

# St. John's High School

## HOLIDAY HOMEWORK (CLASS X)

### ENGLISH

- ❖ Watch the movie on Annie Frank. Write a review of the movie and star it out of 5.

### HINDI

- ❖ पाठ - हरिहर काका (संचयन)

मूल्य परक प्रश्न

निम्नलिखित प्रश्नों के उत्तर अपनी उत्तरपुस्तिका में कर-

1. समाज में रिश्तों की क्या अहमियत है? इस विषय पर अपने विचार प्रकट कीजिए।
2. यदि आपके पास हरिहर काका जैसी हालत में कोई हो, तो आप उसकी किस प्रकार मदद करेगे?
3. हरिहर काका के गाँव में यदि मीडिया पहुँची होती तो उनकी क्या स्थिति होती? अपने शब्दों में लिखिए।
4. धम व स्वर्ग जाने के नाम पर लोगों को गुमराह करना क्या उचित है? हरिहर काका पाठ के आधार पर स्पष्ट कीजिए।

### SOCIAL STUDIES

- ❖ **Disaster Management Project**

Make a project on survival skills explaining:-

- (a) What are survival skills?
- (b) Why search and rescue is a technical activity?
- (c) Explain the duties of a rescuer with examples.

Project should be in a thin scrap file with colourful pictures. Project will be marked.

### SCIENCE

- ❖ **PHYSICS**

1. Why is an ammeter likely to be burnt out if you connect it in parallel?
2. A  $4\ \Omega$  resistance wire is doubled in length. Calculate the new resistance of the wire.
3. Draw a circuit diagram of an electric circuit containing a cell, a key, an ammeter, a resistor of  $2\ \Omega$  in series with a combination of two resistors ( $4\ \Omega$  each) in parallel and a voltmeter across the parallel combination. Will the potential difference across the  $2\ \Omega$  resistor be the same as that across the parallel combination of  $4\ \Omega$  resistors? Give reason.
4. Explain the following:-
  - (i) Why is tungsten used almost exclusively as filament for incandescent lamps?
  - (ii) Why are the conductors of electric heating devices, such as toasters and electric irons, made of an alloy rather than a pure metal?
  - (iii) Why is the series arrangement not used for domestic circuits?
5. Three incandescent bulbs of  $100\text{W}$  each are connected in series in an electric circuit. In another circuit another set of three bulbs of the same wattage are connected in parallel to the same source.
  - (a) Will the bulb in the two circuits glow with the same brightness? Justify your answer.
  - (b) Now let one bulb in both the circuits get fused. Will the rest of the bulbs continue to glow in each circuit? Give reason.
6. How many electrons pass through a lamp in one minute if the current be  $220\ \text{mA}$ ?

## ❖ CHEMISTRY

1. A solution of potassium chloride when mixed with silver nitrate solution, an insoluble white substance is formed. Write the chemical reaction involved and also mention the type of chemical reaction.
2. Ferrous sulphate decomposes with the evolution of a gas having a characteristic odour of burning sulphur. Write the chemical reaction involved and identify the type of reaction.
3. Write the balanced chemical equations for the following reactions:
  - (a) Sodium carbonate on reaction with hydrochloric acid in equal molar concentrations gives sodium chloride and sodium hydrogen carbonate.
  - (b) Sodium hydrogen carbonate on reaction with hydrochloric acid gives sodium chloride, water and liberates carbon dioxide.
  - (c) Copper sulphate on treatment with potassium iodide precipitates cuprous iodide, liberates iodine gas and also forms potassium sulphate.
4. A substance X, which is an oxide of a group 2 element, is used intensively in the cement industry. This element is present in bones also. On treatment with water it forms a solution which turns red litmus blue. Identify X and also write the chemical reactions involved.
5. On heating blue coloured powder of copper (II) nitrate in a boiling tube, copper oxide (black), oxygen gas and a brown gas X is formed:-
  - (a) Write a balanced chemical equation of the reaction.
  - (b) Identify the brown gas x evolved.
  - (c) Identify the type of reaction.

## ❖ BIOLOGY

1. Bile has no digestive enzymes yet it is considered to be very important in digestion of food. Give two reasons.
2. Plants absorb water from the soil. How does this water reach the tree top?
3. A graph was plotted to show energy output of two types of respiration denoted by curve A and B. Also write the equations for the same.
4.
  - (a) Name the part of the kidney where ultrafiltration takes place?
  - (b) Name the substances reabsorbed as the urine flows across the tube.
  - (c) How is the amount of water reabsorbed regulated?
5.
  - (a) Write differences between arteries and veins.
  - (b) What is double circulation? Why is it necessary?

## PUNJABI

- ❖ ਆਓ ਕਦਰਾਂ-ਕੀਮਤਾਂ ਤੇ ਅਧਾਰਿਤ ਇੱਕ ਕਹਾਣੀ ਲਿਖੀਏ। ਕਹਾਣੀ ਦੀ ਸ਼ੈਲੀ ਅਤੇ ਰੂਪ ਨੂੰ ਨਿਖਾਰਨ ਲਈ ਵੱਧ ਤੋਂ ਵੱਧ ਮੁਹਾਵਰਿਆਂ ਰੂਪੀ ਗਹਿਣਿਆਂ ਦਾ ਸਿੰਗਾਰ ਕੀਤਾ ਜਾਵੇ।

ਨੋਟ:

1. A-4 Sheet ਦੀ ਵਰਤੋਂ ਕੀਤੀ ਜਾਵੇ।
2. ਕ-ਝ ਅੱਖਰਾਂ ਨਾਲ ਸ਼ੁਰੂ ਹੋਣ ਵਾਲੇ ਮੁਹਾਵਰਿਆਂ (ਘੱਟ ਤੋਂ ਘੱਟ 10 ਮੁਹਾਵਰੇ) ਦੀ ਵਰਤੋਂ ਕੀਤੀ ਜਾਵੇ।

## MATHEMATICS

- ❖
1. Show that  $n^2 + n + 1$  is not divisible for any  $n$ , where  $n$  is a natural number.
  2. LCM of 2 numbers is 140 and their HCF is 37. If one of the number is 185, find the other.
  3. If  $x + a$  is a zero of the polynomial  $2x^2 + 3ax + 1$ , find the value of  $a$ .
  4. Show that  $1/2$  and  $-3/2$  are the zeroes of  $p(x) = 4x^2 + 4x - 3$  and verify the relationship between zeroes and coefficients of  $p(x)$ .
  5. What should be added in  $p(x) = x^3 + 2x^2 - 9x + 1$  so that it is completely divisible by  $x + 4$ .
  6. If  $\alpha, \beta$  are the 2 zeroes of  $p(x) = 25p^2 - 15p + 2$ , find a quadratic polynomial whose

zeroes are  $\frac{1}{2\alpha}$  and  $\frac{1}{2\beta}$

7. Solve for x and y:-

$$\frac{ax}{b} - \frac{by}{a} = a + b; \quad ax - by = 2ab$$

8. Solve for x and y:-

$$\frac{x+1}{2} + \frac{y-1}{3} = 9; \quad \frac{x+1}{3} + \frac{y+1}{2} = 8$$

9. Solve graphically and find the vertices of  $\Delta$  formed by these lines and y-axis.

$$3x + y - 5 = 0 \quad 2x - y - 5 = 0$$

10. If the system of equations  $2x + 3y = 7$  and  $2ax + (a + b)y = 28$  represent coincident lines, find the relation between a and b.

11. For what value of a and b with the following equations have infinity many solutions.

$$x + 2y = 1; \quad (a - b)x + (a + b)y = a + b - 2$$

12. Find a, b, c, d, e, f in the following distribution of heights of students in a class and the total number of students is 50.

Height	150-155	155-160	160-165	165-170	170-175	175-180
F	12	b	10	d	e	2
Cf	a	25	C	43	48	f

13. Find mode, mean and median.

Time	5-8	8-11	11-14	14-17	17-20	20-23
No. of passengers	40	90	44	58	53	10

14. The weight of tea in 70 packs is given:-

Weight	200-201	201-202	202-203	203-204	204-205	205-206
No. of Packets	13	27	18	10	1	1

Find the mean, median and mode.

15. Mean of the following distribution is 53. Find  $f_1$  and  $f_2$ .

Classes	0-20	20-40	40-60	60-80	80-100	Total
f	15	$f_1$	21	$f_2$	17	100

16. A number x is selected at random from the numbers 1, 2, 3 and 4. Another number y is selected at random from the numbers 1, 4, 9 and 16. Find the probability that product of x and y is less than 16.

17. Two dice are thrown simultaneously. Find the probability of getting different numbers on the dice.

18. Two friends are visiting a particular shop in the same week (Monday-Friday). Each is equally likely to visit the shop on any day as on another day. What is the probability that both will visit the shop on:

- (i) same day
- (ii) consecutive day
- (iii) different days

19. Solve:  $6x + 3y = 6xy$ ,  $2x + 4y = 5xy$

20. If  $7x + 9y = 42$  and  $9x + 7y = 22$ , find value of  $x + y$

## **BUSINESS STUDIES**

❖ Answer the following questions in your notebook.

1. Explain the meaning of company.

2. Define public and private company.
3. State the features of private and public company.
4. Define multinational company.
5. Explain the features of multinational company.
6. Differentiate between private and public company.
7. Explain the meaning of retail trade.
8. Define large scale retail trade.
9. Differentiate between departmental stores and multiple shops.
10. Explain the main features of mail order business, teleshopping, automated vending machines, selling through internet
11. Explain the need for business finance.
12. List the different sources of business finance.
13. Explain source of business finance for sole proprietorship, partnership firm and a company.
14. Distinguish between owners funds and borrowed funds.