# *Hurrah!*
# *Break Time..............*

*General Instructions:*
- Do your holidays homework in a very neat and tidy manner.
- Do the written work in separate notebook.
- Parents should converse most of the time in English with their wards.
- Submission date for the assignment as per subjectwise dates mentioned below:

| Subject | Date of Submission |
|---|---|
| English | 01.07.2021 |
| Science & E.V.S. | 02.07.2021 |
| A&C, I.T. and G.K. | 03.07.2021 |
| Social Science | 05.07.2021 |
| Hindi & Sanskrit | 06.07.2021 |
| Maths | 07.07.2021 |

**English**
1. There is no dearth of talent but right kind of approach and mentoring that is needed for each individual varies from person to person. Discover your innate potential this vacation. Fabricate two stories after taking ideas from your surroundings and 200 to 500 words. Draw or paste pictures to give them a real look. (Use A4 sheet to write your stories.)
2. Make a catchy poster on A3 size sheet on any one of the following topics.
   - (I)    World Environment Day
   - (II)   International Yoga Day
   - (III)  Prepare a questionnaire on A4 Size sheet containing 15 Multiple-choice Ques. From the story....
   
   Ch-1(I) A Letter to God
   
   Ch-3 His First Flight part-1 ( Two stories about Flying).
3. Revise Chapter-1 to 3( First Flight)
   
   Revise Poem 1to 6 (Excluding 5$^{th}$ poem) (First Flight)
   
   *Revise Chapter- 1to 3 (Footprints without Feet) & complete Your English FNB for all the above mentioned chapters.

**Maths:**
1. Complete chapter 1,2,3,4,14 in F.N.B and submit its PDF in google class room for purpose of assessment.
2. Do the given assignment in Practice Notebook.
3. **PROJECT WORK / FILE WORK**
   
   Collect the data of your city about number of people who got vaccinated in the month of  May.
   
   Divide it in groups (Class interval).
   - Find Mean , Median and Mode of this data
   - Plot a Less than type and More than type ogives for the data.
   - Conclude your observations with some suggestions too.

**Hindi:**

1. **निम्नलिखित विषयों पर अनुक्रमांक अनुसार एक अतिउत्तम कला समकेतिक-Art integrated परियोजना बनाएं।**

   i) **रस roll no 1-10 (परिभाषा रस के भाव, रस के भेद, रस निष्पत्ति उदाहरण) ।**

   ii) **वाक्य roll no 11-20 (वाक्य परिभाषा वाक्य के भेद सरल वाक्य की परिभाषा व उदाहरण)**

   **∗संयुक्त वाक्य की परिभाषा व उदाहरण**

   **∗मिश्रित वाक्य की परिभाषा व उदाहरण**

   **∗मिश्रित वाक्य के अंग**

   **∗वाक्य रूपांतरण के उदाहरण**

   iii) **तुलसीदास roll no 21-30 (जीवन परिचय जन्म शिक्षा, रचनाएं ,काव्य सौंदर्य, भाषा शैली)**

   lv) **सूर्यकांत त्रिपाठी निराला ( जीवन परिचय जन्म शिक्षा, रचनाएं, काव्य सौंदर्य, भाषा शैली) roll no 31-40**

2. **संतुलित आहार की विशेषताएं बताते हुए लिखिए स्वास्थ्य के लिए अच्छा पोषण क्यों जरूरी है विषय पर अनुच्छेद लिखिए।**

3. **किसी एक समसामयिक विषय पर विज्ञापन तैयार कीजिए**

4. **कक्षा कक्ष में करवाए गए पाठ एक सूरदास के पद, पाठ दस नेताजी का चश्मा, पाठ एक कृतिका माता का आंचल व्याकरण वाक्य रस विज्ञापन अनुच्छेद लेखन पत्र लेखन उत्तर पुस्तिका में पूर्ण कीजिए व याद कीजिए।**

**Biology**

1. Make a model on any one of the following topic using waste material like bottle caps, straws, buttons etc.
   - Human digestive system
   - Human respiratory system
   - Human heart
   - Human excretory system
2. Draw all well labeled diagrams done till now in your fair notebooks.
3. Complete notes and learn the topics done in class.
4. Solve UT and given worksheets in your fairnotebooks.
5. Draw mind maps of the following ;
   - Nutrition in humans
   - Respiration in humans
   - Transportation in humans

**Physics**

1. Do at least 10 numericals on the basis of following topics.
   Refractive index
   Mirror Formula
   Lens Formula
   Power of Lens
2. Solve intext questions and exercises of chapter Light

3. **Project Work**

For roll no. 1 to 12

Draw all ray diagrams for image formation by Concave and Convex mirror also write the position, nature and size of image formed.

For roll no. 13 to 24

Draw all ray diagrams for image formation by Concave and Convex lens also write the position, nature and size of image formed.

For 25 and onwards

Draw a well labelled diagram of Human Eye and explain Myopia and Hypermateropia also write their cause and how it is corrected?

Draw diagram for these to explain.

**Chemistry**

1. Write the NCERT exercise of

   Chapter-1 (chemical equation and reactions)

   Chapter- 2 (acids bases and salts)

2. Write 15 chemical reactions and balance all these

3. Collect the samples of natural indicators from your surroundings. Observe their action with different eatables.( atleast 7)

4. Make a project report on – supplements or medicines used to treat Covid And how can we get those supplements naturally

5. Learn the elements from atomic no.21 to 40 with atomic number and atomic mass

**Social Science**

## Section - A

1. Read and revise the chapters taught in the class. Answer the questions sent through the worksheet in Google Classroom

   **Book-Geography**

   Chapter 1 – Resources and Development

   **Book – Political Science**

   Chapter 1 : Power Sharing

   Ch 2 : Federalism

   **Book : Economics**

   Ch 1 Development

## Section - B

2. Read the following chapters

   **Book-India in contemporary world ( History )**

   Chapter 1: Nationalism in Europe

   Chapter 3 : Nationalism in India

   And also prepare assignment from the chapters mentioned above with the following details:

   1. 15 terms

   2. 20 MCQs

   3. 20 Very short answer type questions

   4. 20 fill ups

## Section - C

3. **Disaster Management Project:**

   A disaster is a serious disruption in the functioning of a community or a society, which exceed the ability of the affected community or the society to cope using its own resources; for instance, there

is a widespread human, economic, environmental and material impact due to Cyclone,Flood , Drought etc.

Prepare a project according to given instructions on Disaster management

Roll no 1-15 Prepare a First Aid Diary / POCKET GUIDE regarding precautions and measures during any disaster .Must include any three disasters.

Roll no 15 onwards : Role of NGOs/Government Organizations in Disaster Management

General Instructions for Project Work :

1. Project must be individual .

2. It should be a handwritten project on a A4 size sheets.

3. Pictures / photos are to be used wisely and abundantly.

4. Project should be summed up in 12-15 pages.

5. It should be well researched based on facts and figures and pictorial.

6. The project must have a Table of contents, Title/ Cover page, Acknowledgement,, analysis with headings and sub-headings and Bibliography

7. It must include relevant news clippings, facts and figures, pictures

## Section - D

4. Prepare a scrap book with the information regarding Covid-19 with following feature heads: History – spreading – effect on World – Effect on India – Role of WHO- Role of Indian Government –and precautions

## Section - E

5. Practice map atleast 5 times each and paste them in fair notebook

**"Political India"**

Ch 1 Geography : Soils in India

Ch 4 Agriculture

**History**

Ch 3 Nationalism in India

**Computer Application**

1. **Prepare a PPT (5-7 slides) on  Topic**- Types of STYLE SHEET (Inline,Internal, external)  in CSS with example.

2. **Prepare a HTML Project ( at least 5 pages) on following topics:**

   **Roll No. 1to10 –**     My Family (about your father, mother, siblings, grandparents etc. along with their pictures & detail about them).

   **Roll No. 11to20 –**     Tourism in India(various tourist places along with their pics, special food, culture & other details).

   **Roll No. 21to30 –**     Restaurant Website ( food items, picture gallery, special discounts, party & function halls, Home delivery etc.)

   **Roll No. 31 Onwards-**     Shopping Website( various products, discounts, exchange offers, payment mode etc.)

3. **Learn** - Chapter- HTML-1, HTML-11, CSS

4. Find & Write at least 10 internal Q/A from Chapter-1(Internet Basics) & Ch-2(Internet Services & Mobile Technology) in Fair Notebook.

## Ch- 1

**Question 1.** Two tankers contain 850 litres and 680 litres of petrol respectively. Find the maximum capacity of a container which can measure the petrol of either tanker in exact number of times.

**Question 2.** Find the value of: $(-1) + (-1)^{2n} + (-1)^{2n+1} + (-1)^{4n+1}$, where n is any positive odd integer.

**Question 3.** Find whether decimal expansion of 13/64 is a terminating or non-terminating decimal. If it terminates, find the number of decimal places its decimal expansion has.

**Question 4.** Explain whether the number $3 \times 5 \times 13 \times 46 + 23$ isa prime number or a composite number.

**Question 5.** Prove that the product of any three consecutive positive integers is divisible by 6. Solution: Let three consecutive numbers are n, n + 1, n + 2

**Question 6.** Apply Euclid's division algorithm to find HCF of numbers 4052 and 420.

**Question 7.** Show that $(\sqrt{3}+\sqrt{5})^2$ is an irrational number.

**Question 8.** Three bells toll at intervals of 12 minutes, 15 minutes and 18 minutes respectively. If they start tolling together, after what time will they next toll together?

**Question 9.** If HCF of 144 and 180 is expressed in the form 13m – 3, find the value of m.

**Question 10.** Show that $9^n$ can not end with digit 0 for any natural number n.

**Question 11.** Determine the values of p and q so that the prime factorisation of 2520 is expressible as $23 * p * q * 7$.

**Question 12.** Show that $2\sqrt{2}$ is an irrational number.

**Question 13.** Show that any positive odd integer is of the form 4m + 1 or 4m + 3, where m is some integer.

**Question 14.** By using, Euclid's algorithm, find the largest number which divides 650 and 1170.

**Question 15.** Show that reciprocal of $3+2\sqrt{2}$ is an irrational number

**Question 16.** Find HCF of 378,180 and 420 by prime factorisation method. Is HCF x LCM of three numbers equal to the product of the three numbers?

**Question 17.** Find the HCF of 255 and 867 by Euclid's division algorithm

**Question 18.** Find the HCF (865, 255) using Euclid's division lemma.

**Question 19.** Find HCF of 65 and 117 and find a pair of integral values of m and n such that HCF = 65m + 117n.

**Question 20.** By using Euclid's algorithm, find the largest number which divides 650 and 1170

**Question 21.** If $\dfrac{241}{4000} = \dfrac{241}{2^m 5^n}$, find the values of m and n where m and n are non-negative integers. Hence write its decimal expansion without actual division.

**Question 22.** Express the number 0.3178 in the form of rational number a/b.

**Question 23.** Using Euclid's division algorithm, find whether the pair of numbers 847,2160 are coprimes or not.

**Question 24.** The LCM of two numbers is 14 times their HCF. The sum of LCM and HCF is 600. If one number is 280, then find the other number.

**Question 25.** Prove that $15 + 17\sqrt{3}$ is an irrational number.

**Question 26.** Find the LCM and HCF of 120 and 144 by using Fundamental Theorem of Arithmetic.

## Ch-2

**Question 1:** Find the zeroes of the quadratic polynomial $3x^2 - 2$ and verify the relationship between the zeroes and the coefficients.

**Question 2:** On dividing $x^3 - 8x^2 + 20x - 10$ by a polynomial $g(x)$, the quotient and the remainder were $x - 4$ and 6 respectively. Find $g(x)$.

**Question 3:**

Quadratic polynomial $2x^2 - 3x + 1$ has zeroes as $\alpha$ and $\beta$. Now form a quadratic polynomial whose zeroes are $3\alpha$ and $3\beta$.

**Question 4.** Divide the polynomial $x^4 - 11x^2 + 34x - 12$ by $x - 2$ and find the quotient and the remainder. Also verify the division algorithm.

**Question 5.** An NGO decided to distribute books and pencils to the students of a school running by some other NGO. For this they collected some amount from different people. The total amount collected is represented by $4x^4 + 2x^3 - 8x^2 + 3x - 7$. From this fund each student received an equal amount. The number of students, who received the amount, is represented by $x - 2 + 2x^2$. After distribution, $5x - 11$, amount is left with the NGO which they donated to school for their infrastructure. Find the amount received by each student from the NGO. What value has been depicted here?

**Question 6.** Obtain all other zeroes of the polynomial $x^4 - 17x^2 - 36x - 20$, if two of its zeroes are $+ 5$ and $- 2$.

**Question 7.** Divide the polynomial $x^4 - 9x^2 + 9$ by the polynomial $x^2 - 3x$ and verify the division algorithm.

**Question 8.** If one zero of the quadratic polynomial $f(x) = 4x^2 - 8kx + 8x - 9$ is negative of the other, then find the zeroes of $kx^2 + 3kx + 2$.

**Question 9.** An NGO decided to distribute books and pencils to the students of a school running by some other NGO. For this, they collected some amount from different number of people. The total amount collected is represented by $4x^4 + 2x^3 - 8x^2 + 3x - 7$. . The amount is equally divided between each of the students. The number of students, who received the amount is represented by $x - 2 + 2x^2$. After distribution, $5x - 11$, amount is left with the NGO which they donated to school for their infrastructure. Find the amount received by each student from the NGO.

What value have been depicted here?

**Question 10.** If the product of zeroes of the polynomial $ax^2 - 6x - 6$ is 4, find the value of a. Find the sum of zeroes of the polynomial.

**Question 11.** Find the zeroes of the quadratic polynomial $9t^2 - 6t + 1$ and verify the relationship between the zeroes and the coefficients.

**Question 12.** When a polynomial $6x^4 + 8x^3 + 290x^2 + 21x + 7$ is divided by another polynomial $3x^2 + 4x + 1$ the remainder is in the form $ax + b$. Find a and b.

# *John Wesley Convent, Rohtak*

(A New Generation International Sr. Sec. School, Affiliated to C.B.S.E.)

Summer Vacation Assignments-Maths / Class...10... Section.........

Name: _____ Roll No.:_____ Topic : _____

## Ch- 4

**Question 1.** If x= 2/3 and x = – 3 are roots of the quadratic equations $ax^2 + lx + b = 0$, find the values of a and b.

**Question 2.** 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.

**Question 3.** Solve for x: $\sqrt{(2x+9)} + x = 13$.

**Question 4.** Solve for x : $\sqrt{3}x^2 - 2\sqrt{2}x - 2\sqrt{3} = 0 = 0$.

**Question 5.** 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.

**Question 6.** Solve for x: $\sqrt{3}x^2 - 2\sqrt{2}x - 2\sqrt{3} = 0$

**Question 7.**

$$\frac{1}{x-3} - \frac{1}{x+5} = \frac{1}{6}, x \neq 3, -5.$$

Solve for x:

**Question 8.**

$$\frac{2x}{x-3} + \frac{1}{2x+3} + \frac{3x+9}{(x-3)(2x+3)} = 0, \quad x \neq 3, -\frac{3}{2}$$

Solve for x:

**Question 9.**

$$\frac{x+1}{x-1} + \frac{x-2}{x+2} = 4 - \frac{2x+3}{x-2}; x \neq 1, -2, 2$$

Solve for x:

**Question 10.**
Solve the following quadratic equation for x:

$$x^2 + \left(\frac{a}{a+b} + \frac{a+b}{a}\right)x + 1 = 0$$

**Question 11.**

$$\frac{1}{(x-1)(x-2)} + \frac{1}{(x-2)(x-3)} = \frac{2}{3}, \quad x \neq 1, 2, 3$$

Solve for x:

**Question 12.** If the roots of the quadratic equation $(a - b)x^2 + (b - c)x + (c - a) = 0$ are equal, prove that $2a = b + c$.

**Question 13.** Three consecutive natural numbers are such that the square of the middle number exceeds the difference of the squares of the other two by 60. Find the numbers

**Question 14.** Two water taps together can fill a tank in 9 hours 36 minutes. The tap of larger diameter takes 8 hours less than the smaller one to fill the tank separately. Find the time in which each tap can separately fill the tank.

# John Wesley Convent, Rohtak

(A New Generation International Sr. Sec. School, Affiliated to C.B.S.E.)

Summer Vacation Assignments-Maths / Class..10... Section.........

Name: _____  Roll No.:_____  Topic : _____

**Ch-14**

**Question 1.**
Find mode, using an empirical relation, when it is given that mean and median are 10.5 and 9.6 respectively.

**Question 2.**
In a frequency distribution, if a = assumed mean = 55, $\sum f_i$ = 100, h = 10 and $\sum f_i u_i$ = -30, then find the mean of the distribution

**Question 3.**
Find the unknown values in the following table:

| Class interval | frequency | Cumulative frequency |
|---|---|---|
| 0 – 10 | 5 | 5 |
| 10 – 20 | 7 | $x_1$ |
| 20 – 30 | $x_2$ | 18 |
| 30 – 40 | 5 | $x_3$ |
| 40 – 50 | $x_4$ | 30 |

**Question 4.**

Determine the missing frequency $x$, from the following data, when Mode is 67.

| Class | 40–50 | 50–60 | 60–70 | 70–80 | 80–90 |
|---|---|---|---|---|---|
| Frequency | 5 | $x$ | 15 | 12 | 7 |

**Question 5.**
The following data gives the information on the observed life times (in hours) of 150 electrical components

| Life time (in hours) | 0 – 20 | 20 – 40 | 40 – 60 | 60 – 80 | 80 – 100 |
|---|---|---|---|---|---|
| Frequency | 15 | 10 | 35 | 50 | 40 |

Find the mode of the distribution.

**Question 6.**
The average score of boys in the examination of a school is 71 and that of the the girls is 73. The average score of the school in the examination is 71.8. Find the ratio of the number of boys to the number of girls who appeared in the examination.

**Question 7.**

Some students of Class X donated for the welfare of old age persons. Their contributions are shown in the following frequency distribution:

| Amount (in ₹) | 0–20 | 20–40 | 40–60 | 60–80 | 80–100 |
|---|---|---|---|---|---|
| No. of students | 5 | 8 | 12 | 11 | 4 |

Find median and mode for their contribution.

## Question 8.

| Life time (in hours) | More than or equal to 240 | More than or equal to 280 | More than or equal to 320 | More than or equal to 360 | More than or equal to 400 | More than or equal to 440 | More than or equal to 480 |
|---|---|---|---|---|---|---|---|
| Number of bulbs | 100 | 95 | 87 | 77 | 47 | 22 | 10 |

Draw a 'more than type' ogive and from it, find median. Verify it by actual calculations.

## Question 9.

The following table gives production yield of rice per hectare in some farms of a village:

| Production yield (in kg/hectare) | 10–20 | 20–30 | 30–40 | 40–50 | 50–60 |
|---|---|---|---|---|---|
| No. of farms | 3 | 9 | 12 | 20 | 6 |

Draw a 'more than type' ogive. Also, find median from the curve.

## Question 10.

In a retail market, fruit vendor were selling mangoes in packing boxes. These boxes contained varying number of mangoes. The following was the distribution:

| No. of mangoes | 50–52 | 53–55 | 56–58 | 59–61 | 62–64 |
|---|---|---|---|---|---|
| No. of boxes | 15 | 110 | 135 | 115 | 25 |

Find the mean and median number of mangoes kept in a packing box.

## Question 11.

Given below is a cumulative frequency distribution of "less than type".

| Marks obtained | Less than 20 | Less than 30 | Less than 40 | Less than 50 |
|---|---|---|---|---|
| No. of students cumulative frequency | 8 | 13 | 19 | 24 |

Change the above data into a continuous grouped frequency distribution

## Question 12.

The following table shows the distribution of weights of 100 candidates appearing for a competition. Determine the modal weight.

| Weight (in kg) | 50–55 | 55–60 | 60–65 | 65–70 | 70–75 | 75–80 |
|---|---|---|---|---|---|---|
| No. of candidates | 13 | 18 | 45 | 16 | 6 | 2 |