VIVEKANAND MODERN ACADEMY

Chandrika Devi Road, Kathwara, Bakshi Ka Talab, Lucknow (U. P.)

The much-awaited summer break has started and it is the time we associate with fun, frolic, late mornings and long hours of play. But, summer vacation is so much more than T.V. shows and ice cream rolls. It's time to play and have fun INDOORS. Time to spend with kith and kin. Here we present the "Summer Vacation Activity List" and we hope you will make your holidays more interesting by doing these activities

As it is rightly said , "A life without love is like a year without summer"

Happy Holidays

SUMMER TIPS :

- *Dress your children in loose, light – coloured clothes.*
- *Take them for outdoor activities in the morning and evening hours.*
- *Take a walk in the nature with your family. Let the greenery relax your mind.*
- *Don't let the scorching heat stop you from having fun! Play various board games like Chess, Ludo, Scrabble etc.*
- *Keep your children hydrated. Make them drink lots of water.*
- *Help your children learn new things through exploring their interests.*
- *Books are children best friend. Create your child's interest in different colourful books.*
- *Dedicate one hour to reading each day. Read a book about fairies, or monsters, your choice!*
- *Motivate your children to speak golden words.*
- *Set timers for screen time. Let's have "no mobile phone day" once a week!*
- *Have a bed-time story session with your kids.*
- *Try to converse with your parents and friends in English. Listen to songs in English.*

Dear Students,

- *Summer Vacation is the best and the most fruitful time for learning and nurturing creativity. Keeping this objective in mind we have planned diverse and exciting activities that will enhance your knowledge and boost your creativity.*
- *"Knowledge is Power". Therefore read lots and lots of books to cultivate the reading habit and develop your vocabulary, language skills, increase your attention span and improve your spellings.*
- *"A healthy mind lives in a healthy body". So play the sport of your choice INDOORS. It will help to instill discipline, generate sporting spirits and channelize your energies constructively.*
- *Get up early in the morning and see the rising sun. Do indoor exercises / yoga and stay healthy and fit. Spend quality time with your elders and share your thoughts and ideas with them.*
- *Eat healthy food and drink lots of water during summer.*
- *Integrating curriculum helps students deepen their understanding of the subject matter and comprehend relationship between different areas of study. This year's holiday homework has been designed keeping this interdisciplinary aspect in mind.*
- *Inculcate good manners- 4 magic words 'Please, Thank You, Excuse Me, Sorry'-use them and see the difference*

Principal

HOLIDAYS FUN TIME

Dear Parents,

MORNING BLESSINGS : *Help your children to inculcate good habits by doing Surya Namaskar and encourage them to greet all elders in the morning. Learn two simple Yogasanas*

BEING RESPONSIBLE : *Spend a week with your elders. Observe their routine. Listen to their childhood memories, incidents from the past and watch their old family albums. This will strengthen the bond between you and your elders. Don't forget to capture them in the form of short videos.*

ENGAGE IN HOBBIES : *Explore Interests: Spend time on activities you enjoy, such as sports, music or art.*

ADOPT A TREE : *Encourage your child to adopt a tree in the park around you and make sure that you take care of it daily by watering it. Also, click a picture with it and share it with your class teacher.*

STAY ACTIVE : *Engage in regular exercise, whether through sports, walking, cycling, or home workouts.*

OUTDOOR ACTIVITIES : *Spend time outdoors, enjoying nature through hiking, swimming, or camping.*

HELPING OTHERS : *Do a good deed at least once a week, fostering a sense of community.*

TRAVEL AND EXPLORE : *Visit local museums, parks, or historical sites.*

TRIPS : *Plan trips, whether it's a family vacation or day trips to nearby attractions.*

REST AND RELAX :

DOWNTIME : *Ensure you have time to relax and unwind.*

SLEEP : *Maintain a healthy sleep schedule.*

STAY SAFE : *Follow health guidelines, stay hydrated.*

Help your ward to memorize your home address and contact numbers.

HOLIDAY HOME WORK

Session : 2025 – 26

Class : X , Section : ……

Student's Name : ……

English

NOTE : All the work needs to be done in the English Notebook. Copy the questions and answer them in your notebooks.

1. Read the passage and answer the following questions with reference to the passage

1. The choices we make on a daily basis—wearing a seatbelt, lifting heavy objects correctly or purposely staying out of any dangerous situation—can either ensure our safety or bring about potentially harmful circumstances.
2. You and I need to make a decision that we are going to get our lives in order. Exercising self-control, self-discipline and establishing boundaries and borders in our lives are some of the most important things we can do. A life without discipline is one that's filled with carelessness.
3. We can think it's kind of exciting to live life on the edge. We like the image of "Yeah! That's me! Living on the edge! Woo-hoo!" It's become a popular way to look at life. But if you see, even highways have lines, which provide margins for our safety while we're driving. If we go over one side, we'll go into the ditch. If we cross over the line in the middle, we could get killed. And we like those lines because they help to keep us safe. Sometimes we don't even realize how lines help to keep us safe.
4. I'm not proud of this, but for the first 20 years of my life at work, I ignored my limits. I felt horrible, physically, most of the time. I used to tell myself "I know I have limits and that I've reached them, but I'm going to ignore them and see if or how long I can get by with it." I ran to doctors, trying to make myself feel better through pills, vitamins, natural stuff and anything I could get my hands on. Some of the doctors would tell me, "It's just stress." That just made me mad. I thought stress meant you don't like what you do or can't handle life, and I love what I do. But I kept pushing myself, traveling, doing speaking engagements and so on—simply exhausting myself.
5. Finally, I understood I was living an unsustainable life and needed to make some changes in my outlook and lifestyle.
6. You and I don't have to be like everyone else or keep up with anyone else. Each of us needs to be exactly the way we are, and we don't have to apologize for it. We are not all alike and we need to find a comfort zone in which we can enjoy our lives instead of making ourselves sick with an overload of stress and pressure.

1.1 Which of the characteristics are apt about the writer in the following context: "I know I have limits and that I've reached them, but I'm going to ignore them and see if or how long I can get by with it."?

1. negligent 2. Indecisive 3. Spontaneous 4. Reckless 5. Purposeless 6. patient

(a) 2 and 5
(b) 3 and 6
(c) 1 and 4
(d) 2 and 3

1.2 The reason why living on the edge has become popular, is because of the

(a) constant need for something different.
(b) population being much younger.
(c) exhausting effort to make changes.
(d) strong tendency to stay within our limits.

1.3 The phrase "potentially harmful circumstances" refers to circumstances that can

(a) certainly, be dangerous.
(b) be fairly dangerous.
(c) be possibly dangerous.
(d) seldom be dangerous.

1.4 Choose the option that correctly states the two meanings of 'outlook', as used in the passage.

1. A person's evaluation of life
2. A person's experiences in life
3. A person's point of view towards life
4. A person's regrets in life
5. A person's general attitude to life

(a) (1) and (4)
(b) (2) and (3)
(c) (3) and (5)
(d) (4) and (5)

1.5 Choose the option that best captures the central idea of the passage from the given quotes.

1. **It's all about quality of life and finding a happy balance between work and friends.**
2. **To go beyond is as wrong as to fall short.**
3. **Life is like riding a bicycle. To keep your balance, you must keep moving.**
4. **Balance is not something you find, it's something you create.**

(a) Option (1)
(b) Option (2)
(c) Option (3)
(d) Option (4)

1.6 The author explains the importance of discipline and boundaries in our lives using the example of

(a) road accidents.
(b) traffic rules.
(c) lines on the highway.
(d) safe driving.

1.7 The author attempts to _____ the readers through this write-up.

(a) rebuke
(b) question

(c) offer aid to
(d) offer advice to

1.8 What is the message conveyed in the last paragraph of the passage?
(a) Love what you do.
(b) Love yourself to love others.
(c) Be the best version of yourself.
(d) Be yourself

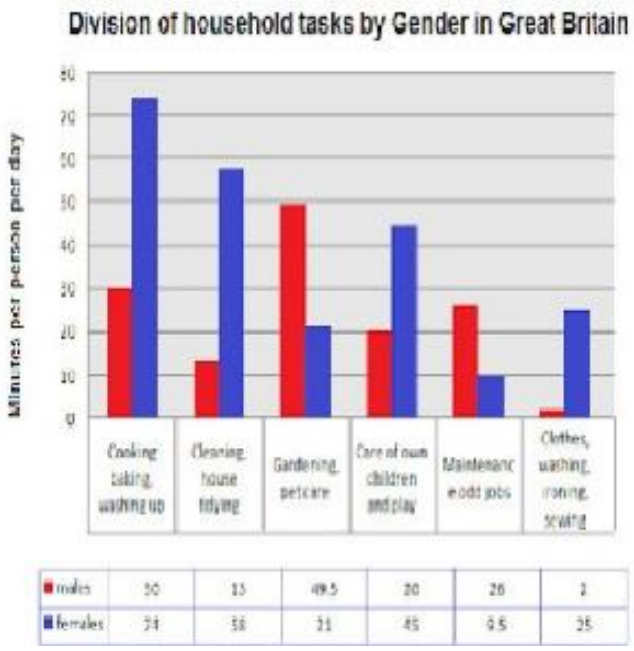
1.9 Which of the following will be the most appropriate title for the passage?
(a) Much too soon
(b) Enough is enough
(c) How much is too much?
(d) Have enough to do?

1.10 The author uses colloquial words such as "yeah" and "Woo-hoo!". Which of the following is NOT a colloquial word?
(a) hooked
(b) guy
(c) stuff
(d) stress

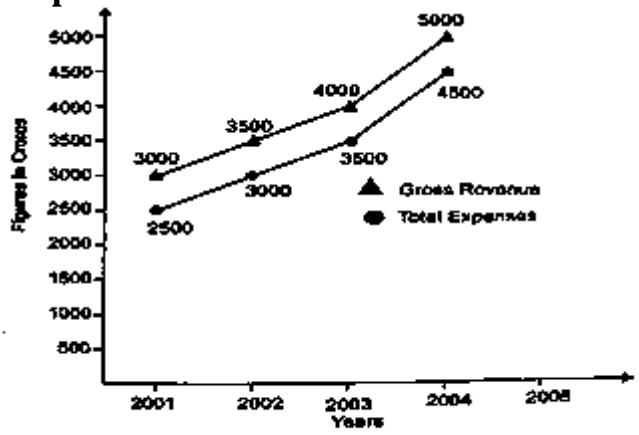
1.11 Select the option that makes the correct use of "unsustainable", as used in the passage, to fill in the blank space.
(a) In the long run, the _____ officials followed emergency procedures.
(b) Emergency procedures were _____ by the officials.
(c) Officials reported an _____ set of events during the emergency.
(d) Officials admit that the emergency system is _____ in the longer run.

1.12 What does the author mean when he says, "to get our lives in order"?
(a) To resume our lives.
(b) To organize our lives.
(c) To rebuild our lives.
(d) To control our lives.

2. The given chart shows the division of household tasks by gender in Great Britain. Write an analytical paragraph describing the chart in not more than 100-120 words.



3. **The Line graph given below represents Railway Finance from 2001-2002 to 2004-2005 (Northern Zone). It breaks down the gross revenue collected as well as the total expenses incurred during these years. Summarise and write an analytical paragraph highlighting the general trend and necessary details. Compare wherever relevant.**



Railway Finance from 2001-2005
(Northern Zone)

4. **Write a letter to the editor of an English daily, making a plea to the common people to switch over to solar energy to conserve electricity and limit electricity bills.**
5. **Can you create functional, green spaces in a crowded city like Mumbai? 'Fresh and Local' is an initiative to transform underused spaces into productive, community areas through urban farming. It aims to inspire city residents to make the most use of the spaces that surround them to grow fruits, herbs and vegetables. Not only can urban farming improve the environment, but also the health of the city residents.**
   Kush decides to write a letter to the Editor of a National Daily to raise public awareness about using the space around them for productive community areas. Use your ideas and ideas from the unit 'Environment' to write the letter in about 120-150 words.

English Literature

6. **Write the Definition of the following figures of speech and three examples of each:**
   1. **Simile**
   2. **Metaphor**
   3. **Personification**
   4. **Apostrophe**
   5. **Alliteration**
   6. **Assonance**
   7. **Hyperbole**
   8. **Euphemism**
   9. **Antithesis**
   10. **Oxymoron**
   11. **Epigram**
   12. **Irony**
   13. **Pun**
   14. **Metonymy**

15. Synecdoche
16. Transferred Epithet

हिन्दी

पाठ्य पुस्तक

1. कस्बे में घुसने से पहले हालदार साहब की मन में क्या ख्याल आया और क्यों?
2. कैप्टन का रेखा चित्र प्रस्तुत कीजिए।
3. मास्टर जी कौन थे उन्होंने मूर्ति को कितने समय में बनाने का विश्वास दिलाया था?
4. किस बात से हार कर उनकी पुत्रवधू को घर छोड़ने के लिए तैयार होना पड़ा?
5. भगत किस पंथ के अनुयायी थे? उस पंथ की मुख्य विशेषताओं को लिखिए।
6. लेखक ने डिब्बे में आने के बाद क्या अनुमान लगाया और क्यों?
7. नवाब साहब की भाव भंगिमा से क्या प्रतीत हो रहा था?
8. लेखक द्वारा नवाब साहब की ओर से नजर हटा लेने का क्या कारण था?
9. उद्धव द्वारा योग का संदेश देना गोपियों को क्यों कष्टकारी लग रहा था?
10. उद्धव के व्यवहार की तुलना किससे की गई है?
11. आपके विचार से क्या उद्धव वास्तव में भाग्यशाली थे? तर्क दीजिए।
12. चिन्हित गद्यांशों के उत्तर स्वयं निर्मित कीजिए (प्रत्येक गद्यांश से पांच उत्तर)।

व्याकरण एवं लेखन

13. उत्प्रेक्षा, उपमा, रूपक, अतिशयोक्ति,मानवीकरण अलंकार की परिभाषा उदाहरण एवं स्पष्टीकरण सहित लिखिए। श्लेष अलंकार की परिभाषा उदाहरण एवं स्पष्टीकरण सहित लिखिए।
14. अनुच्छेद लिखिए : (क) वृक्षों का महत्व (ख) विद्यार्थी जीवन
15. परियोजना कार्य

<u>परियोजना कार्य</u>

- क्षितिज (गद्य एवं पद्य) पाठ्य पुस्तक के बताए गए कार्य को पूर्ण कीजिए।
- कृतिका पूरक पुस्तक के बताए गए कार्य को पूर्ण कीजिए।
- व्याकरण के बताए गए कार्य को पूर्ण कीजिए।
- लेखन के बताए गए कार्य को पूर्ण कीजिए।

Science

Physics

1. Define electric current. What is its formula and SI unit?
2. What is the device used to measure electric current? How is it connected in a circuit?

3. Define electric potential difference. What is its formula and SI unit?
4. What is the device used to measure potential difference? How is it connected in a circuit?
5. Name a device that helps maintain a potential difference across a conductor?
6. Define Ohm's Law and write its formula.
7. Define Resistance and resistivity. Write its SI unit?
8. What are the factors on which the resistance of a conductor depends?
9. Derive the formula for a combination of resistors in parallel.
10. Why are the appliances at home connected in parallel?
11. 100J of heat is produced each second in a 4 W resistance. Find the potential difference across the resistor.
12. Why does the cord of an electric heater not glow while the heating element does?
13. An electric heater of resistance 44 Ω draws 5 A from the service mains for 2 hours. Calculate the rate at which heat is developed in the heater.
14. An electric refrigerator rated 400 W operates 8 hour/day. What is the cost of the energy to operate it for 30 days at Rs 3.00 per kWh?
15. Complete the physics section of the pre-periodic question paper in fair copy.

Note : If your copy is not checked, please complete your work and submit your class-work copy on the first day of school.

Biology

Chapter 1: Life Processes

Instructions:

- **Write all answers neatly in a separate notebook.**
- **Use pencil and scale to draw diagrams.**
- **Submit your work on the first day after the summer vacation.**

Part A: Theory Work

1. Define the following (in 2–3 lines each):

- o Nutrition
- o Autotrophic nutrition
- o Heterotrophic nutrition
- o Respiration
- o Transportation
- o Excretion

2. Differentiate between (write any 3 differences each):

- o Autotrophic and Heterotrophic nutrition
- o Aerobic and Anaerobic respiration
- o Arteries and Veins
- o Excretion in plants and animals

3. Answer the following questions (80–100 words):

- o Explain the process of photosynthesis with the help of an equation.
- o How is food digested in the human body?
- o Describe the process of excretion in human beings.

- What is the role of the heart in the circulatory system?

4. Draw and label the following diagrams:

- Human digestive system
- Human respiratory system
- Human heart
- Human excretory system

Part B: Activity Work

5. Creative Poster (on A4 or chart paper):

o "Balanced Diet and Its Importance for Life Processes"
(Use pictures, slogans, and diagrams.)

Chemistry

16. Make the project file in which write down about carbon and its compounds.

SOCIAL STUDIES

In Economics read the chapter- Development. Find the meaning of difficult words and answer the following questions in your practice copy

1. **Why Kerala has a low Infant mortality rate?**
2. **Is it just right to calculate development based on average income?**
3. **What is Life Expectancy at birth?**
4. **What is GDP?**
5. **How do ration shops under Public Distribution System (PDS) help people?**
6. **What are Public facilities?**
7. **Which organization publishes the Human Development Report?**
8. **Which state in India has ranked first in Human Development Index?**
9. **What are the Non-renewable resources?**
10. **Why do different persons have different notions of development?**
11. **In what respect is the criterion used by the UNDP for measuring development different from the one used by the World Bank?**
12. **Why is literacy essential for the economic development? Explain.**
13. **Money in your pocket cannot buy all the goods and services that you may need to live well. Is it true? Elucidate.**
14. **"Girls in India in the rural sector are sometimes not able to get secondary level education". Give three reasons for this.**
15. **Briefly define the following terms.**
    A. Infant Mortality Rate
    B. Net Attendances Ratio
    C. Literacy Rate

In History read the chapter- Nationalism in India. Find the meaning of difficult words and answer the following questions in your practice copy

1. **Who has designed the 'Swaraj Flag' by 1921? Explain the main features of the 'Swaraj Flag'.**
2. **'The Civil Disobedience Movement was different from the Non-Cooperation Movement'. Support the statement with examples.**
3. **'The plantation workers in Assam had their own understanding of Mahatma Gandhi and the notion of Swaraj.' Support the statement with arguments.**

4. **Why did different social groups join the Civil Disobedience Movement? Explain.**
5. **"The Congress was reluctant to include the demands of industrial workers in its programme of struggle." Analyze the reasons.**
6. **Explain 4 points about Gandhi's Idea of 'satyagraha.'**
7. **How did BR Ambedkar try to improve the conditions of the Depressed Classes? Explain.**
8. **Why did Gandhi ji start the 'Civil Disobedience Movement'? Explain any 4 features of Civil Disobedience Movement.**
9. **How did the peasants of Awadh used different methods to achieve their goal? Explain.**
10. **Describe the incident and impact of Jallianwala Bagh.**

Information Technology

1. **What is a database? Give an example**
2. **What is the difference between rows and columns?**
3. **Define form and what is the need of using them?**
4. **How is data organized in an RDBMS? And write its purpose**
5. **What are the advantages of using database?**
6. **How does DBMS help deal with data inconsistency?**
7. **Distinguish between data and information.**
8. **What is the utility of the primary key in a database? Write distinct features of primary keys.**
9. **List all the data types and explain them with suitable examples.**

Mathematics

1. **Solve cbse 10 years previous question papers realted to topic statistics**
   (a) Real Number
   (b) Linear pair equation of two variable
   (c) Polynomial
2. **Solve NCERT hots questions**

Note : Do the holiday homework in maths homework copy.
Do the following Worksheets in the Mathematics Register :

Chapter 4 – Quadratic Equations

1 Mark:

1. If one root of the quadratic equation $6x^2 - x - k = 0$ is $\frac{2}{3}$, then find the value of k. **CBSE 2017, Foreign (30/2/1)**

2. Find the value of k, for which one root of the quadratic equation $kx^2 - 14x + 8 = 0$ is six times the other.
CBSE Sample Paper 2016

3. If $x = -\frac{1}{2}$, is a solution of the quadratic equation $3x^2 + 2kx - 3 = 0$, find the value of k. **CBSE 2015, Delhi (30/1/1)**

4. If the quadratic equation $px^2 - 2\sqrt{5}\,px + 15 = 0$ has two equal roots, then find the value of p.
CBSE 2015, Outside Delhi (30/1)

5. If 1 is a root of the equations $ay^2 + ay + 3 = 0$ and $y^2 + y + b = 0$, then ab equals:
   A) 3 B) $-\frac{7}{2}$
   C) 6 D) -3
CBSE 2012, Delhi (30/1/1)

6. If the quadratic equation $mx^2 + 2x + m = 0$ has two equal roots, then the values of m are
   A) ± 1 B) $0, 2$ C) $0, 1$ D) $-1, 0$
CBSE 2012, Foreign (30/2/1)

7. The roots of the quadratic equation $2x^2 - x - 6 = 0$ are
   A) $-2, 3/2$ B) $2, -3/2$ C) $-2, -3/2$ D) $2, 3/2$
CBSE 2012, Outside Delhi (30/1)

8. The roots of the equation $x^2 + x - p(p+1) = 0$, where p is a constant, are
   A) $p, p+1$ B) $-p, p+1$ C) $p, -(p+1)$ D) $-p, -(p+1)$
CBSE 2011, Delhi (30/1/1)

9. The roots of the quadratic equation $x^2 + 5x - (\alpha + 1)(\alpha + 6) = 0$, where α is a constant, are
   A) $\alpha + 1, \alpha + 6$ B) $(\alpha + 1), -(\alpha + 6)$
   C) $-(\alpha + 1), (\alpha + 6)$ D) $-(\alpha + 1), -(\alpha + 6)$
CBSE 2011, Foreign (30/2/1)

10. The roots of the equation $x^2 - 3x - m(m+3) = 0$, where m is a constant, are
    A) $m, m+3$ B) $-m, m+3$ C) $m, -(m+3)$ D) $-m, -(m+3)$
CBSE 2011, Outside Delhi (30/1)

11. Find the discriminant of the quadratic equation
    $3\sqrt{3}x^2 + 10x + \sqrt{3} = 0$.
CBSE 2009, Outside Delhi (30/1)

12. Write the nature of roots of quadratic equation $4x^2 + 4\sqrt{3}x + 3 = 0$. **CBSE 2009, Foreign (30/2/1)**

13. For what value of k the quadratic equation $x^2 - kx + 4 = 0$ has equal roots? **CBSE Sample Paper I 2008**

14. What is the nature of roots of the quadratic equation $4x^2 - 12x - 9 = 0$? **CBSE Sample Paper II 2008**

15. A train, travelling at a uniform speed for 360 km would have taken 48 minutes less to travel the same distance, if its speed were 5 km/h more. Find the original speed of the train. **CBSE Sample Paper 2015**

16. Solve for x:
$\frac{x-2}{x-3}+\frac{x-4}{x-5}=\frac{10}{3}; x \neq 3,5$ **CBSE 2014, Outside Delhi (30/1)**

17. A motorboat whose speed in still water is 18 km/h, takes 1 hour more to go 24 km upstream than to return downstream to the same spot. Find the speed of the stream. **CBSE 2014, (30/1), (30/2), (30/3)**

18. Solve for x:
$\frac{x-3}{x-4}+\frac{x-5}{x-6}=\frac{10}{3}; x \neq 4,6$ **CBSE 2014, Foreign (30/2/1)**

19. Solve the following for x:
$\frac{1}{2a+b+2x}=\frac{1}{2a}+\frac{1}{b}+\frac{1}{2x}$ **CBSE 2013, Delhi (30/1/1)**

20. Sum of the areas of two squares is 400 cm^2. If the difference of their perimeters is 16 cm, find the sides of the two squares. **CBSE 2013, Delhi (30/1/1)**

21. A shopkeeper buys some books for ₹ 80. If he had bought 4 more books for the same amount, each book would have cost ₹ 1 less. Find the number of books he bought. **CBSE 2012, Delhi (30/1/1)**

22. The sum of two numbers is 9 and the sum of their reciprocals is $\frac{1}{2}$. Find the numbers. **CBSE 2012, Delhi (30/1/1)**

23. A two-digit number is such that the product of its digits is 14. When 45 is added to the number, the digits interchange their places. Find the number. **CBSE 2012, Foreign (30/2/1)**

24. Find the consecutive natural numbers, the sum of whose squares is 145. **CBSE 2012, Foreign (30/2/1)**

25. The numerator of a fraction is 3 less than its denominator. If 1 is added to the denominator, the fraction is decreased by $\frac{1}{15}$. Find the fraction. **CBSE 2012, Outside Delhi (30/1)**

26. In a flight of 2800 km, an aircraft was slowed down due to bad weather. Its average speed is reduced by 100 km/h and time increased by 30 minutes. Find the original duration of the flight. **CBSE 2012, Outside Delhi (30/1)**

27. A motor boat whose speed is 20 km/h in still water, takes 1 hour more to go 48 km upstream than to return downstream to the same spot. Find the speed of the stream. **CBSE 2011, Delhi (30/1/1)**

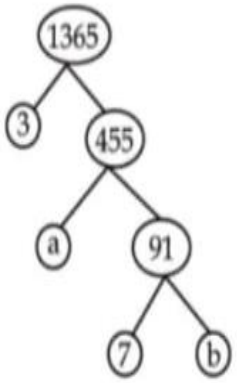
28. Find the roots of the equation $\frac{1}{x+4}-\frac{1}{x-7}=\frac{11}{30}, x \neq -4,7$ **CBSE 2011, Delhi (30/1/1)**

29. Two water taps together can fill a tank in 6 hours. The tap of larger diameter takes 9 hours less than the smaller one to fill the tank separately. Find the time in which each tap can separately fill the tank. **CBSE 2011, Foreign (30/2/1)**

30. Solve the following equation for x:
$\frac{1}{x+1}+\frac{2}{x+2}=\frac{5}{x+4}, x \neq -1,-2,-4$ **CBSE 2011, Foreign (30/2/1)**

31. A train travels 180 km at a uniform speed. If the speed had been 9 $km/hour$ more, it would have taken 1 hour less for same journey. Find the speed of the train. **CBSE 2011, Outside Delhi (30/1)**

32. Find the roots of the equation $\frac{1}{2x-3}+\frac{1}{x-5}=1, x \neq \frac{3}{2}, 5.$ **CBSE 2011, Outside Delhi (30/1)**

Q.8.	The LCM of two co-prime numbers is always the							
	A	Sum of the numbers	B	Difference of the numbers	C	Product of the numbers	D	1
Q.9.	For the given factor tree 							
	A	a = 5, b = 13	B	a = 13, b = 5	C	a = 65, b = 13	D	a = 5, b = 15
Q.10.	The LCM of $2^3 \times 3^2$ and $2^2 \times 3^3$ is							
	A	3^3	B	2^3	C	$2^3 \times 3^3$	D	$2^2 \times 3^2$

ASSERTION AND REASONING

DIRECTION: In question numbers 11 and 12, a statement of **Assertion (A)** is followed by a statement of **Reason (R).** Choose the correct option

(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 and 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.

Q.11. **Assertion:** The HCF of two numbers is 16 and their product is 3072. Then their LCM = 162.

Reason: If a, b are two positive integers, then HCF (a, b) x LCM (a, b) = a x b

Q.12. **Assertion:** $\sqrt{7}$ is an irrational number.

Reason: A square root of a prime number is always an irrational number.

	Questions of 2 marks each
Q.13.	Can two numbers have 18 as their HCF and 380 as their LCM? Justify your answer.
Q.14.	The HCF of two numbers is 23 and their LCM is 1449. If one of the numbers is 161, find the other.
Q.15.	Explain why (17 x 11 x 2 + 17 x 11 x 5) is a composite number.
Q.16.	Three bells ring at an interval of 4, 7 and 14 minutes. All three bells rang together at 6am, at what time will the three bells ring together next?
	Questions of 3 marks each
Q.17.	Find the smallest number which when increased by 17 is exactly divisible by 520 and 468.
Q.18.	In a school there are two sections, namely A and B, of class X. There are 30 students in section A and 28 students in section B. Find the minimum number of books required for their class library so that they can be distributed equally among students of section A or section B
Q.19.	Aakriti decided to distribute milk in an orphanage on her birthday. The supplier brought two milk containers which contain 398 litres and 436 litres of milk. The milk is to be transferred to other containers so that 7 litres and 11 litres of milk is left in both the containers respectively. What will be the maximum capacity of the measuring drum?
	Questions of 5 marks each
Q.20.	Prove that $\sqrt{5}$ is an irrational number. Hence prove that $2 - 3\sqrt{5}$ is an irrational number.
Q.21.	National Art convention got registrations from students from all parts of the country, of which 60 are interested in music, 84 are interested in dance and 108 students are interested in handicrafts. For optimum cultural exchange, organizers wish to keep them in minimum number of groups such that each group consists of students interested in the same artform and the number of students in each group is the same. Find the number of students in each group. Find the number of groups in each art form. How many rooms are required if each group will be allotted a room? **(CFQ)**

Case study question (4 marks)

Q.22. February 14 is celebrated as International Book Giving Day and many countries in the world celebrate this day. Some people in India also started celebrating this day and donated the following number of books of various subjects to a public library:
History = 96, Science = 240, Mathematics = 336.
These books have to be arranged in minimum number of stacks such that each stack contains books of only one subject and the number of books on each stack is the same.

Based on the above information, answer the following questions:

(i) How many books are arranged in each stack?

(ii) How many stacks are used to arrange all the Mathematics books?

(iii) (a) Determine the total number of stacks that will be used for arranging all the books.

(b)If the thickness of each book of History, Science and Mathematics is 1·8 cm, 2·2 cm and 2·5 cm respectively, then find the height of each stack of History, Science and

3 Marks:

1. If $ad \neq bc$, then prove that the equation $(a^2+b^2)x^2+2(ac+bd)x+(c^2+d^2)=0$ has no real roots. **CBSE 2017, Outside Delhi (30/1)**
2. If the equation $(1+m^2)x^2+2mcx+c^2-a^2=0$ has equal roots then show that $c^2=a^2(1+m^2)$. **CBSE 2017, Delhi (30/1/1)**
3. If the roots of the quadratic equation $(a-b)x^2+(b-c)x+(c-a)=0$ are equal, prove that **CBSE 2017, Foreign (30/2/1)**
4. Solve for $x=\frac{1}{(x-1)(x-2)}+\frac{1}{(x-2)(x-3)}=\frac{2}{3}, x\neq 1,2,3$ **CBSE 2016, Outside Delhi (30/1)**
5. Solve for x:
$\frac{2x}{x-3}+\frac{1}{2x+3}+\frac{3x+9}{(x-3)(2x+3)}=0, x\neq 3,-3/2$ **CBSE 2016, Delhi (30/1/1)**
6. Solve the given quadratic equation for $x: 9x^2-9(a+b)x+(2a^2+5ab+2b^2)=0$. **CBSE 2016, Foreign (30/2/1)**
7. Solve $\frac{1}{(a+b+x)}=\frac{1}{a}+\frac{1}{b}+\frac{1}{x}, a+b\neq 0$. **CBSE Sample Paper 2016**
8. Find that non-zero value of k, for which the quadratic equation $kx^2+1-2(k-1)x+x^2=0$ has equal roots. Hence find the roots of the equation. **CBSE 2015, Delhi (30/1/1)**
9. Solve for x:
$x^2+5x-(a^2+a-6)=0$ **CBSE 2015, Foreign (30/2/1)**
10. Solve for x:
$\sqrt{3}x^2-2\sqrt{2}x-2\sqrt{3}=0$ **CBSE 2015, Outside Delhi (30/1)**
11. Solve the following quadratic equation for x
$x^2-4ax-b^2+4a^2=0$ **CBSE 2012, Outside Delhi (30/1)**
12. If the sum of two natural numbers is 8 and their product is 15, find the numbers. **CBSE 2012, Outside Delhi (30/1)**
13. If a student had walked 1 km/hr faster, he would have taken 15 minutes less to walk 3 km. Find the rate at which he was walking. **CBSE Sample Paper III 2008**
14. Find the value of k so that the following quadratic equation has equal roots:
$2x^2-(k-2)x+1=0$ **CBSE Sample Paper III 2008**
15. Solve the following equation for z.
$\frac{4}{z-1}-\frac{5}{z+2}=\frac{3}{z}, z\neq 1,0,-2$ **CBSE 2015, Sample Paper 2015**
16. Solve for x:
$\frac{16}{x}-1=\frac{15}{x+1}; \quad x\neq 0,-1$ **CBSE 2014 (30/1), (30/2), (30/3)**
17. For what value of k, are the roots of the quadratic equation $kx(x-2)+6=0$ equal? **CBSE 2013, Delhi (30/1/1)**
18. Solve for $x: 4x^2-4ax+(a^2-b^2)=0$ **CBSE 2012, Delhi (30/1/1)**
19. Solve for $x: 3x^2-2\sqrt{6}x+2=0$ **CBSE 2012, Delhi (30/1/1)**
20. Solve for x:
$4\sqrt{3}x^2+5x-2\sqrt{3}=0$ **CBSE 2012, Foreign (30/2/1)**
21. Solve the following quadratic equation for x
$x^2-4ax-b^2+4a^2=0$ **CBSE 2012, Outside Delhi (30/1)**
22. If the sum of two natural numbers is 8 and their product is 15, find the numbers. **CBSE 2012, Outside Delhi (30/1)**

Chapter 4 – Quadratic Equations

1 Mark:

1. If one root of the quadratic equation $6x^2 - x - k = 0$ is $\frac{2}{3}$, then find the value of k. **CBSE 2017, Foreign (30/2/1)**

2. Find the value of k, for which one root of the quadratic equation $kx^2 - 14x + 8 = 0$ is six times the other.
CBSE Sample Paper 2016

3. If $x = -\frac{1}{2}$, is a solution of the quadratic equation $3x^2 + 2kx - 3 = 0$, find the value of k. **CBSE 2015, Delhi (30/1/1)**

4. If the quadratic equation $px^2 - 2\sqrt{5}\,px + 15 = 0$ has two equal roots, then find the value of p.
CBSE 2015, Outside Delhi (30/1)

5. If 1 is a root of the equations $ay^2 + ay + 3 = 0$ and $y^2 + y + b = 0$, then ab equals:

   A) 3 B) $-\frac{7}{2}$

   C) 6 D) -3

   CBSE 2012, Delhi (30/1/1)

6. If the quadratic equation $mx^2 + 2x + m = 0$ has two equal roots, then the values of m are

   A) ± 1 B) $0, 2$ C) $0, 1$ D) $-1, 0$

   CBSE 2012, Foreign (30/2/1)

7. The roots of the quadratic equation $2x^2 - x - 6 = 0$ are

   A) $-2, 3/2$ B) $2, -3/2$ C) $-2, -3/2$ D) $2, 3/2$

   CBSE 2012, Outside Delhi (30/1)

8. The roots of the equation $x^2 + x - p(p+1) = 0$, where p is a constant, are

   A) $p, p+1$ B) $-p, p+1$ C) $p, -(p+1)$ D) $-p, -(p+1)$

   CBSE 2011, Delhi (30/1/1)

9. The roots of the quadratic equation $x^2 + 5x - (\alpha + 1)(\alpha + 6) = 0$, where α is a constant, are

   A) $\alpha + 1, \alpha + 6$ B) $(\alpha + 1), -(\alpha + 6)$

   C) $-(\alpha + 1), (\alpha + 6)$ D) $-(\alpha + 1), -(\alpha + 6)$

   CBSE 2011, Foreign (30/2/1)

10. The roots of the equation $x^2 - 3x - m(m+3) = 0$, where m is a constant, are

    A) $m, m+3$ B) $-m, m+3$ C) $m, -(m+3)$ D) $-m, -(m+3)$

    CBSE 2011, Outside Delhi (30/1)

11. Find the discriminant of the quadratic equation
    $3\sqrt{3}x^2 + 10x + \sqrt{3} = 0$.
    CBSE 2009, Outside Delhi (30/1)

12. Write the nature of roots of quadratic equation $4x^2 + 4\sqrt{3}x + 3 = 0$. **CBSE 2009, Foreign (30/2/1)**

13. For what value of k the quadratic equation $x^2 - kx + 4 = 0$ has equal roots? **CBSE Sample Paper I 2008**

14. What is the nature of roots of the quadratic equation $4x^2 - 12x - 9 = 0$? **CBSE Sample Paper II 2008**

6 Marks:

1. Some students planned a picnic. The total budget for food was *Rs.* 2,000. But 5 students failed to attend the picnic and thus the cost of food for each member increased by *Rs.* 50. How many students attended the picnic and how much did each student pay for the food? **CBSE 2010, Foreign (30/2/1)**

2. Solve the following equation for x:
$\frac{3x-4}{7}+\frac{7}{3x-4}=\frac{5}{2}, x \neq \frac{4}{3}$ **CBSE 2010, Foreign (30/2/1)**

3. Three consecutive positive integers are such that the sum of the square of the first and the product of the other two is 46, find the integers. **CBSE 2010, Delhi (30/1/1)**

4. The difference of squares of two numbers is 88. If the larger number is 5 less than twice the smaller number, then find the two numbers. **CBSE 2010, Delhi. (30/1/1)**

5. The sum of squares of two consecutive odd numbers is 394. Find the numbers. **CBSE 2009, Delhi (30/1/1)**

6. Places A and B are 100 km apart on a highway. One car starts from A and another from B at the same time. If the cars travel in the same direction at different speeds, they meet in 5 hours. If they travel towards each other, they meet in 1 hour. What are the speeds of the two cars? **CBSE 2009, Delhi (30/1/1)**

7. Solve the following equation for x:
$9x^2 - 9(a+b)x + (2a^2 + 5ab + 2b^2) = 0$ **CBSE 2009, Outside Delhi (30/1)**

8. If (-5) is a root of the quadratic equation $2x^2 + px - 15 = 0$ and the quadratic equation $p(x^2 + x) + k = 0$ has equal roots, then find the values of p and k. **CBSE 2009, Outside Delhi (30/1)**

9. A trader bought a number of articles for Rs. 900. Five articles were found damaged. He sold each of the remaining articles at Rs. 2 more than what he paid for it. He got a profit of Rs. 80 on the whole transaction. Find the number of articles he bought. **CBSE 2009, Foreign (30/2/1)**

10. Two years ago a man's age was three times the square of his son's age. Three years hence his age will be four times his son's age. Find their present ages. **CBSE 2009, Foreign (30/2/1)**

11. A peacock is sitting on the top of a pillar, which is 9 m high. From a point 27 m away from the bottom of the pillar, a snake is coming to its hole at the base of the pillar. Seeing the snake the peacock pounces on it. If their speeds are equal, at what distance from the hole is the snake caught? **CBSE 2008 (30/2/1), (30/2/2), (30/2/3)**

12. The difference of two numbers is 4. If the difference of their reciprocals is $\frac{4}{21}$, find the two numbers. **CBSE 2008 (30/2/1), (30/2/2), (30/2/3)**

13. Some students arranged a picnic. The budget for food was Rs. 240. Because four students of the group failed to go, the cost of food to each student got increased by Rs. 5. How many students went for the picnic? **CBSE Sample Paper I 2008**

14. A plane left 30 minutes late than its scheduled time and in order to reach the destination 1500 km away in time, it had to increase the speed by 250 km/h from the usual speed. Find its usual speed. **CBSE Sample Paper I 2008**

Questions of 1 mark each

Q.1. If a and b are two consecutive natural numbers then the HCF (a, b) is

A	1	B	2	C	ab	D	a + b

Q.2. If two positive integers a and b are written as $a = x^3y^2$ and $b = xy^3$; x, y are prime numbers, then HCF (a, b)

A	xy	B	xy^2	C	x^3y^3	D	x^2y^2

Q.3. The product of the HCF and LCM of the smallest prime number and the smallest composite number is

A	2	B	4	C	8	D	16

Q.4. In a formula racing competition, the time taken by two racing cars A and B to complete one round of the track is 30 minutes and p minutes respectively. If the cars meet again at the starting point for the first time after 90 minutes and the HCF (30, p) = 15, then the value of p is **(CFQ)**

A	45 minutes	B	60 minutes	C	75 minutes	D	180 minutes

Q.5. If HCF of 65 and 117 is expressible in the form 65m – 117, then the value of m is

A	4	B	2	C	8	D	6

Q.6. If $p^2 = \frac{32}{50}$, then p is a/an

A	whole number	B	integer	C	rational number	D	irrational number

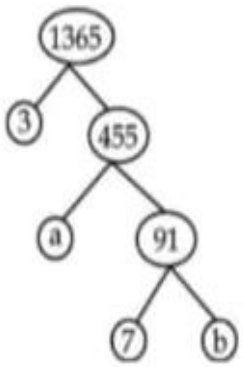
Q.7. What is the largest number that divides 245 and 1029, leaving remainder 5 in each case?

A	16	B	15	C	9	D	5

Q.8. The LCM of two co-prime numbers is always the

A	Sum of the numbers	B	Difference of the numbers	C	Product of the numbers	D	1

Q.9. For the given factor tree



2 Marks:

1. Find the value of p, for which one root of the quadratic equation $px^2 - 14x + 8 = 0$ is 6 times the other.
CBSE 2017, Outside Delhi (30/1)

2. Find the roots of the quadratic equation $\sqrt{2}x^2 + 7x + 5\sqrt{2} = 0$. **CBSE 2017, Delhi (30/1/1)**

3. Find the value of k for which the equation $x^2 + k(2x + k - 1) + 2 = 0$ has real and equal roots.
CBSE 2017, Delhi (30/1/1)

4. Solve for x:
$\sqrt{3}x^2 + 10x - 8\sqrt{3} = 0$. **CBSE 2017, Foreign (30/2/1)**

5. If -5 is a root of the quadratic equation $2x^2 + px - 15 = 0$ and the quadratic equation $p(x^2 + x) + k = 0$ has equal roots, find the value of k. **CBSE 2016, Outside Delhi (30/1)**

6. If $x = \frac{2}{3}$ and $x = -3$ are roots of the quadratic equation $ax^2 + 7x + b = 0$, find the values of a and b.
CBSE 2016, Delhi (30/1/1)

7. A two digit number is four times the sum of the digits. It is also equal to 3 times the product of digits. Find the number.
CBSE 2016, Foreign (30/2/1)

8. If 2 is a root of the equation $x^2 + kx + 12 = 0$ and the equation $x^2 + kx + q = 0$ has equal roots, find the value of q.
CBSE Sample Paper 2016

9. Solve the following quadratic equation for x:
$4x^2 - 4a^2x + (a^4 - b^4) = 0$ **CBSE 2015, Delhi (30/1/1)**

10. Solve for x:
$x^2 - (\sqrt{3} + 1)\,x + \sqrt{3} = 0$ **CBSE 2015, Foreign (30/2/1)**

11. Solve the following quadratic equation for x:
$4x^2 + 4bx - (a^2 - b^2) = 0$ **CBSE 2015, Outside (30/1)**

12. Find the roots of the quadratic equation $3x^2 - 2\sqrt{6}x + 2 = 0$. **CBSE Sample Paper 2015**

13. Find the values of p for which the quadratic equation $4x^2 + px + 3 = 0$ has equal roots. **CBSE 2014, (30/1), (30/3)**

14. Find the values of k for which the quadratic equation $9x^2 - 3kx + k = 0$ has equal roots. **CBSE 2014 (30/2), (30/3)**

15. Solve the following quadratic equation for x:
$4\sqrt{3}x^2 + 5x - 2\sqrt{3} = 0$ **CBSE 2013, Delhi (30/1/1)**

16. Find the value(s) of k so that the quadratic equation $x^2 - 4kx + k = 0$ has equal roots. **CBSE 2012, Delhi (30/1/1)**

17. Find the value of k for which the roots of the quadratic equation $(k - 4)x^2 + 2(k - 4)x + 2 = 0$ are equal.
CBSE 2012, Foreign (30/2/1)

18. Find the value of p.for which the roots of the equation $px(x - 2) + 6 = 0$, are equal. **CBSE 2012, Outside Delhi (30/1)**

19. Find the value of p so that the quadratic equation $px(x - 3) + 9 = 0$ has two equal roots. **CBSE 2011, Delhi (30/1/1)**

20. For what value of k does the quadratic equation $(k - 5)x^2 + 2(k - 5)x + 2 = 0$ have equal roots?
CBSE 2011, Foreign (30/2/1)

21. Find the roots of the following quadratic equation:
$\sqrt{3}x^2 - 2\sqrt{2}x - 2\sqrt{3} = 0$ **CBSE 2011, Foreign (30/2/1)**

22. Find the value of m so that the quadratic equation $mx(x - 7) + 49 = 0$ has two equal roots.
CBSE 2011, Outside Delhi (30/1)

23. Find the roots of the following quadratic equation :
$2\sqrt{3}x^2 - 5x + \sqrt{3} = 0$ **CBSE 2011, Delhi (30/1/1)**

24. Find the roots of the following quadratic equation:
$x^2 - 3\sqrt{5}x + 10 = 0$ **CBSE 2011, Outside Delhi (30/1)**

4 Marks:

1. Speed of a boat in still water is 15 km/h. It goes 30 km upstream and returns back at the same point in 4 hours 30 minutes. Find the speed of the stream. **CBSE 2017, Delhi (30/1/1)**

2. Solve for x:
$\frac{1}{x+1} + \frac{3}{5x+1} = \frac{5}{x+4}, x \neq -1, -\frac{1}{5}, -4$ **CBSE 2017, Outside Delhi (30/1)**

3. A motor boat whose speed is 24 km/h in still water takes 1 hours more to go 32 km upstream than to return downstream to the same spot. Find the speed of the stream. **CBSE 2016, Outside Delhi (30/1)**

4. A pole has to be erected at a point on the boundary of a circular park of diameter 17 m in such a way that the differences of its distances from two diametrically opposite fixed gates A and B on the boundary is 7 metres. Find the distances from the two gates where the pole is to be erected. **CBSE 2016, Foreign (30/2/1)**

5. Find the positive value(s) of k for which quadratic equations $x^2 + kx + 64 = 0$ and $x^2 - 8x + k = 0$ both will have real roots. **CBSE 2016, Foreign (30/2/1)**

6. Three eighth of the students of a class opted for visiting an old age home. Sixteen students opted for having a nature walk. Square root of total number of students in the class opted for tree plantation in the school. The number of students who visited an old age home is same as the number of students who went for a nature walk and did tree plantation. Find the total number of student. What values are inculcated in students through such activities?
CBSE Sample Paper 2016

7. A passenger, while boarding the plane, slipped from the stairs and got hurt. The pilot took the passenger in the emergency clinic at the airport for treatment. Due to this, the plane got delayed by half an hour. To reach the destination 1500 km away in time, so that the passengers could catch the connecting flight, the speed of the plane was increased by 250 $km/hour$ than the usual speed. Find the usual speed of the plane.
What value is depicted in this question? **CBSE 2016, Delhi (30/1/1)**

8. Find x in terms of a, b and c:
$\frac{a}{x-a} + \frac{b}{x-b} = \frac{2c}{x-c}, x \neq a, b, c$ **CBSE 2016, Delhi (30/1/1)**

9. The numerator of a fraction is 3 less than its denominator. If 2 is added to both the numerator and the denominator, then the sum of the new fraction and original fraction is $\frac{29}{20}$. Find the original fraction. **CBSE 2015, Delhi (30/1/1)**

10. Solve for x:
$\frac{2}{x+1} + \frac{3}{2(x-2)} = \frac{23}{5x}, x \neq 0, -1, 2$ **CBSE 2015, Delhi (30/1/1)**

11. If $x = -2$ is a root of the equation $3x^2 + 7x + p = 0$, find the values of k so that the roots of the equation $x^2 + k(4x + k - 1) + p = 0$ are equal. **CBSE 2015, Foreign (30/2/1)**

12. The total cost of a certain length of a piece of cloth is ₹ 200. If the piece was 5 m longer and each metre of cloths costs ₹ 2 less, the cost of the piece would have remained unchanged. How long is the piece and what is its original rate per metre? **CBSE 2015, Foreign (30/2/1)**

13. A train travels at a certain average speed for a distance of 54 km and then travels a distance of 63 km at an average speed of 6 km/h more than the first speed. If it takes 3 hours to complete the total journey, what is its first speed?
CBSE 2015, Outside Delhi (30/1)

14. Anil takes 6 days less than the time taken by Varun to finish a piece of work. If both Anil and Varun together can finish that work in 4 days, find the time taken by Varun to finish the work independently. **CBSE Sample Paper 2015**

Question 2:

Form the pair of linear equations in the following problems, and find their solutions (if they exist) by the elimination method:

(i) If we add 1 to the numerator and subtract 1 from the denominator, a fraction reduces to 1. It becomes ½ if we only add 1 to the denominator. What is the fraction?

(ii) Five years ago, Nuri was thrice as old as Sonu. Ten years later, Nuri will be twice as old as Sonu. How old are Nuri and Sonu?

(iii) The sum of the digits of a two-digit number is 9. Also, nine times this number is twice the number obtained by reversing the order of the digits. Find the number.

(iv) Meena went to bank to withdraw Rs 2000. She asked the cashier to give her Rs 50 and Rs 100 notes only. Meena got 25 notes in all. Find how many notes of Rs 50 and Rs 100 she received.

(v) A lending library has a fixed charge for the first three days and an additional charge for each day thereafter. Saritha paid Rs 27 for a book kept for seven days, while Susy paid Rs 21 for the book she kept for five days. Find the fixed charge and the charge for each extra day.

Question 3:

Form the pair of linear equations for the following problems and find their solution by substitution method.

(i) The difference between two numbers is 26 and one number is three times the other. Find them.

(ii) The larger of two supplementary angles exceeds the smaller by 18 degrees. Find them.

(iii) The coach of a cricket team buys 7 bats and 6 balls for Rs 3800. Later, she buys 3 bats and 5 balls for Rs 1750. Find the cost of each bat and each ball.

(iv) The taxi charges in a city consist of a fixed charge together with the charge for the distance covered. For a distance of 10 km, the charge paid is Rs 105 and for a journey of 15 km, the charge paid is Rs 155. What are the fixed charges and the charge per km? How much does a person have to pay for travelling a distance of 25 km.

(v) A fraction becomes 8/11, if 2 is added to both the numerator and the denominator. If, 3 is added to both the numerator and the denominator it becomes 5/6. Find the fraction.

(vi) Five years hence, the age of Jacob will be three times that of his son. Five years ago, Jacob's age was seven times that of his son. What are their present ages?

Question 4:

Form the pair of linear equations in the following problems and find their solutions (if they exist) by any algebraic method:

(i). A part of monthly hostel charges is fixed and the remaining depends on the number of days one has taken food in the mess. When a student A takes food for 20 days she has to pay Rs 1000 as hostel charges whereas a student B, who takes food for 26 days, pays Rs 1180 as hostel charges. Find the fixed charges and the cost of food per day.

(ii). A fraction becomes 1/3 when 1 is subtracted from the numerator and it becomes ¼ when 8 is added to its denominator. Find the fraction.

(iii). Yash scored 40 marks in a test, getting 3 marks for each right answer and losing 1 mark for each wrong answer. Had 4 marks been awarded for each correct answer and 2 marks been deducted for each incorrect answer, then Yash would have scored 50 marks. How many questions were there in the test?

(iv). Places A and B are 100 km apart on a highway. One car starts from A and another from B at the same time. If the cars travel in the same direction at different speeds, they meet in 5 hours. If they travel towards each other, they meet in 1 hour. What are the speeds of the two cars?

(v). The area of a rectangle gets reduced by 9 square units, if its length is reduced by 5 units and breadth is increased by 3 units. If we increase the length by 3 units and the breadth by 2 units, the area increases by 67 square units. Find the dimensions of the rectangle.

Art – Integrated Multidisciplinary Project

Theme: "Cultural Heritage and Environmental Conservation in Arunachal Pradesh"

Subject-Wise Integration:

1. English – "A Voice from the Hills: Letter to the Future"

- **Activity: Write a creative letter, article, or short story from the perspective of a tribal youth from Arunachal Pradesh. The piece should reflect concerns about the loss of culture or biodiversity and offer a hopeful message.**
- **Art Integration: Use tribal designs as page borders; insert illustrations of local attire, landscapes, or festivals.**

2. Hindi – "अरुणाचल की लोककथाएँ और उनके संदेश"

- **Activity: अरुणाचल प्रदेश की किसी लोक कथा (जैसे, अबोतानी की कहानियाँ - कई जनजातियों के पौराणिक पूर्वज) पर शोध करें और उसे हिंदी में लिखें, उसके बाद उसमें सिखाए गए मूल्यों या नैतिकताओं पर चिंतन करें।**
- **Art Integration: इसे आदिवासी कला और सजावटी सुलेख के साथ एक लघु कहानी-पुस्तक या सचित्र स्क्रॉल के रूप में प्रस्तुत करें।**

3. Mathematics – "Topography and Population Analysis"

- **Activity: Use real data to create graphs and statistical representations on:**
  - **Rainfall distribution**

    - Population density
    - Forest cover over time
- Art Integration: Frame your graphs with tribal motifs; color-code regions with natural hues.

4. Science – "Conserving Biodiversity in Arunachal Pradesh"
- Activity: Research 3–5 endangered species (like Red Panda, Clouded Leopard, native orchids), their habitats, and the importance of local conservation efforts.
- Output: Poster, chart, or model showing food chain, conservation strategies, and threats.
- Art Integration: Draw or paint native plants/animals, or create a 3D diorama using recycled materials.

5. Social Science – "Traditional Governance and Eco-Conscious Practices"
- Geography: Draw a physical map of Arunachal Pradesh showing major rivers, mountains, biodiversity zones.
- History/Polity: Research tribal governance, local dispute resolution, or colonial interactions.
- Economics: Study sustainable tribal occupations—handloom, bamboo crafts, horticulture.
- Art Integration: Build a 3D village model or community scene using natural materials (bamboo sticks, jute, clay).

6. Information Technology – "Digital Heritage Archive: Arunachal Pradesh"
- Activity: Design a digital poster or infographic showcasing:
    - Local dances, festivals (e.g., Losar, Mopin, Solung)
    - Musical instruments
    - Art and craft
- Tools: Canva, MS PowerPoint, Google Slides
- Art Integration: Use tribal color palettes, traditional geometric borders, and digital collages.
- Learning Outcome: Blend tech tools with art to create digital cultural documentation.

Project File Structure:
1. Cover Page: Title, Name, Class, Roll No., School Name, Theme
2. Index
3. Subject-wise Sections: Clear headings with creative layout, sketches, charts, data
4. Photos of Models/Activities (if any)
5. Conclusion / Reflection: What was learned about culture, environment, and subject links
6. Bibliography: Books, websites, interviews, etc.

Dear Children

☞ **The homework has to be done separately subject wise in note books, beautifully.**

☞ **Enjoy the activities given. Do not rush to complete in one go.**

Some Every Day Tasks:

- *Clean your room and keep it neat and tidy.*
- *Help mom in the kitchen.*
- *Lay the table*
- *Walk, jog, exercise and keep fit.*
- *Be creative do some drawing and painting.*