discount.

Transaction B: Sold 4 of these laptops to a local dealer in Rohtak (Haryana) at a profit of 25% on their effective cost price, allowing a 10% Trade Discount, charging local GST on credit terms

Question 4 (The 6-Transaction Mixed Comprehensive Ledger)

Scenario: Journalize the following complex business actions in the books of M/s Narain & Co. (All transactions occur inside Delhi; CGST and SGST apply at 6% each unless specified):

Bought structural shop furniture for ₹80,000 from Steel Craft House on credit.

Paid ₹12,000 for life insurance premium of the proprietor via corporate bank account.

Provided ₹5,000 as interest on capital to the owner.

Distributed goods costing ₹10,000 as free commercial marketing samples to local clinics. These goods originally carried 6% local input tax credits.

Received cash of ₹8,000 from a debt account written off as a bad debt during the previous fiscal cycle.

Paid cash ₹15,000 for installation of a new machinery unit.

**Comprehensive Project Work Ideas (Formal Submissions)**

Project 1: The Transaction Lifecycle — Equation to Journal (Roll no 1 to 15)

Best for: Visualizing the dual-aspect concept and the transition from algebraic mapping to formal bookkeeping.

The Assignment: Students create a narrative for a new sole proprietorship business (e.g., a digital marketing agency, a customized gifting studio, or a cloud kitchen). They must draft 15 distinct transactions that systematically test every possible permutation of the accounting equation.

What to Include:

Phase 1: The Accounting Equation Matrix: Create a horizontal spreadsheet layout tracking the transactions step-by-step to show how Assets = Liabilities + Capital remains perfectly balanced after every single event.

Phase 2: The Journal Conversion: Take those exact same 15 transactions and pass formal Journal Entries with clean narrations using the traditional or modern rules of debit and credit.

Tricky Scenarios to Mandatory Include:

Accrued Income (e.g., Commission earned but not received).

Unearned/Advance Income (e.g., Advance received from a client for a future project).

Prepaid Expenses (e.g., Shop rent paid 3 months in advance).

Outstanding Expenses (e.g., Salaries due to staff but unpaid).

Charging Interest on Capital and Interest on Drawings.

Learning Outcome: Students realize that a journal entry is simply a refined, technical way of writing an accounting equation.

Project 2: The "Capital Shock Absorber" Case Study (Roll no. 15 onwards)

Best for: Mastering how business operations, expenses, losses, and gains directly impact the Owner's Equity (Capital).

The Assignment: A tracking project focused entirely on how internal operations modify the capital account balance without affecting external liabilities.

What to Include:

A theoretical setup explaining why Expenses/Losses reduce Capital and Revenues/Gains increase Capital based on the Matching Principle.

A series of dual-impact scenarios mapped out side-by-side using an Accounting Equation table and a Journal voucher layout:

Sale of goods costing ₹15,000 for ₹20,000 on credit (Tracking the profit addition to Capital).

Depreciation charged on office machinery (Tracking asset reduction vs. capital erosion).

Recovery of an old bad debt (Asset increase vs. capital revival).

Goods destroyed by fire or given away as charity (Asset reduction vs. loss absorption in Capital).

Learning Outcome: Understanding the true nature of Nominal accounts and how they ultimately merge into the Capital framework.

 Practical Vacation Activities (Experiential Learning)

Activity 1: Constructing a Personal "Net Worth" Accounting Equation

The Task: Map out your family’s or your own personal financial standing using the structural rules of the Accounting Equation.

The Process: On a sheet of paper or an Excel sheet, classify personal belongings into three distinct categories:

My Assets: Cash in hand, savings bank account balances, smartphones, laptops, cycles/vehicles, and investments.

My Liabilities: Any money owed to friends, family members, or pending credit card/loan bills.

My Capital (Net Worth): Calculate this as the balancing figure (\text{Assets} - \text{Liabilities}).

The Challenge: Write down 3 imaginary personal events (e.g., buying a premium video game on credit, receiving cash as a birthday gift, or paying off a pending debt) and show how your personal "Net Worth Equation" shifts.

Activity 2: The "T-Shape" Ledger Detective

The Task: Take any 5 standard operational transactions from a textbook exercise and manually convert them into large, visual T-Shape Accounts on a chart paper.

The Process: * Draw T-accounts for individual heads (e.g., Cash, Capital, Purchases, Creditors).

Instead of writing standard journal text, use arrows and mathematical symbols (+ or -) on the left (Debit) and right (Credit) sides of the "T" based on the Modern Approach:

Assets/Expenses: Increase on Debit (+), Decrease on Credit (-).

Liabilities/Capital/Revenue: Decrease on Debit (-), Increase on Credit (+).

Show how a single transaction hits two different T-accounts with equal opposing forces.


happy
HOLIDAYS