SOUTH POINT HIGH SCHOOL
HOME WORK FOR SUMMER VACATION (2019-2020)
CLASS X

ENGLISH

1. How did the presence of the defence force at the 'inauguration' impress and enthuse the newly formed government in South Africa on 10th May, 1994 ?   (2)
   (Word Limit : 30 – 40 words)

2. Write a letter to the Editor of an English daily about the growing problem of the wastage of resources especially food, water and electricity that you see around you.   (8)

BENGALI

নিম্নলিখিত যে–কোনও একটি বিষয় অবলম্বনে ১০০ – ১২০ শব্দের মধ্যে একটি অনুচ্ছেদ রচনা করো :

গ্রীষ্মক্লান্ত কলকাতা শহর

অথবা

বনভূমি সংরক্ষণ প্রতিটি মানুষের দায়িত্ব

ছুটির কাজের নির্দিষ্ট খাতা : Note Book 2

HINDI

आप ग्रीष्मावकाश में दार्जिलिंग-स्थित पर्वतारोहण-संस्थान से प्रशिक्षण पाना चाहते हैं, परंतु आपके पिता जी ने अनुमति नहीं दी। उन्हें समझाते हुए पत्र लिखिए कि पर्वतारोहण सीखने के क्या-क्या लाभ हैं।

ECONOMICS (to be done in Economics Note Book)

- Pupils will conduct a survey for the project on "Consumer Awareness" on the basis of given questionnaire framed for the above project.

- They will conduct the survey on 10 consumers from different income groups.

POLITICAL SCIENCE (to be done in Political Science Note Book)

1. How did Belgium and Sri Lanka deal with the question of power-sharing ? What were its consequences ?

GEOGRAPHY (to be done in the Map Practice Book by R. K. Jain)

1. In the Map Practice Book by R. K. Jain, complete the maps given in pages 20, 24, 26, 34, 36 and 38. [To be submitted on 12th June]

SCIENCE

Chemistry

1. Identify the exothermic and endothermic processes from the following :
   (i)   Decomposition of ferrous sulphate
   (ii) Dilution of sulphuric acid
   (iii) Dissolution of sodium hydroxide in water
   (iv) Dissolution of ammonium chloride in water
2. Identify the oxidising and reducing agent in the following reaction :
   (i) $H_2O + F_2 \rightarrow HF + HOF$
   (ii) $Fe_2O_3 + 3CO \rightarrow 2Fe + 3CO_2$
3. Write balanced equation and mention the type of the reaction for the following :
   (i) Lead acetate solution is treated with dilute hydrochloric acid to form lead chloride and acetic acid solution.
   (ii) Hydrogen sulphide gas reacts with oxygen gas to form solid sulphur and liquid water.

Biology

1. Draw and label the structure of human alimentary canal.

Physics

1. If an object is held at a distance of 60 cm from a convex mirror of focal length 20 cm. At what distance from the convex mirror should a plane mirror be placed, so that images in the two mirrors coincide ?

2. A student focused the image of a candle flame on a white screen by placing the flame at various distances from a concave mirror. He noted his observations in the following table :

Distance of mirror from screen (cm)	20	24	30	40	70
Distance of flame from mirror (cm)	60	40	30	24	12

Analyse the above data and answer the following questions.

(i)   What is the focal length of the mirror ?

(ii) Which set of observation is incorrect and why ?

(iii) Draw the ray diagram to show the image formation for any correct set of observation.

MATHEMATICS

1. Find θ satisfying the equation $\dfrac{sin\theta+cos\theta}{cos\theta-sin\theta} = \dfrac{1+\sqrt{3}}{1-\sqrt{3}}$

2. Find the greatest and least values of $4sin\theta + 3cos\beta + 7$

3. An equilateral triangle is inscribed in a circle of radius 7 cm . Find the area of the triangle

4. Which of the following are not possible (with proper explanations)

   $sin\theta = \dfrac{4}{\pi}, \quad sec\theta = \dfrac{2}{\pi}, \quad tan\theta = 100^{100} , sin\theta + cosec\theta = 1.5$

5. If θ is a positive acute angle prove that , $sin\theta + cos\theta > 1$

6. Show that $3(sin^4x + cos^4x)$ - $2\,(sin^6x + cos^6x)$ is independent of x .

7. Show that the difference of the squares of two odd integers is divisible by 8 .

8. Show that the difference of the squares of two integers can never be less than 3 .

9. Prove that $(n^3 - n)$ is always divisible by 6 for any natural number n .

10. Is there any pair of integers (x,y) satisfying $x^2 - y^2 = 1234$?