LITTLE FLOWER HOUSE **VARANASI**	
SUMMER HOLIDAY HOMEWORK 2018-19	**CLASS X**

MATHEMATICS

1. Show that the square of any positive odd integer, is of the form $4m + 1$, for integer m.

2. Show that the cube of any positive integer is of the form $4m, 4m + 1 \; or \; 4m + 3$, for some integer m.

3. Use Euclid's division algorithm, to find the HCF of 176 and 38220.

4. Two tankers contain 850 L and 680 L of petrol, respectively. Find the maximum capacity of a container which can measure the petrol of either tanker, in exact number of time.

5. Find the HCF of 180, 252 and 324 by using Euclid's division lemma.

6. There are 156, 208 and 260 students in group A, B and C, respectively. buses are to be hired to take them for a field trip. Find the minimum number of buses to be hired. If the same number of students should be accommodated in each bus.

7. Prove that the square of any positive integer is of the form $5q, 5q + 1, 5q + 4$ for some integer q.

8. Show that one and only one out of n, n+2 or n+4 is divisible by 3, where n is any positive integer.

9. Use the Euclid's division algorithm to find the HCF of

   (i) 2710 and 45   (ii) 650 and 1170   (iii) 870 and 225

   (iv) 8840 and 23120   (v) 4052 and 12576

10. Explain, why $(3 \times 5 \times 7) + 7$ is a composite number?

11. Write the HCF of the smallest composite number and the smallest prime number.

12. Find the LCM and HCF of 120 and 144 by fundamental theorem of arithmetic.

13. The length, breadth and height of a room are 8 m 25cm, 6 m 75cm and 4 m 50 cm, respectively. Find the length of the longest rod that can measure the three dimensions of the room exactly.

14. If HCF (253, 440)=11 and LCM (253, 440)=253×R. Find the value of R.

15. $\sqrt{2}$ is irrational.

16. Prove that $2\sqrt{3} + \sqrt{5}$ is an irrational number. Also, check whether $\left(2\sqrt{3} + \sqrt{5}\right).\left(2\sqrt{3} - \sqrt{5}\right)$ is rational or irrational.

17. What is the condition for the decimal expansion of a rational number to terminate? Explain with the help of an example.

18. The decimal expansion of the rational number $\frac{43}{2^4 \times 5^3}$ will terminate after how many places of decimal?

19. If $\frac{241}{4000} = \frac{241}{2^m 5^{n\prime}}$, then find the values of m and n, where m and n are non-negative integer. Hence write its decimal expansion without actual division.

20. What can you say about the prime factorization of the denominators?

    (a) 34.12345   (b) $34.\overline{5678}$

SOCIAL SCIENCE

1. Prepare a project on any one topic of each section should not exceed 15 pages & should include the following heads

   (i) Preface   (ii) Index   (iii) Acknowledgement   (iv) Detail report on the topic under necessary heading [Meaning, causes, precautions]

2. Bibliography

   Section -A (Geography)

   - Resources & Development

     Or

   - Water Resources

   Section -B (Economics)

   - Development

     Or

   - Sec no Rs of the Indian Economy

   Section -C (Civics)

   - Power Sharing

     Or

   - Federalism

3. **Prepare a PPT on topic of**

   - Rise of Nationalism in Europe

     Or

   - Nationalism in India

FIT

1. A presentation should be made on the history of Internet, its uses and limitations, types of web browsers and their comparative features.
2. Make a list of IP Addresses of a few of their favourites sites using google search engine. They should then open this site using those IP Addresses.
3. Log in to your e-mail account and perform the following operations:
   - Check your inbox for any pending new mails.
   - Compose a mail and send it to any of your friends.
   - Add the e-mail addresses of that particular friend in your address book.

PHYSICS

1. *Record the power and voltage mentioned on electrical appliances/ gadgets commonly used in your home and estimate the electrical energy consumed by those appliances in ten days. Note from your electricity bill and the compulsory charges you have to pay every month.*

CHEMISTRY

2. *Find out how food materials are packed and supplied to us so that these are kept for a long time.*

BIOLOGY

3. *Prepare a project report on the following topics:*

   (a) Hypertension, its causes and consequences.

   (b) Heart transplant technique – its story in India.

English

Note :- Make a separate copy for vacation assignment. Write all questions also in your copy.

Q.1 Write the book review of **"The Story of My Life"**.

Q.2 Article – Writing

- You visited Antartica and had an opportunity to see the polar ice caps melting. You realize that the threat of global warming is very real. Write an article in 120 words on what a student can do to preserve the environment. You Ramesh/Rita.

- The massive jam of vehicles reflecting the chaotic state of traffic in metropolitan cities. Write an article depicting the existing state of traffic on roads and suggest ways and means to improve the conditions.

- Write an article on –" High Tech Devices – Blessing or Boon"

- Write an article on the role of the youth in promoting national integration in the country.

- You are dismayed at the fact that no proper counseling or guidance is provided to students in schools and colleges. Write an article on 'Career Guidance Counselling'.

Q.3 Story – Writing

- Write a story on the basis of the beginning provided

The doorbell rang. Sunil opened the door. At first he could not recognize the tal and well-dressed man who stood before him. Then the man spoke and all of a sudden_____

- Rohit wants to write a story but cannot go beyond a couple of lines. Develop Rohit's story to its logical conclusion. Give a suitable title to the story.

I was standing in a queue at PNB and waiting for my turn. Suddenly three men made forced entry _____

- Write a short story based on the input given below :

Outline : Uday's dream—do something brave –win recognition far and wide –be famous in the world---one fine day, he saw this opportunity

हिन्दी

1. निबंध लेखन–

चैन छीनता हुआ मोबाइल

(प्रस्तावन– फैशन के रूप में मोबाइल, परिवारों के लिए त्रासदी, मोबाइल–संपत्ति और विपत्ति दोनों रूप में, विद्यालय परिसर में मोबाइल, मोबाइल का स्वास्थ्य पर पड़ता प्रभाव, उपसंहार)

2. पत्र–लेखन

आप संजीव वर्मा/ प्रभा शर्मा, बसंत कुंज दिल्ली में रहते/रहती हैं। आप दैनिक जागरण के संपादक को पत्र लिखिए, जिसमें गौ–रक्षा पर अपने विचार प्रस्तुत किए गए हों।

3. विज्ञापन बनाना –

नए शो–रूम (नोकिया) के उद्घाटन का विज्ञापन तैयार कीजिए।

4. आपके घर में जन्मदिन मनाया जा रहा है। एक निमंत्रण –पत्र तैयार कीजिए।