SAINIK SCHOOL IMPHAL

SUMMER VACATION

2025-26

HOMEWORK/ASSIGNMENT/PROJECTS

CLASS X

SAINIK SCHOOL IMPHAL

SUMMER VACATION ASSIGNMENT: 2025-26

SUBJECT: INFORMATION TECHNOLOGY (402) – CLASS X

Instructions:

- Question I should be written in the Information Technology Homework Notebook.
- Question II should be done in A4 size paper. Please write only on one side of the page. **Computer printout will not be accepted.**
- Minimum no. of pages required is 13 pages.

I. Answer the following questions (based on Communication Skills).

A. Multiple choice questions

Read the questions carefully and circle the letter(s) (a), (b), (c) or (d) that best answer(s) the question. (Note: There can be more than one correct choice)

1. Which of the following is NOT an element of communication within the communication process cycle?
   (a) Channel
   (b) Receiver
   (c) Sender
   (d) Time
2. You need to apply leave at work? Which method of communication will you use?
   (a) e-mail
   (b) Poster
   (c) Newsletter
   (d) Blog
3. By which action can senders send their messages?
   (a) Gestures
   (b) Speaking
   (c) Reading
   (d) Writing
4. Which of the following is an example of oral communication?
   (a) Newspapers
   (b) Letters
   (c) Phone call
   (d) e-mail
5. What are the types of words we should use for verbal communication?
   (a) Acronyms
   (b) Simple
   (c) Technical
   (d) Jargons

3. Why do we use e-mails?
   (a) To communicate with many people at the same time.
   (b) To share documents and files.

(c) To talk to each other in real-time.
(d) To keep a record of communication.

B. Answer the following questions.

1. Explain the three important parts of communication.
2. What are the various elements of communication cycle? Explain in brief.
3. Write some methods of communication.
4. What is verbal communication?
5. Write some advantages of verbal communication.
6. Write some disadvantages of verbal communication

II. Write an assignment on "Computer Security and Privacy".

The following topics should be included:

- Introduction to Computer Security
- Types of Computer Security Threats
- Types of Computer Security Measures
- Computer Privacy
- Cybersecurity Threats and Prevention
- Protecting Personal Devices

The sequence of the assignment should be as follows:

- Cover Page
- Contents
- Introduction
- Explaining the various topics

Details are given below.

Cover Page

"Computer Security and Privacy"

Summer Vacation Assignment: 2025-26

Submitted By:
Cdt ….
Adm No ….
Class… Section …

Submitted To:
Sir Tiken
TGT Computer Science

SAINIK SCHOOL IMPHAL

2nd Page

Contents

Introduction

Introduction to Computer Security

(In about 150 words)

Types of Computer Security Threats

(In about 200 words)

Types of Computer Security Measures

(In about 200 words)

Computer Privacy

(In about 200 words)

Cybersecurity Threats and Prevention

(In about 200 words)

Protecting Personal Devices

(In about 200 words)

Summer Vacation Assignment for Chemistry Class 10

1. Why should a magnesium ribbon be cleaned before burning in air?

2. Write the balanced equation for the following chemical reactions.

   (i) Hydrogen + Chlorine → Hydrogen chloride

   (ii) Barium chloride + Aluminium sulphate → Barium sulphate + Aluminium chloride

   (iii) Sodium + Water → Sodium hydroxide + Hydrogen

3. Write a balanced chemical equation with state symbols for the following reactions.

   (i) Solutions of barium chloride and sodium sulphate in water react to give insoluble barium sulphate and the solution of sodium chloride.

   (ii) Sodium hydroxide solution (in water) reacts with hydrochloric acid solution (in water) to produce sodium chloride solution and water.

4. Translate the following statements into chemical equations and then balance them.

   (a) Hydrogen gas combines with nitrogen to form ammonia.

   (b) Hydrogen sulphide gas burns in air to give water and sulphur dioxide.

   (c) Barium chloride reacts with aluminium sulphate to give aluminium chloride and a precipitate of barium sulphate.

   (d) Potassium metal reacts with water to give potassium hydroxide and hydrogen gas.

5. Balance the following chemical equations.

   (a) $HNO_3 + Ca(OH)_2 \rightarrow Ca(NO_3)_2 + H_2O$

   (b) $NaOH + H_2SO_4 \rightarrow Na_2SO_4 + H_2O$

   (c) $NaCl + AgNO_3 \rightarrow AgCl + NaNO_3$

   (d) $BaCl_2 + H_2SO_4 \rightarrow BaSO_4 + HCl$

7. Write the balanced chemical equations for the following reactions.

   (a) Calcium hydroxide + Carbon dioxide → Calcium carbonate + Water

   (b) Zinc + Silver nitrate → Zinc nitrate + Silver

   (c) Aluminium + Copper chloride → Aluminium chloride + Copper

   (d) Barium chloride + Potassium sulphate → Barium sulphate + Potassium chloride

Class X (Economics)

1. Discuss the 'Right to Be Informed' with suitable examples. 5marks
2. Compare and contrast the 'Right to Choose' and the 'Right to Safety'. 5marks
3. Examine the role of consumer organizations in protecting consumer rights. 5marks

(Write your assignment on A4 sheets neatly and clearly. Organize your content properly)

Class 10 A

Subject: English

Summer Break Assignment

Do it in your English Homework Copy.

1. "A Letter to God" – Gregorio López y Fuentes

a) Summary Writing (150-200 words)

Write a brief summary of the story, focusing on:

The main character, Lencho

The natural disaster (hailstorm)

Lencho's faith in God

The irony in the ending

b) Creative Writing

Imagine you are Lencho. Write a diary entry about your feelings when you received the money from the post office but thought some of it was missing.

2. "The Triumph of Surgery" – James Herriot

a) Summary Writing (150-200 words)

Write a short summary of the story, covering:

Tricki, the overweight dog

Mrs. Pumphrey's overindulgence

The doctor's (James Herriot) treatment

b) Imagine you are Mrs. Pumphrey. Write a letter to Dr. Herriot thanking him for saving Tricki's life and expressing your happiness at seeing Tricki healthy again.

3. Grammar. Write complete sentences.

Qi). Fill in the blanks with the correct form of the verb:

a) By the time we arrived, the movie __ (already/start).

b) I __ (study) when the phone rang.

c) She __ (work) here since 2015.

d) If he __ (work) hard, he will pass the exam.

Qii). Choose the correct verb:

a) The quality of the apples (is/are) not good.

b) Neither the teacher nor the students (was/were) present.

c) The book, along with the pens, (is/are) on the table.

d) Either the dog or the cat (has/have) made a mess.

Qiii). Convert into indirect speech:

a) He said, "I am feeling tired."

b) She asked, "Where are you going?"

c) The teacher said, "Finish your work on time."

d) The doctor said, "You should take rest."

Qiv). Fill in the blanks with suitable modal verbs (can, could, may, might, must, should, etc.):

a) You __ (not smoke) in public places.

b) __ I borrow your book for a day?

c) She __ (be) at home, but I am not sure.

d) We __ (study) hard to score well.

Qv). Fill in the blanks with suitable prepositions:

a) She is good __ mathematics.

b) The train is arriving __ 5 PM.

c) He is interested __ learning new languages.

d) The book is lying __ the table.

Qvi). Choose the correct conjunction:

a) I was tired __ I went to bed early. (so/but)

b) He is poor __ honest. (and/but)

c) Wait here __ I come back. (till/until)

d) She worked hard __ she could pass the exam. (so that/because)

Qvii). Rewrite the sentences as directed:

a) He is too weak to walk. (Use "so...that")

b) She is very intelligent. (Use "not only...but also")

c) Unless you study, you will not pass. (Use "if")

d) He said, "I will help you." (Change to indirect speech)

4. "Write a detailed book review of any of the listed below. Include the following points in your review: (300 words and above)"

i). Title of the Book & Author's Name

ii). Genre of the Book (Self-help, Fiction, Non-fiction, etc.)

iii) Summary of the Book (Brief overview)

iv). Main Themes & Messages (What lessons does the book teach?)

v). Your Favorite Part or Quote (Explain why it inspired you)

vi). Writing Style & Language (Was it easy to understand? Engaging?)

vii) . Personal Opinion & Learning (How did the book motivate or change you?)

viii) Recommendation (Who should read this book and why?)

LIST:

-"The Alchemist" – Paulo Coelho

- "Wonder" – R.J. Palacio

- "Who Moved My Cheese?" – Dr. Spencer Johnson

- "You Can Win" – Shiv Khera

-"The 7 Habits of Highly Effective Teens" – Sean Covey

- "Believe in Yourself" – Joseph Murphy

- "The Power of Your Subconscious Mind" – Joseph Murphy

- "Ikigai: The Japanese Secret to a Long and Happy Life" – Héctor García & Francesc Miralles

Summer Vacation Assignment 2025-26

Class 10 Sub: Geography

Prepare on A4 size paper.

1. Differentiate between renewable and non-renewable resources with examples.
2. Explain land degradation and mention three human activities responsible for it.
3. What is sustainable development? Why is it important for resource conservation?

Class -10, Hindi

1) साखी दोहो का भावार्थ अपने शब्दों मे लिखिए।

2) समास की परिभाषा उदाहरण सहित स्पष्ट कीजिए ।

4) वाक्य क्या है ? वाक्य के भेद तथा परिभाषा उदाहरण सहित लिखिए।

Class:10(AB)

Subject:- Manipuri

Session 2025-26

ꯃꯁꯤꯡ ꯃꯔꯤ ꯂꯩꯅꯕ ꯍꯣꯡꯂꯣꯝꯕ /ꯑꯣꯏꯕꯁꯤꯡ ꯃꯃꯤꯡ

ꯍꯩꯊꯥꯊ ꯇꯩꯅꯍꯕꯤ

ꯀ) ꯍꯩꯊꯥꯊ ꯇꯩꯅꯍꯕꯤ ꯇꯍꯕ ꯑꯁꯤ ꯀꯅꯥꯅ ꯀꯍꯕꯂ ꯑꯔꯤꯂꯤꯊꯕ ꯑꯁꯦꯡꯂꯣꯟ ꯀꯅꯤ ꯀꯔꯤꯂꯣ?

ꯍꯆꯦꯟ ꯁꯔꯣꯡꯅꯤꯡ ꯍꯣꯏꯆꯍ

ꯁ) ꯀꯣꯆ ꯀꯣ ꯕꯤꯂꯩꯃꯤꯂꯤꯅꯤ ꯁꯩꯇꯤꯑꯔꯃ ꯃꯦꯅꯤ ꯁꯤꯌꯍ,

ꯃꯇꯩꯊꯃꯩꯌ ꯀꯃꯃꯤ ꯂꯩꯖ ꯀꯔꯆꯂ ꯁꯤꯂꯤꯖꯂꯕꯅꯣ

ꯇꯍꯕꯃꯨ ꯂꯤꯂꯃꯨꯂ ꯍꯔꯌꯨ ॥

ꯃꯤꯂ ꯀꯔꯤ ꯇꯍꯍꯤꯅꯃꯅꯣ

ꯂ) ꯍꯍꯩꯍꯔꯋꯑꯆ ꯍꯩꯁꯕꯅꯤ ꯂꯩꯖ ꯀꯃꯅꯊ ꯃꯇꯩꯊꯃꯩꯌ ꯀꯤ ꯃꯔꯆꯃ ꯍꯔꯌꯨ ॥

1 : Real Numbers

1. HCF of 144 and 198 is **[2020] ...[1M]**

   (a) 9 (b) 18

   (c) 6 (d) 12

2. 225 can be expressed as **[2020] ...[1M]**

   (a) 5×3^2 (b) $5^2 \times 3$

   (c) $5^2 \times 3^2$ (d) $5^3 \times 3$

3. The total number of factors of a prime number is **[2020] ...[1M]**

   (a) 1 (b) 0

   (c) 2 (d) 3

4. The HCF and the LCM of 12, 21, 15 respectively are **[2020] ...[1M]**

   (a) 3, 140 (b) 12, 420

   (c) 3, 420 (d) 420, 3

5. HCF of 92 and 152 is **[2021] ...[1M]**

   (a) 4 (b) 19

   (c) 23 (d) 57

6. HCF of two consecutive even numbers is **[2021] ...[1M]**

   (a) 0 (b) 1

   (c) 2 (d) 4

7. The (HCF × LCM) for the numbers 50 and 20 is **[2021] ...[1M]**

   (a) 1000 (b) 50

   (c) 100 (d) 500

8. For which natural number n, 6^n ends with digit zero? **[2021] ...[1M]**

   (a) 6 (b) 5

   (c) 0 (d) None

9. The exponent of 5 in the prime factorisation of 3750 is **[2021] ...[1M]**

   (a) 3

   (b) 4

   (c) 5

   (d) 6

10. What is the greatest possible speed at which a girl can walk 95 m and 171 m in an exact number of minutes? **[2021] ...[1M]**

    (a) 17 m/min (b) 19 m/min

    (c) 23 m/min (d) 13 m/min

11. Three alarm clocks ring their alarms at regular intervals of 20 min, 25 min and 30 min respectively. If they first beep together at 12 noon, at what time will they beep again for the first time? **[2021] ...[1M]**

    (a) 4 : 00 pm (b) 4 : 30 pm

    (c) 5 : 00 pm (d) 5 : 30 pm

12. The greatest number which when divides 1251, 9377 and 15628 leaves remainder 1, 2, and 3 respectively is **[2021] ...[1M]**

    (a) 575 (b) 450

    (c) 750 (d) 625

13. If a and b are two coprime numbers, then a^3 and b^3 are **[2021] ...[1M]**

    (a) Coprime (b) Not coprime

    (c) Even (d) Odd

14. If n is a natural number, then $2(5^n + 6^n)$ always ends with **[2021] ...[1M]**

    (a) 1 (b) 4

    (c) 3 (d) 2

15. The LCM of two numbers is 2400. Which of the following CANNOT be their HCF? **[2021] ...[1M]**

    (a) 300 (b) 400

    (c) 500 (d) 600

16. (HCF × LCM) for the numbers 30 and 70 is **[2023] ...[1M]**

    (a) 2100

    (b) 21

    (c) 210

    (d) 70

17. The number $(5-3\sqrt{5}+\sqrt{5})$ is **[2023] ...[1M]**

(a) an integer

(b) a rational number

(c) an irrational number

(d) a whole number

18. The ratio of HCF to LCM of the least composite number and the least prime number is **[2023] ...[1M]**

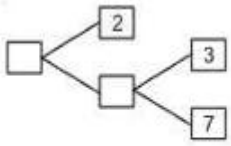
(a) 1 : 2

(b) 2 : 1

(c) 1 : 1

(d) 1 : 3

19. Complete the missing entries in the following factor tree: **[2008] ...[1M]**



20. Find the (HCF × LCM) for the numbers 100 and 190. **[2009] ...[1M]**

21. What is the HCF of smallest prime number and the smallest composite number? **[2018] ...[1M]**

22. Given that $\sqrt{2}$ is irrational, prove that $(5+3\sqrt{2})$ is an irrational number. **[2018] ...[2M]**

23. Two numbers are in the ratio 2 : 3 and their LCM is 180. What is the HCF of these numbers? **[2023] ...[2M]**

24. Prove that $3+\sqrt{2}$ is an irrational number. **[2009] ...[3M]**

25. Prove that $2-3\sqrt{5}$ is an irrational number. **[2010] ...[3M]**

26. Find HCF and LCM of 404 and 96 and verify that HCF × LCM = Product of the two given numbers. **[2018] ...[3M]**

27. Prove that $\sqrt{2}$ is an irrational number. **[2019] ...[3M]**

28. Given that $\sqrt{3}$ is an irrational number, show that $(5+2\sqrt{3})$ is an irrational number. **[2020] ...[3M]**

OR

An army contingent of 612 members is to march behind an army band of 48 members in a parade. The two groups are to march in the same number of columns. What is the maximum number of columns in which they can march? **[2020] ...[3M]**

29. Prove that $\sqrt{3}$ is an irrational number. **[2023] ...[3M]**

30. Khushi wants to organize her birthday party. Being health conscious, she decided to serve only fruits in her birthday party. She bought 36 apples and 60 bananas and decided to distribute fruits equally among all.

Based on the above information, answer the following questions :

(i) How many guests Khushi can invite at the most? **[2023] ...[1M]**

(ii) How many apples and bananas will each guest get? **[2023] ...[1M]**

(iii) (A) If Khushi decides to add 42 mangoes, how many guests Khushi can invite at the most? **[2023] ...[2M]**

OR

(B) If the cost of 1 dozen of bananas is ₹60, the cost of 1 apple is ₹15 and cost of 1 mango is ₹20, find the total amount spent on 60 bananas, 36 apples and 42 mangoes. **[2023] ...[2M]**

2 : Polynomials

1. If $(x + a)$ is a factor of $2x^2 + 2ax + 5x + 10$, find a. **[2008] ...[1M]**

2. If 1 is a zero of the polynomial $p(x) = ax^2 - 3(a - 1)x - 1$, then find the value of a. **[2009]...[1M]**

3. If α, β are the zeroes of a polynomial, such that $\alpha + \beta = 6$ and $\alpha\beta = 4$, then write the polynomial. **[2010] ...[1M]**

4. If one zero of a quadratic polynomial $(kx^2 + 3x + k)$ is 2, then the value of k is **[2020] ...[1M]**

   (a) $\frac{5}{6}$ (b) $-\frac{5}{6}$

   (c) $\frac{6}{5}$ (d) $-\frac{6}{5}$

5. The graph of a polynomial is shown in Fig. 2, then the number of its zeroes is **[2020] ...[1M]**

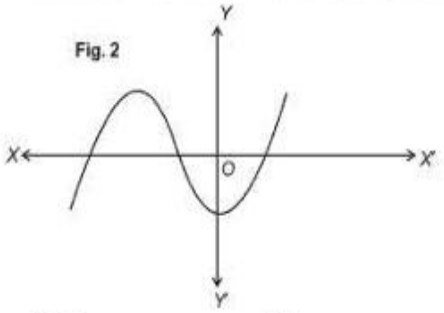


Fig. 2

   (a) 3 (b) 1

   (c) 2 (d) 4

6. If one of the zeroes of the quadratic polynomial $x^2 + 3x + k$ is 2, then the value of k is **[2020] ...[1M]**

   (a) 10 (b) –10

   (c) –7 (d) –2

7. The quadratic polynomial, the sum of whose zeroes is –5 and their product is 6, is **[2020] ...[1M]**

   (a) $x^2 + 5x + 6$

   (b) $x^2 - 5x + 6$

   (c) $x^2 - 5x - 6$

   (d) $-x^2 + 5x + 6$

8. A quadratic polynomial having sum and product of its zeroes as 5 and 0 respectively, is **[2021] ...[1M]**

   (a) $x^2 + 5x$ (b) $2x(x - 5)$

   (c) $5x^2 - 1$ (d) $x^2 - 5x + 5$

9. Zeroes of a quadratic polynomial $x^2 - 5x + 6$ are **[2021] ...[1M]**

   (a) –5, 1 (b) 5, 1

   (c) 2, 3 (d) –2, –3

10. The zeroes of quadratic polynomial $x^2 + 99x + 127$ are **[2021] ...[1M]**

    (a) Both negative

    (b) Both positive

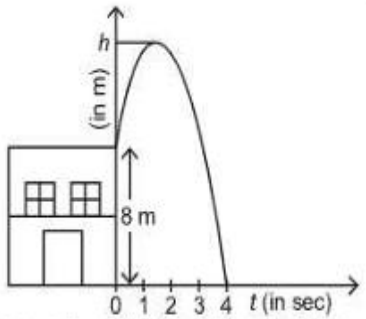
    (c) One positive and one negative

    (d) Reciprocal of each other

Case Study Based Questions (Q.11 to Q.15) : Sukriti throws a ball upwards, from a rooftop which is 8 m high from ground level. The ball reaches to some maximum height and then returns and hit the ground.

If height of the ball at time t(in sec) is represented by h(m), then equation of its path is given as $h = -t^2 + 2t + 8$

Based on above information, answer the following:



11. The maximum height achieved by ball is **[2021] ...[1M]**

    (a) 7 m (b) 8 m

    (c) 9 m (d) 10 m

12. The polynomial represented by above graph is **[2021] ...[1M]**

    (a) Linear polynomial

    (b) Quadratic polynomial

    (c) Constant polynomial

    (d) Cubic polynomial

13. Time taken by ball to reach maximum height is **[2021] ...[1M]**

(a) 2 sec. (b) 4 sec.

(c) 1 sec. (d) 2 min.

14. Number of zeroes of the polynomial whose graph is given, is **[2021] ...[1M]**

(a) 1 (b) 2

(c) 0 (d) 3

15. Zeroes of the polynomial are **[2021] ...[1M]**

(a) 4 (b) –2, 4

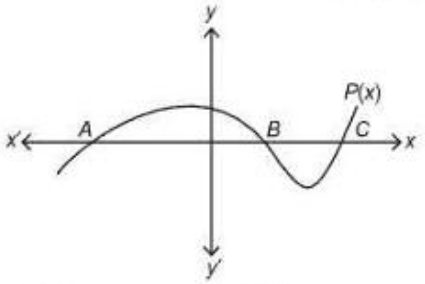
(c) 2, 4 (d) 0, 4

16. The graph of a polynomial $P(x)$ cuts the x-axis at 3 points and touches it at 2 other points. The number of zeroes of $P(x)$ is **[2021] ...[1M]**

(a) 1 (b) 2

(c) 3 (d) 5

17. In figure, the graph of a polynomial $P(x)$ is shown. The number of zeroes of $P(x)$ is **[2021] ...[1M]**



(a) 1 (b) 2

(c) 3 (d) 4

18. A quadratic polynomial, the product and sum of whose zeroes are 5 and 8 respectively is **[2021] ...[1M]**

(a) $k[x^2 - 8x + 5]$ (b) $k[x^2 + 8x + 5]$

(c) $k[x^2 - 5x + 8]$ (d) $k[x^2 + 5x + 8]$

19. If $x - 1$ is a factor of the polynomial $p(x) = x^3 + ax^2 + 2b$ and $a + b = 4$, then **[2021] ...[1M]**

(a) $a = 5, b = -1$

(b) $a = 9, b = -5$

(c) $a = 7, b = -3$

(d) $a = 3, b = 1$

20. If α, β are the zeroes of the quadratic polynomial $p(x) = x^2 - (k + 6)x + 2(2k - 1)$, then the value of k, if $\alpha + \beta = \frac{1}{2}\alpha\beta$, is **[2021] ...[1M]**

(a) –7 (b) 7

(c) –3 (d) 3

21. If $p(x) = x^2 + 5x + 6$, then $p(-2)$ is **[2023] ...[1M]**

(a) 20 (b) 0

(c) –8 (d) 8

22. A quadratic polynomial whose sum and product of zeroes are 2 and –1 respectively is **[2023] ...[1M]**

(a) $x^2 + 2x + 1$ (b) $x^2 - 2x - 1$

(c) $x^2 + 2x - 1$ (d) $x^2 - 2x + 1$

23. If α, β are zeroes of the polynomial $x^2 - 1$, then the value of $(\alpha + \beta)$ is **[2023] ...[1M]**

(a) 2 (b) 1

(c) –1 (d) 0

24. If α, β are the zeroes of the polynomial $p(x) = 4x^2 - 3x - 7$, then $\left(\frac{1}{\alpha} + \frac{1}{\beta}\right)$ is equal to: **[2023] ...[1M]**

(a) $\frac{7}{3}$ (b) $\frac{-7}{3}$

(c) $\frac{3}{7}$ (d) $\frac{-3}{7}$

25. If one zero of the polynomial $p(x) = 6x^2 + 37x - (k - 2)$ is reciprocal of the other, then find the value of k. **[2023] ...[2M]**

26. Find the value of k such that the polynomial $x^2 - (k + 6)x + 2(2k - 1)$ has sum of its zeros equal to half of their product. **[2019] ...[3M]**

27. If α and β are the zeroes of the polynomial $f(x) = x^2 - 4x - 5$, then find the value of $\alpha^2 + \beta^2$. **[2020] ...[3M]**

28. Find a quadratic polynomial whose zeroes are reciprocals of the zeroes of the polynomial $f(x) = ax^2 + bx + c$, $a \neq 0$, $c \neq 0$. **[2020] ...[3M]**

29. If α, β are zeroes of the quadratic polynomial $x^2 - 5x + 6$, form another quadratic polynomial whose zeroes are $\frac{1}{\alpha}, \frac{1}{\beta}$. **[2023] ...[3M]**

3 : Pair of Linear Equations in Two Variables

1. Find the number of solutions of the following pair of linear equations :

   $x + 2y - 8 = 0$

   $2x + 4y = 16$ **[2009] ...[1M]**

2. If the equations $kx - 2y = 3$ and $3x + y = 5$ represent two intersecting lines at unique point, then the value of k is _____.

   [2020] ...[1M]

3. The value of k for which the system of equations $x + y - 4 = 0$ and $2x + ky = 3$, has no solution, is **[2020] ...[1M]**

   (a) -2 (b) $\neq 2$

   (c) 3 (d) 2

4. The value of k, for which the pair of linear equations $x + y - 4 = 0$, $2x + ky - 3 = 0$ have no solution, is **[2021] ...[1M]**

   (a) 0 (b) 2

   (c) 6 (d) 8

5. Perimeter of a rectangle whose length (l) is 4 cm more than twice its breadth (b) is 14 cm.

   The pair of linear equations representing the above information is **[2021] ...[1M]**

   (a) $\begin{matrix} l+4=2b \\ 2(l+b)=14 \end{matrix}$ (b) $\begin{matrix} l-b=4 \\ 2(l+b)=14 \end{matrix}$

   (c) $\begin{matrix} l=2b+4 \\ l+b=14 \end{matrix}$ (d) $\begin{matrix} l=2b+4 \\ 2(l+b)=14 \end{matrix}$

6. The solution of the pair of linear equations $x = -5$ and $y = 6$ is **[2021] ...[1M]**

   (a) $(-5, 6)$ (b) $(-5, 0)$

   (c) $(0, 6)$ (d) $(0, 0)$

7. The value of k for which the pair of linear equations $3x + 5y = 8$ and $kx + 15y = 24$ has infinitely many solutions, is **[2021] ...[1M]**

   (a) 3 (b) 9

   (c) 5 (d) 15

8. The values of x and y satisfying the two equations $32x + 33y = 34$, $33x + 32y = 31$ respectively are : **[2021] ...[1M]**

   (a) $-1, 2$ (b) $-1, 4$

   (c) $1, -2$ (d) $-1, -4$

9. Two lines are given to be parallel. The equation of one of the lines is $3x - 2y = 5$. The equation of the second line can be **[2021] ...[1M]**

   (a) $9x + 8y = 7$ (b) $-12x - 8y = 7$

   (c) $-12x + 8y = 7$ (d) $12x + 8y = 7$

Case Study Based Questions (Q.10 to Q.14) : A book store shopkeeper gives books on rent for reading. He has variety of books in his store related to fiction, stories and quizzes etc. He takes a fixed charge for the first two days and an additional charge for subsequent day. Amruta paid ₹22 for a book and kept for 6 days; while Radhika paid ₹16 for keeping the book for 4 days.

Assume that the fixed charge be ₹x and additional charge (per day) be ₹y.

Based on the above information, answer any **four** of the following questions.

10. The situation of amount paid by Radhika, is algebraically represented by **[2021] ...[1M]**

    (a) $x - 4y = 16$ (b) $x + 4y = 16$

    (c) $x - 2y = 16$ (d) $x + 2y = 16$

11. The situation of amount paid by Amruta, is algebraically represented by **[2021] ...[1M]**

    (a) $x - 2y = 11$ (b) $x - 2y = 22$

    (c) $x + 4y = 22$ (d) $x - 4y = 11$

12. What are the fixed charges for a book?

    [2021] ...[1M]

    (a) ₹ 9

    (b) ₹10

    (c) ₹13

    (d) ₹15

SUMMER VACATION
CLASS X B

1. Prove that $n^3 - n$ is divisible by 6 where n Є N.

2. Find the CF of 60 and 405 and express the result in the form of $60q + 405r$

3. Find LCM and HCF by applying the Prime factorization method

   (a) 12, 15 and 21
   (b) 8, 9 and 25

4. Can the number $6^n, n$ being a natural number, end with the digit 0? Give reasons.

5. Prove that $3\sqrt{2}$ is irrational

6. Prove that $(3 + 2\sqrt{5})^2$ is irrational

7. On a morning walk, three persons step off together and their steps measures 40 cm, 42 cm and 45 cm respectively. What is the minimum distance each should walk so that each can cover the same distance in complete steps.

8. Find the greatest number that will divide 382, 509, and 636 leaving remainders 4, 5 and 6 respectively.

Summer Vacation Assignment

Class : 10 **Sub : Physics**

1. Name a mirror that can give an erect and enlarged image of an object.

2. Why do we prefer a convex mirror as a rear-view mirror in vehicles?

3. Find the focal length of a convex mirror whose radius of curvature is 32 cm.

4. A concave mirror produces three times magnified (enlarged) real image of an object placed at 10 cm in front of it. Where is the image located?

5. Name the type of mirror used in the following situations.

(a) Headlights of a car.

(b) Side/rear-view mirror of a vehicle.

(c) Solar furnace.

Support your answer with reason

Summer vacation home work

Sub- Gen Sc (Biology)

class 10

I) Prepare a brief write up on any of the topic listed below

1) coal and petroleum

2) Water Harvesting

3) Management of forest

4) Forest and Wildlife

5) Management of Natural Resources

II) Draw the following diagrams

1) fig 5.9 human respiratory system

ii) fig 5.10 Human Heart

iii) fig 5.11 Schematic representation of gas exchange

iv) fig 5.13 Human excretory system

v)fig 5.14 structure of Nephron

vi) fig 6.1 structure of Neuron

vii) fig 6.2 reflex arc

viii) fig 6.3 Human Brain

ix) fig 6.7 Endocrine glands

x) fig 7.7 flower

xi) fig 7.8 germination of pollen

xii) fig 7.10 Human male reproductive system

xiii) fig 7.11 female reproductive system

diagrams to be drawn in A4 size paper . Each page may contain 4 (four) diagram .