पी एम श्री केन्द्रीय विद्यालय पासीघाट

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तत् त्वं पूषन् अपावृणु
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Winter Break Holiday Homework

Class VI – XII

Class VI

Maths

CHAPTER- NUMBER PLAY

Q1. Check if The Collatz Conjecture holds for the starting number 100.

Q2. We are the group of 5-digit numbers between 35,000 and 75,000 such that all of our digits are odd. Who is the largest number in our group? Who is the smallest number in our group? Who among us is the closest to 50,000?

Q3. Find the total sum of all these numbers given in below figure using different way.
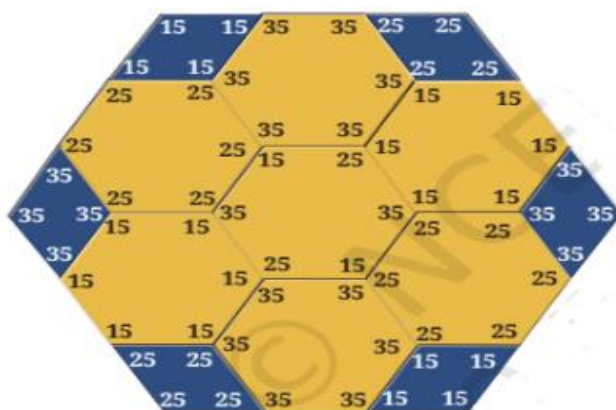
Q4. How many rounds does the number 5683 take to reach the Kaprekar constant?

Q5. What is the sum of the smallest and largest 5-digit Palindrome? What is their difference?

CHAPTER- DATA HANDLING AND PRESENTATION

Q1. Throw a die 35 times and writes outcomes obtained each time.

Prepare a frequency table for the data.

Q2. Read the pictograph given below and answer the following questions:

Persons employed in one year

(a) What is the number of persons employed in government service?

**(b)** How many more person were employed in government service than in private service?

(c) In which service, were the maximum number of persons employed?

Q3. In March 2012, children for six colonies of Kanpur were given pulse polio drops. The colony wise numbers of children were given in below table. Represent the data by pictograph.

Colony A	2250
Colony B	1500
Colony C	2000
Colony D	1250
Colony E	1000
Colony F	1500

Q4. Look at the given graph to answer the following questions.
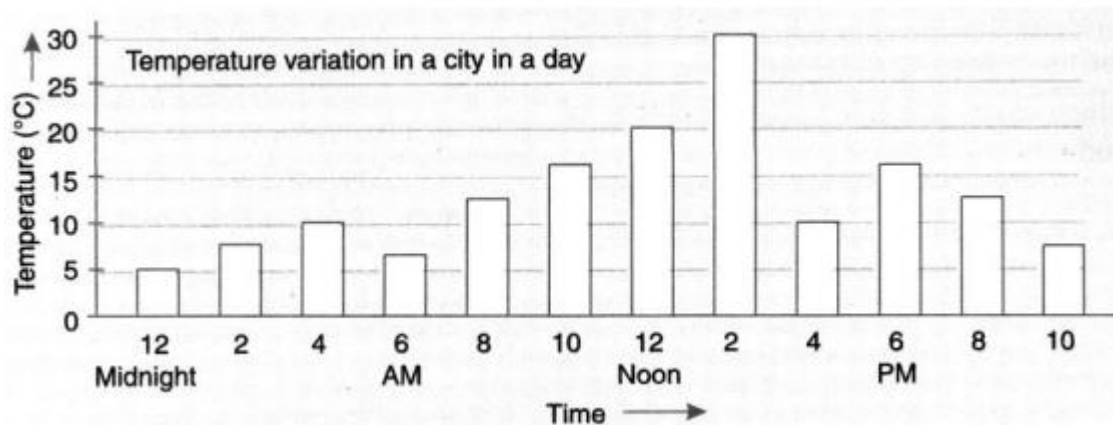
(i) What is the information given by the bar graph?

(ii) At what time was the temperature the lowest?

(iii) At what time was it the highest?

(iv) At 4 o'clock in the afternoon there was a thunderstorm. How is this borne out by the graph?

(v) Using the maximum temperature and the minimum temperature, find the average temperature for the day.

(VI) What is the scale chosen on the vertical line representing the temperature?

Q5. Represent the data of attendance of students in your class in a week by the bar graph.

CHAPTER- PRIME TIME

Q1 Multiplication Square Puzzles(given on the next page)

Fill each square with sets of factors so that the product on the right hand side and the bottom are correct.(Hint:The first sum is an example)

5 6 → 30 3 8 → 24 15 48	a. → 6 → 49 14 21	b. → 27 → 32 36 24
c. → 42 → 72 54 56	d. → 12 → 30 18 20	e. → 56 → 9 7 72
f. → 9 → 35 21 15	g. → 24 → 36 16 54	h. → 63 → 2 18 7
i. → 48 → 18 36 24	j. → 40 → 64 40 64	k. → 7 → 6 42 1
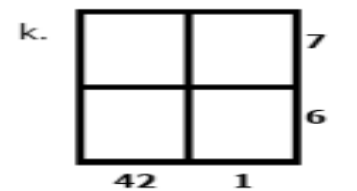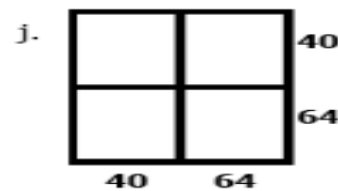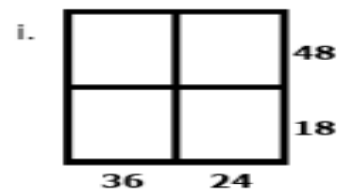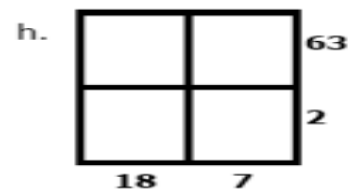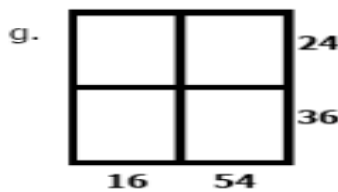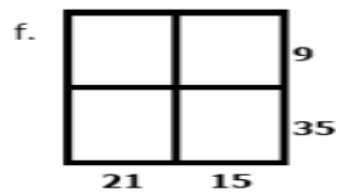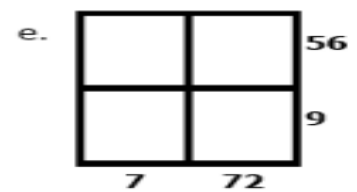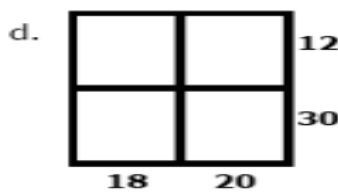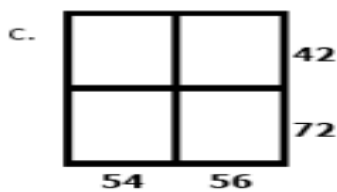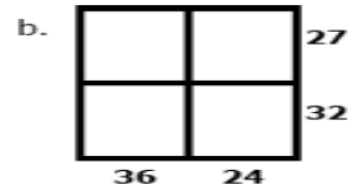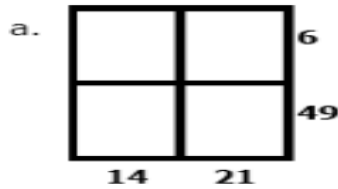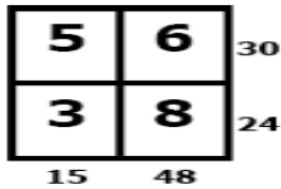
Q2. Find the HCF of two consecutive even numbers and LCM of two prime numbers.

Q3. Using divisibility tests, determine which of the number are divisible by 2, 3, 4, 5, 6, 7, 8 and 9.

(a) 14560   (b) 726352   (c) 12159   (d) 12150   (e) 639210

Q4. (a) Express 71 as the sum of three odd primes.

(b) Express 24 as the sum of twin Primes.

(c) Find all Prime numbers between 70 and 90.

Q5. (i) Determine HCF of numbers given below by Prime factorization method.

a) 36, 84   b)34, 102   c)27,63

(ii) Determine LCM of

a) 16, 24, 40   b)18, 24, 32   c)32, 56, 46

CHAPTER- PERIMETER AND AREA

Q1. Fill in the blanks :

a. _____ is the distance around the figure.

b. Perimeter of a square _____.

c. Perimeter ÷ 4 = a _____ of a square.

d. Perimeter of a regular pentagon is 125cm. What is the length of the side?

e. Length of the rectangle = _____ ÷ breadth.

Q2. Area Maze puzzles

In each figure, find the missing value of either the length of a side or

the area of a region.

13 sq cm	26 sq cm
15 sq cm	? sq cm

? cm

38 sq cm   4 cm

5 cm

18 sq cm
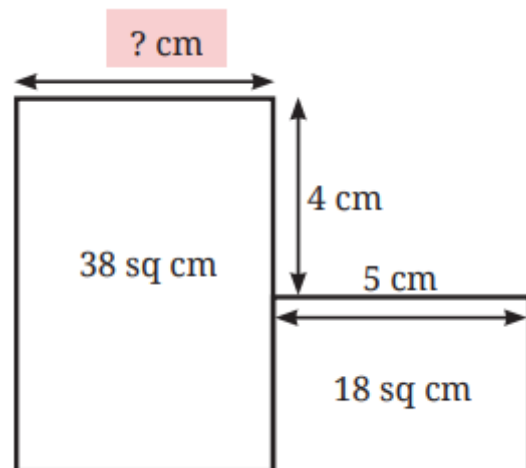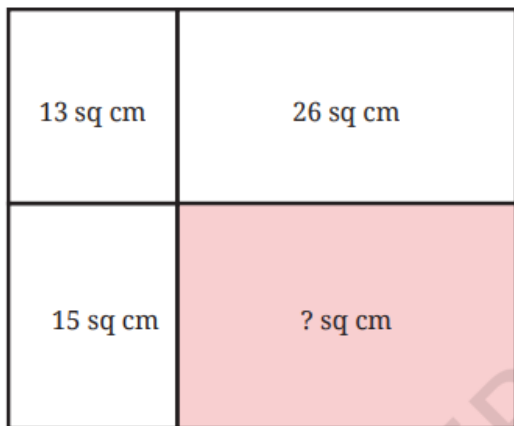
Q3. Four flower beds having sides 2 m long and 1 m wide are dug at the four corners of a garden that is 15 m long and 12 m wide. How much area is now available for laying down a lawn

Q4. Find out the missing dimensions and area of Mamta's house.

42 ft

| Master Bedroom (12 ft × 15 ft) Area=180 sq ft | Toilet (___ ft × ___ ft) Area = ___ | Kitchen (18 ft × 10 ft) Area = 180 sq ft | Utility (___ ft × ___ ft) Area = 70 sq ft |
| Small Bedroom (12 ft × 10 ft) Area = ___ | Hall (23 ft × ___ ft) Area = ___ | | Entrance (___ ft × ___ ft) Area = ___ |
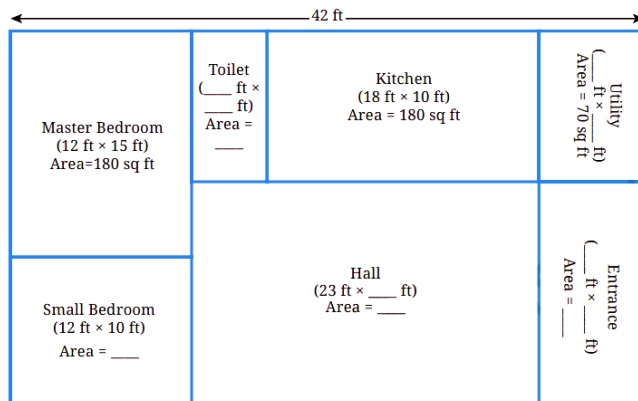
CLASS -7

1. Make chart on the following topics/chapters

   (a) Rational number

   (b)   Perimeter and area

   (c) Algebraic expression

   (d)   Exponent and power

2. Solve different problems on each topic /chapter.

3. Make assignment on

   (a) Symmetry

   (b)   Visualization solids shapes

CLASS-8

1. Make formulas chart of

   (a) Algebraic expression

   (b)   Exponent and power

   (c) Direct and inverse proportion

   (d)   Factorisation

2. Solve 5 different problems on each topic/chapter. Which is given in question 1.

3. Make assignment on Introduction to graph

Class VI

SUBJECT- English

1. Write a notice informing the students about sports day celebration in your school. You

are Ankit/Ankita, the head boy/ girl of your school.

2. Write a letter application for one week to the principal of your school, as you are

suffering from viral fever.

3. Paragraph writing on: 'Morning Assembly in my school'.

4. Write a brief note on "Importance of Trees".

5. Make a diary of your own. Submit 5 best diary entries from it in your holiday

homework file.

6. Write 10 new words with its meanings.

7. Write different form of yoga asanas. And its benefits.

8. Write different types of species and its term in Hindi language and in your own

language.

9. Make a poster on "Save Water"

Class VII

1. Write an easy on 'My Winter Vacation'.

2. Make a diary entry of your own. Submit 5 best diary entries from it in your holiday homework file.

3. Prepare a bio-sketch of your role model.

4. Write 10 new words with their meaning?

5. Write a notice board informing all the students about winter vacation.

6. What are the different types of nouns? Write any two examples of each?

7. What did the dog do to lead the farmer to the hidden gold in 'The Ashes That Made Trees Bloom'?

8. List the types of bravery awards.

Class VIII

1. Make a diary of your own. Submit 10 best diary entries from it in your holiday homework file.

2. Write an article on 'How I spent Winter Vacation' in about 150-200 words.

3. Compose an adventurous and interesting story in which you are a hero in 150-200 words.

4. Read any book other than your textbook and select 20 new words with their meaning.

5. Write down any 2 notices on the notice board.

6. What lesson did you learn from the story "The Treasure Within"?

7. Write brief note on Stephen Hawkings.

8. Write different activities that you can perform during winter.

Class X :

Solve the 2 sets of sample paper provided by subject teacher.

Class XI

Subject : Computer Science and Informatics Practices.

Implement and write these questions in practical notebook:

I.P.

Programming in Python

1. To find average and grade for given marks.

2. To find sale price of an item with given cost and discount (%).

3. To calculate perimeter/circumference and area of shapes such as triangle, rectangle, square and circle.

4. To calculate Simple and Compound interest.

5. To calculate profit-loss for given Cost and Sell Price.

6. To calculate EMI for Amount, Period and Interest.

7. To calculate tax - GST / Income Tax.

8. To find the largest and smallest numbers in a list.

9. To find the third largest/smallest number in a list.

10. To find the sum of squares of the first 100 natural numbers.

11. To print the first 'n' multiples of given number.

12. To count the number of vowels in user entered string.

13. To print the words starting with a alphabet in a user entered string.

14. To print number of occurrences of a given alphabet in each string.

15. Create a dictionary to store names of states and their capitals.

16. Create a dictionary of students to store names and marks obtained in 5 subjects.

17. To print the highest and lowest values in the dictionary.

Data Management: SQL Commands

1. To create a database

2. To create student table with the student id, class, section, gender, name, dob, and marks as attributes where the student id is the primary key.

3. To insert the details of at least 10 students in the above table.

4. To display the entire content of table.

5. To display Rno, Name and Marks of those students who are scoring marks more than 50.

6. To display Rno, Name, DOB of those students who are born between '2005- 01-01' and '2005-12-31'.

Comp. Science:

Python Programming

- Input a welcome message and display it.
- Input two numbers and display the larger / smaller number.
- Input three numbers and display the largest / smallest number.
- Generate the following patterns using nested loops:

Pattern-1	Pattern-2	Pattern-3
* ** *** **** *****	12345 1234 123 12 1	A AB ABC ABCD ABCDE

- Write a program to input the value of x and n and print the sum of the following series:

  $$\succ \quad 1 + x + x^2 + x^3 + x^4 + \cdots x^n$$

  $$\succ \quad 1 - x + x^2 - x^3 + x^4 - \cdots x^n$$

  $$\succ \quad x + \frac{x^2}{2} + \frac{x^3}{3} + \frac{x^4}{4} + \cdots \frac{x^n}{n}$$

  $$\succ \quad x + \frac{x^2}{2!} + \frac{x^3}{3!} + \frac{x^4}{4!} + \cdots \frac{x^n}{n!}$$

- Determine whether a number is a perfect number, an Armstrong number or a palindrome.
- Input a number and check if the number is a prime or composite number.
- Display the terms of a Fibonacci series.
- Compute the greatest common divisor and least common multiple of two integers.
- Count and display the number of vowels, consonants, uppercase, lowercase characters in string.
- Input a string and determine whether it is a palindrome or not; convert the case of characters in a string.
- Find the largest/smallest number in a list/tuple
- Input a list of numbers and swap elements at the even location with the elements at the odd location.
- Input a list/tuple of elements, search for a given element in the list/tuple.
- Create a dictionary with the roll number, name and marks of n students in a class and display the names of students who have marks above 75.

XI commerce:

Subject: Economics

Winter break assignment: - sums of measures of central tendency from the study material

IX economics:

Short answers from the chapter.4. Food Security

XII

ECONOMICS:

Solve the three sample papers provide by subject teacher.

Computer science and IP:

Complete the project work and practical work.

Subject: Art

Class 1-3

1. Draw a winter landscape with snowflakes, trees, and animals.

Class 4-8

1. Paint a picture of your favourite winter activity.

2. Draw a winter scene with a frozen lake, snow-covered mountains, and trees.

3. Design a winter-themed greeting card for a friend or family member.

Class 9-12

1. Create a detailed drawing of a winter landscape with perspective and shading.

2. Paint a picture of a winter animal, such as a penguin or a polar bear.

3. Design a winter-themed poster with a message about staying warm and safe during the winter season.

SUBJECT – LIBRARY

"Reading is the gateway skill that makes all other learning possible"

– by Barack Obama**.**

CLASSES: VI- XII

1. Read the newspaper/e-newspaper daily and collect 10 new words on each Monday, search their meaning and learn them.

2. Make a habit to read daily at your convenient time and keep the record of your reading in the library notebook.

3. You can use the mobile app e-Pustakalaya, launched by Ministry of Education to read books. This app is very useful and serves as a national repository of knowledge and stories, specifically curated for children.

   Link - Android:https://play.google.com/store/apps/details?id=national.digital.library

4. Write about your favorite book/books in the library notebook.

5. Collect and write 10 motivational thoughts given by famous personalities.

6. Write a book review on A4 size paper.