**THE ROYAL COLLEGE**

**SUMMER HOLIDAY HOMEWORK**

**SESSION 2018 - 2019**

**STD. :- X**

**ENGLISH :-** Read the novel “Diary of a Young Girl” or “The Story of my life” write the summary chapter wise. Find 10 difficult words in each chapter and write their meanings.

**Hindi**

Read the following chapter from your Hindi book and complete the given exercises in a separate note book.

**Sparsh** Chapter 1 Bade Bhai Sahab (Page No. 63, 64, 65 and 66)

Chapter 2 Diary Ka Ek Panna (Page No. 73, 74 and 75)

**Sanchayan** Chapter 1 Harihar Kaka(Page No. 19)

**Science**

**Biology**

Q1 What is meant by biodegradable non biodegradable waste materials ? Give two example for each.

Q2a) Define an ecosystem. Give example of any two ecosystem.

b) List the biotic and abiotic components of an ecosystem.

Q 3 a) What is a food chain? Give one example of a simple food chain.

b) What is a Food web ? Show its formation.

Q 4 a) What is meant by 'Environment' ?

b) What type of substances are the major pollutants of the environment ? Name two such substances.

c) Name the organisms whose uncontrolled activities are damaging the environment.

Q5 Explain why, it is better to use paper bags than plastic bags .What are the harmful effects of using plastic bags

Q6a) With the help of a flow diagram,describe how energy from the sun flows through various trophic levels .

b) Explain ,why the flow of energy in the ecosysystem is said to be unidirectional?

Q7a) What is ozone? How is it formed? How does ozone layer protect us from harmful effects in the environment ?

Q8 What is UNEP? What steps has been taken by UNEP in 1987 to prevent too much damage to the ozone layer ?

Q9a) Explain why a food chain usually cannot have more than three or four steps.

b) Calculate the amount of energy that will be available to big fish in the following food chain , if 10,1000J of energy is available to small algae from the sun

Small algae **------Zooplankton**------fish-----big fish

Q10 (a) Name and state the law given by Lindeman which tells us how much energy entering a particular trophic level of organisms is available for transfer to the next higher trophic level.

(b) How much energy will be available to hawks in the food chain comprising hawk , snake, paddy, and mice, if 10000 J of energy is available to paddy from the sun.

Q11 (a) What is a natural resources? Name three important natural resources.

(b) Why do we need to manage our natural resources.

Q12 (a) State the advantages of constructing dams across the rivers.

(b) Describe some of the problems associated with the constructions of the dams.

Q13 Name any 5 sources of water (other than rivers). Describe how, the water of river Ganga has been highly polluted.

Q14 (a) Name the major industries which are based on the forest produce. State the main aim of the management of forests and wildlife.

(b) Name the four main stakeholders in the management of forest resources.

Q15 (a) What is meant by rain water harvesting? Name some of the ancient structure used for rain water harvesting by the rural people.

(b) What are the various advantages of water stored in the ground.

**Chemistry**

Q 1 What is a chemical equation ? Explain with the help of at three example.

Q 2 What is a Balanced chemical equation ? Write the difference between balanced and unbalanced chemical equation.

Q 3What is meant by chemical equation? State the various characteristics of chemical reactions.

Q4 What do you understand by exothermic and endothermic reactions? Give at least two example of exothermic and endothermic reactions.

Q 5 Define a combination reaction. Give one example of combination reaction which is exothermic and endothermic.

Q 6 What is a decomposition reaction? Give an example of a decomposition reaction. Describe an activity to show such a reaction by heating.

Q 7 What is the difference between displacement and double displacement reaction? Write equation for these reactions.

Q 8 a) What is a Redox reaction? Explain with an example.

b) When a magnesium ribbon burns in air with a dazzling flame and forms a white ash, is magnesium oxidised or reduced? Why?

Q9 a) Define the following in terms of gain or loss of oxygen with one example each:

\* Oxidation and Reduction

b) When a magnesium ribbon is heated , it burns in air to form magnesium oxide. Write the balanced equation for this reaction. Name the substance oxidised and reduced.

Q10 a) What happen when a piece of iron metal is placed in copper sulphate solution ? Name the type of reaction.

b) Write the balanced chemical equation for the following " Barium chloride solution reacts with sodium sulphate solution to give insoluble barium sulphate and a solution of sodium chloride.

Q 11 Explain the term "corrosion " with an example. Write a chemical equation to show the process of corrosion of iron.

Q12 Explain the term "rancidity". What damage are caused by rancidity of food. What type of reaction involved for the causing of rancidity of food.

Q13 What are antioxidants ? Why are they added to fat and oil containing foods? Name two anti-oxidant which are commonly used.

Q 14 List out different methods for the prevention of rancidity of food.

Q15 Balance all the chemical reactions given in" NCERT INTEXT AND TEXTBOOK EXERCISE".

**PHYSICS**

Q 1 What do you understand by the term " potential difference"? What is the potential difference between the terminals of a battery if 250 joules of work is required to transfer 20 coulombs of charge from one terminals of battery to the other?

Q2 What is a voltmeter ? How is a voltmeter connected in the circuit to measure the potential difference between two points. Explain with the help of diagrams.

Q3a) Define electric current. What is the SI unit of electric current.

b) One coulomb of charge flows through any cross-section of a conductor in 1 second. What is the current flowing?

Q 4 Distinguish between good conductors , resistors and insulator . Name two good conductors, two resistors and two insulators.

Q5a) What is a Ohm's Law ? Define the unit of resistance.

b) What happens to the resistance as the conductor is made thinner ?

c) Keeping the potential difference constant, the resistance of a circuit is doubled. By how much does the current change?

Q6 a) What is meant by "resistance of conductors" ? Write the relation between resistance, potential difference and current.

b) When a 12 volt battery is connected across an unknown resistor, there is a current of 2.5mA in the circuit. Calculate the value of the resistance of the resistor.

Q7 a) Define resistivity. Write an expression for the resistivity of a substance. Give the meaning of each symbol which occur in it.

b) State the SI unit of resistivity.

c) Distinguish between resistance and resistivity.

Q8 Explain with diagrams what is meant by the " series combination" and" parallel combination" of resistances. In which case the resultant resistance is i) less and ii) more than either of the individual resistances?

Q 9 A battery of 9V is connected in series with resistors of 0.2 ohm, 0.3 ohm, 0.4 ohm, 0.5 ohm and 12 ohm. How much current flow through the 12 ohm resistor ?

Q10 An electric bulb of resistance 20 ohm and a resistance wire of 4 ohm are connected in a series with a 6V battery . Draw the circuit diagram and calculate:

(a)Total resistance of the circuit.

(b) Current through the circuit.

(c) Potential difference across the electric bulb.

(d) Potential difference across the resistance wire.

Q12 A resistor has a resistance of 176 ohms. H ow many of these resistors should be connected in parallel so that their combination draws a current of 5 amperes from a 220 volt supply line ?

Q13. Give three reasons why different electrical appliances in a domestic circuit are connected in parallel.

Q14 a) An electrician has wired a house in such a way if a lamp get fused in one room of the house all the lamps of other rooms stop working. What is the defect in the wiring.

b) Draw a circuit diagram showing two electric lamps connected in parallel together with a cell and a switch that works both lamps. Mark an A on your diagram to show where an ammeter should be placed to measure the current.

Q15 a) What is meant by "electric power"? Write the formula for electric power in terms of potential difference and current.

b) Define kilowatt hour. How many joules are there in one Kilowatt-hour ?

c) Calculate the cost of operating a heater of 500 W for 20 hours at the rate of Rs 3.90 per unit.

MATHEMATICS

Que.1 Find the zeroes of the quadratic polynomial x2+7x+10, and verify the relationship between zeroes and the coefficients.

Que.2 Find a quadratic polynomial, the sum and product of whose zeroes are -3 and 2, respectively.

Que.3 Divide 3x2-x3-3x+5 by x-1-x2, verify the division algorithm.

Que.4 Find all the zeroes of 2x4-3x3-3x2+6x-2, if you know that two of its zeroes are ((-2) and (-).

Que.5 Divide the polynomial p(x) by the polynomial g(x) and find the quotient and remainder:

P(x): x3-3x2+5x-3, g(x): x2-2

Que.6 On dividing x3-3x2+x+2 by a polynomial g(x), the quotient and remainder were x-2 and -2x+4, respectively. Find g(x)?

Que.7 Verify that the numbers given alongside of the cubic polynomials below are their zeroes. Also verify the relationship between the zeroes and the coefficients in each case:

1. 2x3+x2-5x+2; ½, 1, -2
2. X3-4x2+5x-2; 2, 1, 1

Que.8 If the zeroes of the polynomial x3-3x2+x+1 are a-b , a , a+b, find a and b.

Que.9 Divide 3x3+x2+2x+5 by 1+2x+x2.

Que.10 If the polynomial x4-6x3+16x2-25x+10 is divided by another polynomial x2-2x+k, the remainder comes out to be x+a, find k and a.

Que.11 Find the roots of the quadratic equation 6x2-x-2=0

Que.12 Find the roots of the following quadratic equations by factorization:

1. 2x2+x-6=0
2. 2x2-x+1/8=0

Que.13 Find two numbers whose sum is 27 and product is 182.

Que.14 Find two consecutive positive integers, sum of whose squares is 365.

Que. 15 The altitude of a triangle is 7cm less than its base. If the hypotenuse is 13cm, find the other two sides.

Que. 16 Find the roots of the equations 5x2-6x-2=0 by the method of completing the square.

Que. 17 The diagonal of a rectangular field is 60 meters more than the shorter side. If the longer side is 30 meters more than the shorter side. Find the two numbers. (hint: use quadratic formula)

Que.18 The difference of squares of two numbers is 180. The square of the smaller number is 8 times the larger number. Find the numbers. (hint: use quadratic formula)

Que.19 Find the value of k for each of the following quadratic equation, so that they have two equal roots.

1. 2x2+kx+3=0
2. kx(x-2)+6=0

Que.20 Find the discriminant of the equation 3x2-2x+1/3=0 and hence find the nature of its roots. Find them, if they are real.

Que.21 Find the 10th term of the AP: 2,7,12,….

Que.22 Which term of the AP: 21,18,15,… is -81? Also, is any term 0?

Que.23 Determine the AP whose 3rd term is 5 and 7th term is 9.

Que.24 How many two digit numbers are divisible by 3?

Que.25 Find the 11th term from the last term of the AP: 10, 7, 4,…., -62?

Que.26 Find the sum of the first 51 terms of an AP whose second and third terms are 14 and 18 respectively.

Que.27 Find the sum of the first 40 positive integers divisible by 6.

Que.28 Find sum of the odd numbers between 0 and 50.

Que.29 In an AP:

1. Given a=5, d=3, an=50, find n and Sn
2. Given an=4, d=2, Sn=210, find n and a

Que.30 200 logs are stacked in the following manner: 20 logs in the bottom row, 19 in the next row, 18 in the row next to it and so on. In how many rows are the 200 logs placed how many logs are in the top row.

Que.31 Draw and learn the trigonometry table.

Que.32 If sinA=3/4, calculate cosA and tanA.

Que.33 In a right triangle ABC, right angled at B, AB=24cm, and BC=7cm. Determine:

1. sinA, CosA
2. sinC, CosC

Que.34 Evaluate:

1. cos 45º

sec30º + cosec30º

1. 5cos260º+4sec30º-tan245º

sin230º+cos230

Que.35 If sin(A-B)= ½, cos(A+B)= ½ , 0º<A+B < 90º, A>B, find A and B.

Que.36 If tan2A = cot(A-18º), where 2A is an acute angle, find the value of A.

Que.37 Evaluate:

1. Sin18º

Cos72º

1. Cosec31º- sec59º

Que.38 If A, B and C are the interior angles of a triangle ABC, then show that

Sin(B+C) = cos A/2

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Que.39 Write all the other trigonometric ratios of angle A in terms of secA.

Que.40 Ex: 8.4, question 5, all the parts. From NCERT.

Que.41 Suppose we throw a die once.

1. What is the probability of getting a number greater than 4.
2. What is the probability of getting a number less than or equal to 4.

Que.41 Savita and Hamida are friends. What is the probability that both will have

1. Different birthdays
2. The same birthdays

Que.42 A box contains 3 blue, 2 white, and 4 red marbles. If a marble is drawn at random from the box, what is the probability that it will be

1. White
2. Blue
3. Red

Que.43 One card is drawn from a well-shuffled deck of 52 cards. Find the probability of getting

1. A king of red colour
2. A face card
3. A red face card
4. The jack of heartz
5. A spade
6. The queen of diamonds

Que.44 A box contains 90 discs which are numbered from 1 to 90. If one disc is drawn at random from the box, find the probability that it bears

1. A two digit number
2. A perfect square
3. A number divisible by 5

Que.45 a box contains 5 red marbles, 8 white marbles and 4 green marbles. One marble is taken out of the box at random. What is the probability that the marble taken out will be

1. Red
2. White
3. Green

Que.46 Two dice, one blue and one grey, are thrown at the same time. Write down all the possible outcomes. What is the probability that the sum of the two numbers appearing on the top of the dice is

1. 8
2. 13
3. Less than or equal to 12

Que.47 If P(E)= 0.05, what is the probability of ‘not P(E)’?

Que.48 A die is thrown once. Find the probability of getting

1. A prime number
2. A number lying between 2 and 6
3. An odd number

Que.49 Why is tossing a coin considered to be a fair way to deciding which team should get the ball at the beginning of a football game?

Que.50 12 defective pens are accidentally mixed with 132 god ones. It is not possible to just look at a pen and tell whether or not it is defective. One pen is taken out at random from this lot. Determine the probability that the pen taken out is a good one.

**Subject - SST**

Make a 20 page folder file on the following Topics

**Topic-** what is SHGS, Write Merits and Demerits of it.

**Topic-** Explain the situation of Belgium and Srilanka, why Conflicts happened on these two countries

Learn and write all the questions and answer in a separate notebook of SST-

Q1- What do you understand by Power Sharing.

Q2- Why power sharing is desirable?

Q3- Why Belgium amended their constitution four times? Explain?

Q4- What is majoritarianism ?

Q5- Define forms of Power Sharing?

Q6- What is Tamil Eelam?

Q7- What is Federalism?

Q8- Write Seven feature of Federalism?

Q9- What makes India a federal country?

Q10- Explain this line 'IN FEDERAL SYSTEM CENTRAL GOVENMENT CAN'T ORDER THE STATE GOVERNMENT?

Q11- Define State List, Union List & Concurrent List.

Q12- What is Decentralization?

Q13- Give Three Examples where an average is used for comparing situations.

Q14- What do you understand by Development

Q15- Why there is need to compare the states and country?

Q16- Explain this line 'Money can't by everything'

Q17- What is Sustainability of Development

Q18- The Earth has enough resources to meet the needs of all but not enough to satisfy the greed of even one person”. How is this statement relevant to the discussion of Development? Discuss.

Q19- Difference between Primary Sector, Secondary Sector, Tertiary Sector.

Q20- In which sector most of the people employed?

Q21- Write your views on How to Create more Employment?

Q22- What is Right to Work?

Q23- What is MGNREGA?

Q24- Difference between Organized sector and Unorganized sector.

Q25- What is Demand Deposits?

Q26- What is SHGS?

Q27- How does money solve the problem of double coincidence of wants?

Q28- Analyses the role of credit for development.

Q29- Define Currency?

Q30- Explain two different Credit situations.