

MK DAV PUBLIC SCHOOL DALTONGANJ

Holiday Homework – Class 11 Mathematics

Chapter: Sets

- Q1.** Define the following terms with suitable examples: (a) Empty Set (b) Finite Set (c) Infinite Set (d) Universal Set
- Q2.** Write the following sets in roster form: (a) $A = \{x : x \text{ is a vowel in English alphabet}\}$ (b) $B = \{x : x \text{ is an even natural number less than 15}\}$
- Q3.** Write the following sets in set-builder form: (a) $\{2,4,6,8,10\}$ (b) $\{1,4,9,16,25\}$
- Q4.** If $A = \{1,2,3,4,5\}$ and $B = \{2,4,6,8\}$, find: (a) $A \cup B$ (b) $A \cap B$ (c) $A - B$ (d) $B - A$ **Q5.**
- Verify whether the following statement is true or false: If $A \subseteq B$ and $B \subseteq C$, then $A \subseteq C$.
- Q6.** Let $U = \{1,2,3,4,5,6,7,8,9,10\}$, $A = \{2,4,6,8,10\}$. Find A' (complement of A).
- Q7.** State and prove De Morgan's Laws for sets.
- Q8.** Draw Venn diagrams for: (a) $A \cup B$ (b) $A \cap B$ (c) $A - B$
- Q9.** If $A = \{x : x \text{ is a prime number less than 20}\}$ and $B = \{x : x \text{ is an odd number less than 20}\}$, find $A \cap B$.
- Q10.** Show that: $A \cup (B \cap C) = (A \cup B) \cap (A \cup C)$.
- Q11.** Find the number of subsets of the set $\{a,b,c,d,e\}$.
- Q12.** Determine whether the following sets are equal or not: $A = \{1,2,3,4\}$, $B = \{4,3,2,1\}$.
- Q13.** Let $A = \{1,3,5,7,9\}$, $B = \{2,4,6,8\}$. Check whether $A \cap B = \phi$.

Activity 1. To represent set theoretic operation using Venn diagrams.

Activity 2. To verify distributed law for three given non empty sets A , B and C , that is $A \cup (B \cap C) = (A \cup B) \cap (A \cup C)$

M.K.DAV PUBLIC SCHOOL

Holiday Homework (Summer Vacation)

Class: 11 Subject: Accountancy

1. What is accounting? Define its objectives.
2. Explain the factors which necessitated systematic accounting.
3. Describe the informational needs of external users.
4. Discuss briefly the types of Accounting information.
5. Explain different branches of Accounting.
6. Explain the qualitative characteristics of accounting information.
7. Describe the role of accounting in the modern world.
8. Distinguish between Book keeping and Accounting
9. [Is](#) Accounting an art or a science?
10. Accounting records transactions and events that can be measured in money terms. Is this a limitation or an advantage of accounting? Give reasons.

M.K.DAV Public School, Daltonganj

Holiday Home Work

Class: 11

Sub: Computer Science

Q1. List the types of Number Systems.

Q2. Perform the following conversions:

- a) $(10110)_2 \rightarrow ()_8$
- b) $(731)_8 \rightarrow ()_2$
- c) $(10111101)_2 \rightarrow ()_{16}$
- d) $(ABC)_{16} \rightarrow ()_2$
- e) $(23.10)_{10} \rightarrow ()_2$
- f) $(127)_8 \rightarrow ()_{10}$
- g) $(1101)_2 \rightarrow ()_{10}$
- h) $(71)_{10} \rightarrow ()_8$

Q3. Perform the following Binary Addition:

- a) $101101 + 100010$
- b) $101.11 + 100.01$

Q4. Define the following:

- a) ASCII
- b) EBCDIC
- c) Unicode

Q5. Define the following components of CPU:

- a) CU
- b) ALU
- c) MU

Q6. Define Operating System. List its types.

Q7. Define Software. List its types.

HOLIDAY HOMEWORK(2026-27)

CHEMISTRY – XI

Q1.What is the ratio of molecules between 1 mole of H₂O and 1 mole of sucrose (C₁₂H₂₂O₁₁)?

Q2.Given that density of water is 1 g/mL, what is the density in SI unit?

Q3.2A. + 4B. → 3C. + 4D

When 5 moles of A react with 6 moles of B then-

(a)Which is the limiting reagent?

(b)Calculate the amount of C formed.

Q4.Three moles of B₂H₆ are completely reacted with methanol. The number of moles of boron-containing product formed is:

(a) 6. (b) 4. (c) 5. (d) 3

Q5.A mixture of gases contains H₂ and O₂ gases in the ratio of 1 : 4. What is the molar ratio of the two gases in the mixture?

(a) 16 : 1. (b) 2 : 1. (c) 1 : 4. (d) 4 : 1

Q6.The total number of molecules in 18 mL of water (density = 1 g/mL) is:

(a) 6.02×10^{23} . (b) 6.02×10^{25}

(c) 6.02×10^{24} (d) $18 \times 6.02 \times 10^{23}$

Q7.Calculate the mass percent of Ca, P, and O in Ca₃(PO₄)₂

Given:

Ca = 40, P = 31, O = 16

Q8.The amount of sugar (C₁₂H₂₂O₁₁) required to prepare 2 L of its 0.1 M aqueous solution is:

(a) 136.8 g. (b) 17.1 g. (c) 68.4 g (d) 34.2 g

Q9.1 g of Mg is burnt with 0.56 g O₂ in a closed vessel. Which reactant is left in excess and how much?

Given:

Mg = 24, O = 16

(a) Mg, 0.16 g. (b) O₂, 0.16 g

(c) Mg, 0.44 g. (d) O₂, 0.28 g

Q10.What will be the mass of one ¹⁴N atom in grams?

M.K.DAV PUBLIC SCHOOL

Holiday Homework (Summer Vacation)

Class 11 | Subject: Business Studies

1. Why is business considered as economic activity?
2. How does business contribute to the economic development of a country?
3. State the different types of economic activities.
4. State the meaning of business.
5. How would you classify business activities?
6. What are the various types of industries?
7. Explain any two business activities which are auxiliaries to trade.
8. What is the role of profit in business?
9. What is meant by business risk?
10. State the causes of risks involved in business?
11. Compare business with profession and employment.
12. Describe the activities relating to commerce.
13. Explain any 5 objectives of business.
14. What factors are to be considered while starting a business? Explain.

Holiday Homework Assignment

Informatics Practices (IP) | Class: XI

Unit 1: Introduction to Computer System

Session: 2026-27

Part A: Research & Documentation

Task 1: Emerging Trends in Computing

Research and prepare a 3-page report on any **one** of the following emerging trends: **Artificial Intelligence (AI)**, **Machine Learning (ML)**, **Internet of Things (IoT)**, or **Blockchain Technology**. Discuss its basic concept, real-world applications, and how it impacts our daily lives.

Task 2: Software Licensing Comparison

Research and create a table comparing **Open Source Software (OSS)** and **Proprietary Software**. List 3 examples of each frequently used in data science and office management.

Part B: Logical & Numerical Problems

Q1. Memory Unit Conversions: Solve the following in your register:

- How many Megabytes (MB) are in 2 Gigabytes (GB)?
- A storage server has a capacity of 5 Petabytes. Convert this value into Terabytes (TB).
- An image file is 4096 KB. How many such images can be stored in a 1 GB flash drive?

Q2. Categorization: Classify the following into System Software, Application Software, or Utility Software:

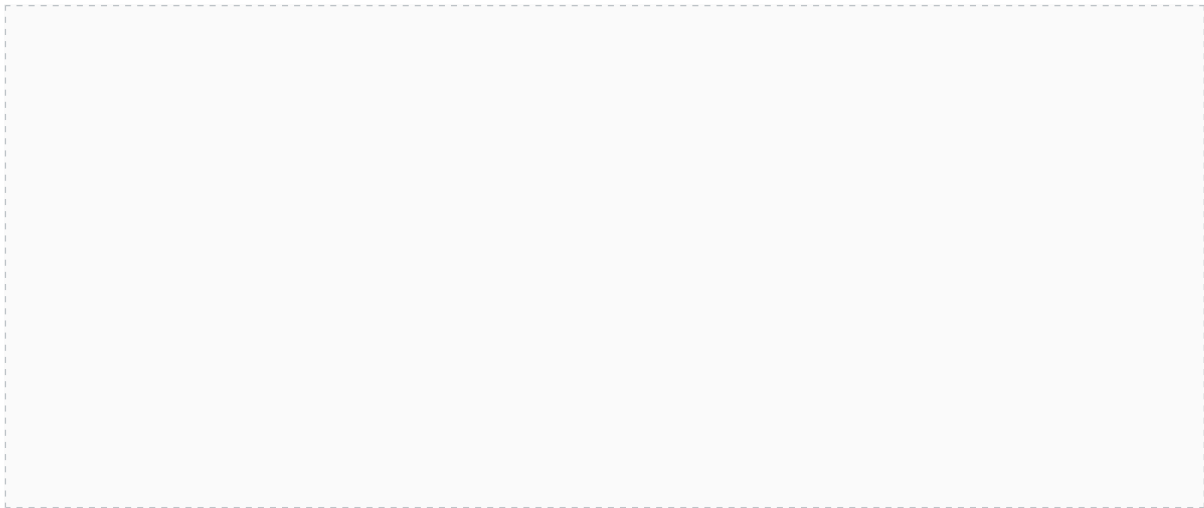
Software Name	Classification
Device Drivers	

Software Name	Classification
Disk Cleanup	
Mozilla Firefox	
Compiler / Interpreter	
Spreadsheet Software	

Part C: System Architecture & Logic

Q3. Block Diagram

Draw a neat, labeled block diagram of the functional units of a computer system. Clearly indicate the flow of data and control signals between the **Central Processing Unit (CPU)**, **Primary Memory**, and **Secondary Storage**.



Q4. Flowchart Design

Develop a flowchart to calculate the total marks and percentage for a student across 5 subjects. The output should display "Pass" if the percentage is above 33, otherwise "Fail".



Note: All assignments should be neatly organized in a folder.

Submission Deadline: The first day of school reopening.

M. K. DAV Public School, Chianki

Class 11 Physics Summer Vacation Holiday Homework

1. The displacement x of a particle varies with time t as

$$x(t) = 4t^2 - 15t + 25$$

- (i) Find the position, velocity and acceleration of the particle at $t = 0$.
(ii) When will the velocity of the particle become zero?
2. The distance x of particle moving in one dimension under action of a constant force is related to t by the equation $t = \sqrt{x} + 3$, where x is in meters and t in seconds. Find the displacement of the particle when its velocity is zero.
3. The position of an object moving along x -axis is given by $x = a + bt^2$, where $a = 8.5$ m and $b = 2.5 \text{ ms}^{-2}$ & t is measured in seconds. What is the velocity at $t = 0$ and $t = 2$ sec?
4. If $t = \sqrt{x} + 4$, then find $\left(\frac{dx}{dt}\right)_{t=4}$.
5. The position of a particle as a function of time t is given by $x(t) = at + bt^2 - ct^3$, where a , b and c are constants. Find the velocity of the particle, when it attains zero acceleration.
6. A particle is moving in a straight line. The variation of position x as a function of time t is given as

$$x = (t^3 - 6t^2 + 20t + 15) \text{ m}$$

Find the velocity of the body when its acceleration becomes zero.

7. The motion of a particle along a straight line is described by equation $x = 8 + 12t - t^3$, where x is in meter and t in second. Find the retardation of the particle when its velocity becomes zero.
8. The motion of a car is described by the equation $x(t) = 2t^3 - 3t^2$. Find the velocity and acceleration at $t = 2$ sec. Does the acceleration is uniform?
9. Motion of a particle is given by equation $s = (3t^3 + 7t^2 + 14t + 8)$ m. Find the value of acceleration of the particle at $t = 1$ sec.
10. A particle moves along a straight line OX . At a time t (in seconds) the distance x (in meters) of the particle from O is given by $x = 40 + 12t - t^3$. How much distance would the particle travel before coming to rest?

MKDAV Public School

Summer Holiday Homework (Session 2026-27)

Biology | Class: XI

This homework is designed to encourage observational skills and conceptual clarity in the foundational chapters of Biology. Completion of these tasks will provide a strong base for your upcoming internal assessments.

Part I: Biological Classification

1. The Bacterial Diversity Table

Task: Create a detailed comparative analysis between **Archaeobacteria** and **Eubacteria**.

- Highlight the chemical difference in cell wall composition.
- List three extreme habitats where Archaeobacteria are found.
- Draw and label the four categories of bacteria based on their shape (Coccus, Bacillus, Vibrium, Spirillum).

2. Kingdom Fungi: The Decomposers

Task: Prepare a classification chart for the following classes: *Phycomycetes*, *Ascomycetes*, *Basidiomycetes*, and *Deuteromycetes*.

- Mention: Nature of mycelium, type of asexual spores, and one commercial example for each.
- Explain why Deuteromycetes are called 'Imperfect Fungi'.

3. Sub-Viral Agents Report

Task: Write a brief (250 words) report on **Viruses, Viroids, and Lichens**.

- Explain why these are not included in the Five Kingdom Classification.
- Discuss the symbiotic components of Lichens and their role as 'Pollution Indicators'.

Part II: Morphology of Flowering Plants

4. Root Modification Collection

Task: Identify and document three root modifications.

- **Prop roots** of Banyan tree.
- **Stilt roots** of Maize.
- **Pneumatophores** of Rhizophora.
- Provide a hand-drawn diagram or a photograph of each, explaining the function (support/respiration).

5. Phyllotaxy and Venation Album

Task: Create a herbarium-style collection of leaves demonstrating:

- **Venation:** Reticulate vs. Parallel.
- **Phyllotaxy:** Alternate, Opposite, and Whorled.

Note: You may use real dried leaves pasted in your assignment file.

6. Floral Structure Analysis

Task: Select any flower (e.g., Mustard, China Rose, or Pea).

- Perform a dissection and identify its symmetry (Actinomorphic/Zygomorphic).
- Write its **Floral Formula** and draw the **Floral Diagram** accurately.

Submission Date: On the first day of school reopening.

"The beginning of wisdom is the definition of terms." — Socrates

SUMMER VACATION H.W. for Std XI

Subject: English

Q1. Answer the following questions in 40–50 words:

- (i) Describe the changing relationship between Khushwant Singh and his grandmother.
- (ii) How can we say that Khushwant Singh's grandmother was a religious-minded woman and had love for animals and birds?
- (iii) What made the grandmother unhappy when she enquired of her grandson about what was taught in his city school?
- (iv) What was unusual about the behaviour of the sparrows after the grandmother's death?
- (v) Which tribe did Aram and Mourad belong to? What values did they uphold?
- (vi) Why did Aram and Mourad decide to return the horse to its owner?
- (vii) What does the phrase "terribly transient feet" suggest? (A Photograph)

Q2. Answer the following in 100–120 words:

- (i) Discuss the theme of tradition and modernity in the story "The Portrait of a Lady".
- (ii) Explain the significance of the Garoghlanian tribe in shaping the behaviour and decisions of Aram and Mourad.
- (iii) How does Shirley Toulson present the idea of the permanence of nature versus the transience of human life?

Q3. Write an advertisement in about 50 words for a local daily for selling your bungalow at Saket Vihar.

Q4. "Private cars should be banned in the congested commercial areas of the cities." Write a debate in 120–150 words either in favour or against the motion.

Class 11

Hindi Assignment

- 1-सिनेमा का आविष्कार किसने किया?
- 2- भारत का पहला हिंदी समाचार पत्र कौन सा था?
- 3- किन्हीं दो हिंदी समाचार पत्रों के नाम लिखें?
- 4-प्रिंट मीडिया का कौन सा रूप आज हमारे सामने है?
- 5-भारतीय सिनेमा का क्रमिक विस्तार लिखें।
- 6-आजादी से पहले के प्रमुख पत्रकारों एवं पत्र पत्रिकाओं के नाम लिखें।
- 7-समाचार पत्र एवं रेडियो की अपनी विशेषताओं के आधार पर उनके महत्व को समझाइए?
- 8-पंडित अलोपीदीन बेहोश होकर धरती पर क्यों गिर पड़े?
- 9-बंशीधर सत्य पक्ष पादिक रहते हुए भी अकेले पड़ गए क्यों?
- 10-बंशीधर की मुअत्तली का समाचार सुनकर उनके पिता पर क्या प्रक्रिया हुई ?लिखिए।

Holiday Homework
Class: 11
Sub: Economics

- 1) Explain Microeconomics with example.
- 2) Imagine you are the head of a country with limited resources after a natural disaster.

Answer the following:

- What goods and services should be produced first?
- How will you decide the quantity to produce?
- For whom should these goods be produced first?

- 3) You have ₹1000 to spend and the following options:

Item. Cost

Books. ₹500

Shoes. ₹1000

Headphones. ₹800

School Bag. ₹700

Questions:

- Which item will you choose and why?
- What is the opportunity cost of your choice?
- Which economic problem is reflected here?

- 4) "Economic problem is the problem of choice". Explain.

- 5) Differentiate between microeconomics and macroeconomics.

- 6) What do you mean by the central problems of an economy? Explain those three in brief.

- 7) Explain the following with example:

- * What to produce and how much?
- * How to produce ?
- * For whom to produce?