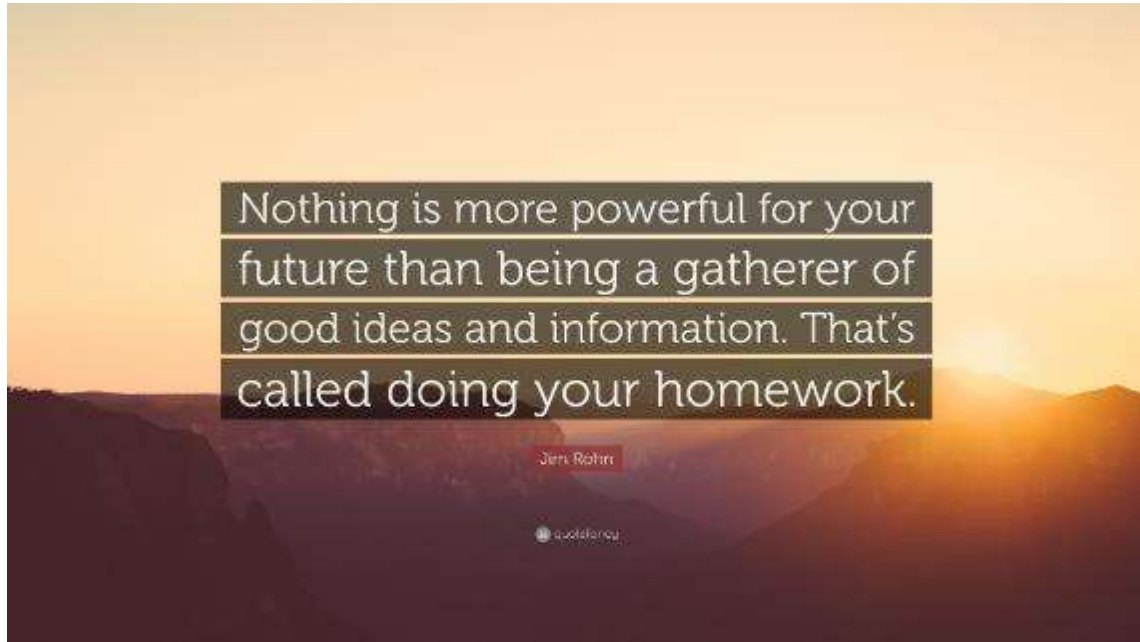


POLICE DAV PUBLIC SCHOOL
CLASS -X (SESSION 2024-2025)
HOLIDAYS HOMEWORK



SCIENCE

1) ART -INTEGRATED PROJECT:

“BE A SCIENCE BEAT REPOERTER”



There will be an ART integrated project under “Ek Bharat Shrestha Bharat” Concept, The Integration of Punjab State has to be done with the state of Odisha.

Under this, Students are required to do comparative study on the following topics in relation to the state of Punjab and Odisha.

Topic 1: Reproductive health (Maternal health/ Family Planning/ sexual health)

(Roll no -10)

Topic2: Mortality rate and Natility rate (Roll no -10-20)

Topic 3: Electric Power generation Plants (Roll no- 20-30)

Topic 4: Drug Menace (Roll no -30-40)

Topic 5: Child Healthcare Programs and drives (Roll no-40 onwards)

Instructions:

- Every student will begin with the topic allotted to him according to roll no wise. . Report your topic just as reporter would do. Some slides or Flashing images can also be used to make reporting more interesting.
- Every student will be filming his/her video individually at their homes.
- Total time of video should be 3-4 minutes.
- Wear school Uniform/Formal clothes while doing reporting.
- Mention your name, class /section and Roll no at the end as the reporter does in their reporting.
- Students are required to share their video in the mail box to be given by their science teacher on July 1, 2024.
- Students are required to write reflection about the above mentioned project in 250-300 words in one of their science Notebook (Physics/chemistry/ Biology).

Learning Outcomes: Students will be able to

- Differentiate between the two states on the basis of topics allotted to them.
- Classify various approaches used in reporting.
- Develop their communication skill.

Parameters for Assessment: (Max Marks: 20)

- Creativity (5 marks)
- Presentation (5 marks)
- Accuracy of content (5 marks)
- Originality. (5 marks)



Ideate Innovate

Create

"If you look at history, Innovation comes from creating environments where their ideas can connect"

Objectives: This Project is designed

- ❖ To nurture their scientific temperament
- ❖ To Foster creative minds
- ❖ To encourage them to explore and think critically
- ❖ To inspire them to develop innovative ideas, projects and solutions that address real world challenges.

INSTRUCTIONS:

1. Think about any problem related to your surroundings or various challenges faced by people in society.

- Ideate about a possible solution that addresses the problem statement. The solution must be based upon novelty, social applicability, environment friendliness, user friendliness and comparative advantage over the existing similar technologies.
- Make a word document highlighting your innovation.
- Hard copy will be submitted to the Science Teacher on July 1, 2024.
- Students can refer to the website www.inspireawards-dst.gov.in for the different examples of ideas.

“The Young minds are the creative minds we have. So Go as far as you can because world needs you badly”

PRACTICAL WORK:
CHEMISTRY

Performing and observing the reactions and classify them into combination reaction, decomposition reaction, displacement reaction and double displacement reaction.

To find the pH of the following samples by using pH paper/ universal indicator.

To study the properties of acids and bases on the basis of their reaction with (i) Litmus solution (ii) Zinc metal (iii) Solid sodium carbonate

BIOLOGY

To prepare a temporary mount of a leaf peel to show stomata.

To experimentally show that carbon dioxide is given out during respiration.

To study (a) binary fission in Amoeba and (b) budding in yeast and Hydra with the help of prepared slides.

To identify the different parts of an embryo of a dicot seed.

PHYSICS

Tracing the path of ray of light passing through a rectangular glass slab for different angle of incidence. Measure angle of incidence, angle of refraction, angle of emergence and interpret result.

Trace the path of ray of light through a glass prism.

To determine the focal length of concave mirror and convex lens.

To study experimental verification of Ohm’s Law and to find resistance of unknown wire.

To determine equivalent resistance of two resistors connected in series and parallel combination.

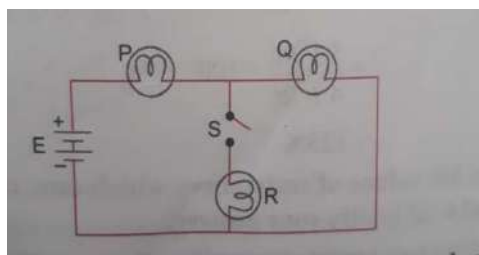
INSTRUCTIONS FOR WRITING PRACTICALS:

- All work on blank page is to be done with pencil and on ruled page headings with black pen and blue gel pen for explanation.
-

BLANK SHEET	RULED SHEET
Aim, material required	Aim , Material required
Diagram	Theory
Observation table	Procedure
Result	Result, Precautions

WORKSHEET-CH-12 (ELECTRICITY)

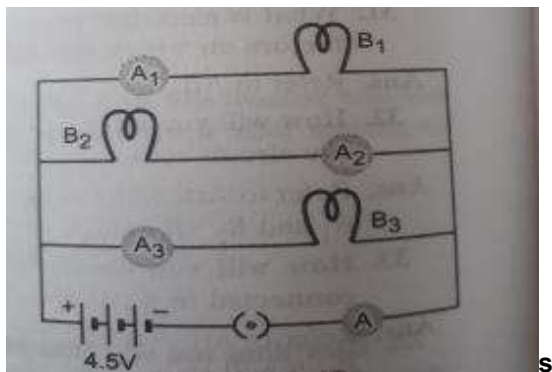
- Given n resistors each of resistance R , how will you combine them to get the (i) maximum effective resistance (ii) Minimum effective resistance? What is the ratio of maximum to minimum resistance?
- Why is an ammeter likely to be burnt out if it is connected in parallel in a circuit?
- Out of two electric bulbs of 50 W-200V and 100 W-220V, which one will glow brighter when they are connected (i) series (ii) In parallel?
- A battery E is connected to three identical lamps P , Q and R as shown in the figure



Initially the switch is kept open and the lamp P and Q are observed to glow with some brightness. Then Switch is closed. How will the brightness of glow of bulbs P and Q change? Justify your answer.

- Which has a higher resistance: A 50 W -220 V lamp or a 25 W- 220 V lamp? Calculate the ratio of their resistances.
- Why is the parallel arrangements used in domestic wiring?

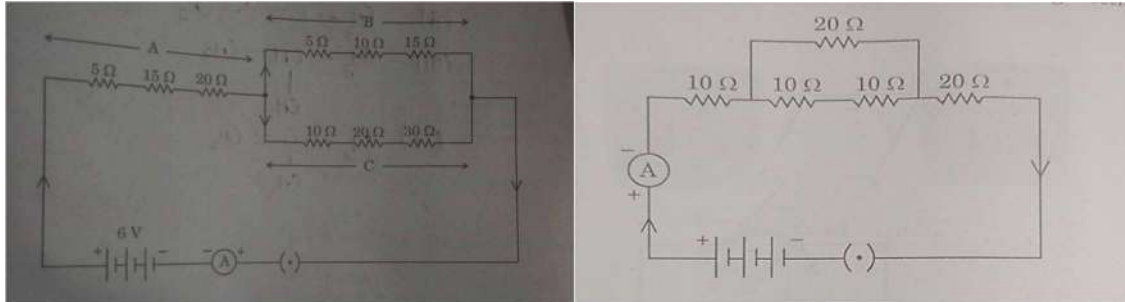
- 7) How does fuse wire protect electrical appliances?
- 8) Why does the cord of an electric heater not glow while the heating element does?
- 9) Three incandescent bulbs of 100 W each are connected in series in an electrical circuit. In another circuit another set of three bulbs of same wattage are 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 bulbs continue to glow in each circuit? Give reason.
- 10) Why the resistance of a metallic conductor does increases with rise in temperature?
- 11) An electric bulb is rated 220 V and 100 Watt. Calculate the power consumed when it is operated on 110V.
- 12) A heater coil is rated 100 W, 220 V. It is cut in to two identical parts. Both parts are connected together in parallel to the same source of 200 V. Calculate the energy liberated per second in the new combination.
- 13) Two lamps one rated at 40 W -220 V and other at 60 W- 220 V are connected in parallel to the electric supply at 220 V.
 - (a) Draw a circuit diagram to show the connections
 - (b) Calculate the current drawn from the electrical supply source.
 - (c) Calculate the total energy consumed by the two lamps together when they operate for one hour.
- 14) Current I flowing through a resistor in dissipation of Power P. By what percentage will the power dissipated in the resistor increase if the current through the resistor is increased by 50%? Justify with the help of mathematical calculation.
- 15) An electric heater draws a current of 10 A from a 220 V source supply. What is the cost of using the heater 5 Hours per day for 30 days if the cost of 1 unit is 2.50 Rs?
- 16) NiChrome is used to make the element of electrical heater. Why?
- 17) Obtain an expression for the heat produced in a conductor when a voltage V is applied across it. Heating effect of electric current is desirable and undesirable. Explain this statement.
- 18) B₁, B₂ and B₃ are three identical bulbs connected as shown in the figure. When all the three bulbs glow, a current of 3A is recorded by the ammeter A.
 - (a) What happens to the glow of the other two bulbs when the bulb B₁ gets fused?
 - (b) What happens to the readings of A₁, A₂, A₃ and A when the bulb B₂ gets fused?
 - (c) How much Power is dissipated in the circuit when all the bulbs glow together?



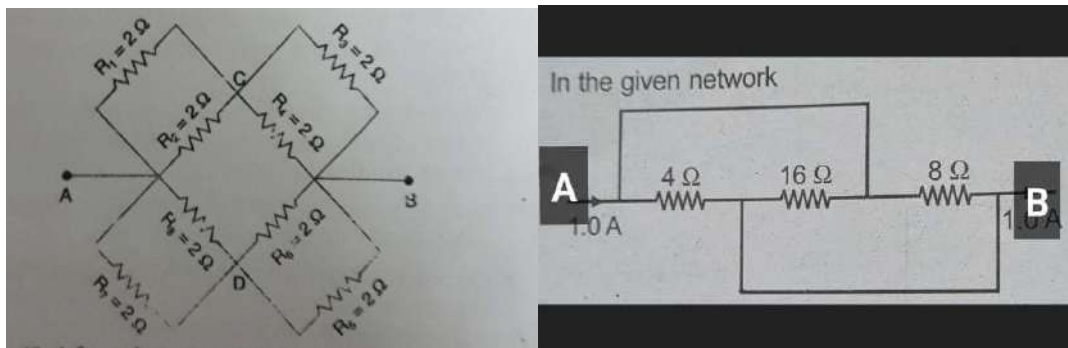
- 19) The electric Power consumed by a device may be calculated by using either of two expressions $P = I^2 R$ or $P = V^2/R$. The first expression indicates that it is directly proportional to R whereas the second expression indicates inverse proportionality. How can the seemingly different dependence of P on R in these Expressions. Explain.
- 20) An electrician puts a fuse of rating 5A in that part of the domestic circuit in which electrical heater of rating 1.5 kW, 220 V is operating. What is likely to happen in this case and why? What change if needs to be made?
- 21) Water boils in an electrical kettle in 15 minutes after being switched on. Using the same mains supply, should the length of the heating element be increased or decreased if the water is to be boiled in 10 minutes? Why?
- 22) A wire is drawn such that its radius changes from r to 2r. Find its new resistance.
- 23) Why are filaments of incandescent lamps made of thin tungsten wire?
- 24) State Ohm's Law. How can it be verified experimentally? Does it hold well under all conditions? Comment
- 25) Define electrical resistivity of a material. What are its units? Describe an experiment to study the factors on which the resistance depends?
- 26) Derive an expression for the equivalent resistance when n number of resistors are connected in

(a) series (b) Parallel

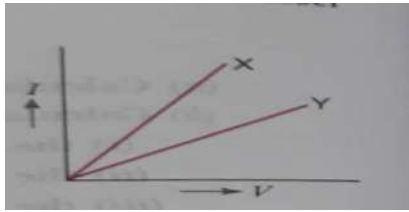
- 27) Draw a circuit diagram of an electrical circuit containing a cell, key, an ammeter, a resistor of 2ohm in series with a combination of two resistors 4 ohm each in parallel and a voltmeter across the parallel combination of 4 ohm resistors? Give reason.
- 28) An electric heater rated 1100 W operates at 220 V. Calculate (i) Its resistance (ii) current drawn by it.
- 29) Calculate the equivalent resistance in the following circuit.
- 30) Study the following electric circuit in which resistors are arranged in three arms A, B and C:



- (a) Find the equivalent resistance of arm B.
 (b) Calculate the equivalent resistance of arms B and C.
 (c) Calculate current flowing through the ammeter.
 (d) Determine the current that flows in the ammeter when an arm B is withdrawn from the circuit.
- 31) You are given three resistors of 10 ohm, 10 ohm, 20 ohm to an battery of emf 2.5V, a key, an ammeter and a voltmeter. Draw a circuit diagram showing the correct connections of given components such that the voltmeter gives a reading of 2.0 V.
- 32) Four resistors of 20 ohm each are arranged in the form of a square. Find equivalent resistance along the diagonal.
- 33) Calculate the equivalent resistance between A and B(in both parts)



- 34) A Fuse wire melts at 5 A. If it is desired that the fuse wire melts at 10 A, Then state whether the new fuse wire should be of smaller or larger radius than the earlier one/ Give reason for your answer.
- 35) Draw a graph showing variation of heat produced by a resistor carrying a steady current with respect to time.
- 36) An electric bulb is marked 18 W- 240 Volt. If it is used across 240 V power supply for one hour daily, calculate the number of days to consume 1 unit of electrical energy.
- 37) In a resistive circuit, if the current is increased to two time. Calculate the percentage change in amount of heat dissipated in the circuit?
- 38) A copper piece of wire of resistance 20 ohm is drawn so that its length is increased to twice of its original length. Calculate resistance of wire in new situation.
- 39) A cylindrical wire is stretched to increase its length by 10%. Calculate the percentage increase in resistance?
- 40) V-I curve for metallic wires X and Y at constant temperature are as shown in the figure:
 Assuming that the two wires have same length and same diameter, explain as to which of the two wires has higher resistance and Why?



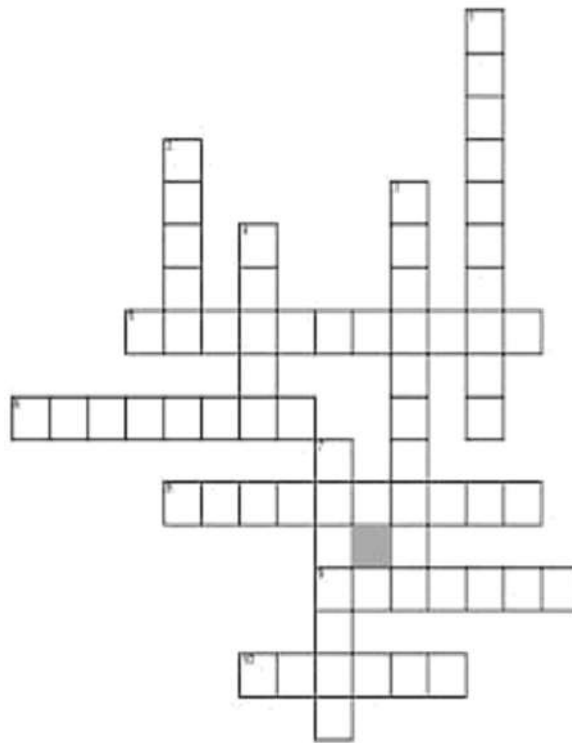
MATHEMATICS

1. With this question, students become able to understand

- Number system upto real numbers and their linkage between each other.
- Highest common Factor (H.C.F) and Least Common Factor (L.C.M).
- Relation between HCF and LCM.
- Fundamental theorem of Arithmetic.

Real numbers are the numbers which include both rational and irrational numbers. Rational numbers such as integers (-2, 0, 1), fractions ($\frac{1}{2}$, $\frac{2}{5}$) and irrational numbers such as $\sqrt{3}$, π ($\frac{22}{7}$), etc., are all real numbers. Complete the following crossword puzzle .

real numbers



Across

5. decimal expansion of $\frac{3}{35}$ is
6. ----- numbers have either terminating or non-terminating repeating decimal expansion .
8. ----- is a sequence of well defined steps to solve any problem.
9. The-----expansion of rational numbers is terminating if the denominator has 2&5 as its only factors.
10. ----- division algorithm is used to find the HCF of two positive numbers.

Down

1. numbers having non-terminating non-repeating decimal expansion are known as
2. The----- factorization of composite numbers is unique.
3. fundamental theorem of ----- states that every composite number can be uniquely expressed as a product of primes apart from the order of factors
4. A proven statement used as a stepping stone towards the proof of another statement is known as
7. For any two numbers, HCF x LCM =-----of numbers.

2. With this question, students become able to understand

- Pair of Linear equations in two variables.
- Nature of solutions and Types of graphs of pair of Linear equations in two variables.
- Consistency and inconsistency of linear equations.

Complete the table and draw the graph for the following and tell whether the solutions are consistent or not in each case.

S.No	Pair of Lines	$\frac{a_1}{a_2}$	$\frac{b_1}{b_2}$	$\frac{c_1}{c_2}$	Compare the ratios	Graphical representation	Algebraic Interpretation
1.	$9x+3y+12=0$ $18x+6y+24=0$						
2.	$5x-4y+8=0$ $7x+6y-9=0$						
3.	$6x-3y+10=0$ $2x-y+9=0$						

3. With this question, students become able to understand

- Graphical representation of quadratic equations.
- Method of finding the discriminant.
- Nature of roots of quadratic equations.
- Quadratic formula for solving the quadratic equations.

Draw the graph of the following polynomials and complete the following table:

S.No	Equation of Polynomial	Coefficient of x^2	Shape Of Curve	Graphical Interpretation	Nature of Roots	Roots
1.	$x^2 - 2x - 8$					
2.	$3 - 2x - x^2$					
3.	$x^2 - 6x + 9$					

Rubrics for Assessment

	4	3	2	1
Neatness	Homework is in an orderly packet and is incredibly neat, with no smudges or tears	Homework is in an orderly packet and is neat, with a few smudges or tears	Homework is in a packet with several smudges or tears	Homework is disorderly, with many smudges or tears
Completion	All of the assigned work is complete	Most of the assigned work is complete	Some of the assigned work is complete	Student did not turn in assignment
Timeliness	Homework was received on the due date	Homework was 1 day late	Homework was 2 days late	Homework was 3 or more days late
Accuracy	All of the answers are correct	Most of the answers are correct	Some of the answers are correct	Little to none of the answers are correct
Work Shown	All work is meticulously shown	Most work is meticulously shown	Some steps for problem solving are missing	Student did not show any work

COMBINED REVISION WORKSHEET OF CHAPTERS 1 TO 4

1. Show that $2 + \sqrt{2}$ is not a rational number.
2. Give an example to show that the product of a rational number and an irrational number may be a rational number.
3. Prove that $\sqrt{3} - \sqrt{2}$ and $\sqrt{3} + \sqrt{5}$ are irrational.
4. Find the zeroes of the quadratic polynomial $7y^2 - (11/3)y - (2/3)$ and verify the relationship between the zeroes and the coefficients.
5. Find a quadratic polynomial, the sum and product of whose zeroes are $\sqrt{2}$ and $-3/2$, respectively. Also find its zeroes.
6. If -1 is a zero of quadratic polynomial, $p(x) = kx^2 - 5x - 4$, then find the value of k .
7. Find $\alpha - 1 + \beta - 1$, if α and β are zeroes of the polynomial $9x^2 - 3x - 2$.
8. If one zero of polynomial $(k^2 + 16)x^2 + 13x + 8k$ is reciprocal of the other then find the value of k .
9. Determine graphically the coordinates of vertices of a triangle, the equation of whose sides are given by $2y - x = 8$, $5y - x = 14$ and $y - 2x = 1$.
10. Find the relation between p and y if $x = 3$ and $y = 1$ is the solution of the pair of equations $x - 4y + p = 0$ and $2x + y - q - 2 = 0$.
11. If $51x + 23y = 116$ and $23x + 51y = 106$, then find the value of $(x - y)$.
12. When the son will be as old as what his father is today their ages will add upto 126 years. When the father was as old as what his son is today, their ages added upto 38 years. Find their present ages.
13. A man travel 370 km partly by train and partly by car. If he covers 250 km by train and the rest by car, it takes him 4 hours. But, if he travels 130 km by train and the rest by car, he takes 18 minutes longer. Find the speed of the train and that of the car.
14. If the roots of quadratic equation $px^2 + 6x + 1 = 0$ are real, then find p .
15. If $7x^2 - (2p^2 - 8)x + 16 = 0$ has two roots which are equal in magnitude but opposite in sign then find p .
16. A journey of 192 km from a town A to town B takes 2 hours more by a ordinary passenger train than a super fast train. If the speed of the faster train is 16 km/h more, find the speeds of the faster and the passenger train.
17. Speed of a boat in still water is 15 km/h. It goes 30 km upstream and returns back at the same point in 4 hours 30 minutes. Find the speed of the stream.
18. A thief runs with a uniform speed of 100 m/minute. After one minute, a policeman runs after the thief to catch him. He goes with a speed of 100 m/minute in the first minute and increases his speed by 10 m/minute every succeeding minute. After how many minutes the policeman will catch the thief?
19. The sum of a number and its reciprocal is $10/3$, then find the number.
20. If Zeba was younger by 5 years than what she really is, then the square of her age (in years) would have been 11 more than five times her actual age. What is her age now?

ENGLISH

Art Integrated activity

Ques 1. Create a travel brochure of Odisha. You may use the following as guidelines:

--Brief summary of the setting, with highlights of important places.--Location, including a map.--Geography--Major cities, well-known places--Historic sites and landmarks-Recreation and outdoor activities- parks, sports, water sports--Entertainment--Climate and overall weather conditions--Travel and Transportation --Art and culture, including museums, theatres and places to visit.--Language and dialect--Food that the area is known for---Pictures and graphics--Additional information like local tribes, their practices.

Ques 2. Prepare a comic strip of the story 'The Necklace' on an A4 size IVORY sheet. Segregate the story into 8 parts covering all the aspects of the story. Adhere to the following instructions:

- Craft a detailed comic script outline.
- Write comprehensive panel descriptions.
- Draft a witty, entertaining dialogue.
- Build suspense with pacing.

Writing Task

Ques 3. Odisha is known for its diverse landscape with coastal plains, hills and forests but this natural beauty is being depleted by the tourists. Highlight the importance of proper garbage disposal with an aim to create awareness among the tourists. Write a letter regarding the same to the editor of local daily 'Hindustan Times'. You are Robin Singh / Rubina Singh from Shakti Nagar, New Delhi.

PHYSICAL ACTIVITY TRAINER (418)

You can do any two activities out of these three:-

- 1) Make a chart on the topic- Factors influencing free play (make it on a full size chart).
- 2) Prepare a pie chart on rehabilitation through free play (make it on a full size chart).
- 3) Make a PowerPoint presentation on the topic - steps of report preparation and feedback.

BEAUTY AND WELLNESS (407)

PROJECT WORK: As part of your holiday homework and internal assessment, you are required to prepare a project file. This project aims to keep you engaged with your studies while allowing you to explore new topics creatively and independently. The project file must cover all the topics mentioned below:

- Layers of skin
- Action of the facial, neck and shoulder muscles
- Skin types
- Skin care techniques
- Structure of Hair
- Growth cycle of Hair
- Waxing and threading procedure
- Types of make-up Brush
- Creating positive impression at work place

INSTRUCTIONS:

- Use only A3 size sheets
- Minimum 15 pages for project file including title page, acknowledgement, certificate as well as index
- It should be creative and presentable

Internal assessment is totally based on this project file.

Last date of submission is July 1, 2024.

INFORMATION TECHNOLOGY

Answer the Following Questions:

Chapter- 13 (Health, Safety and Security at Workplace)

Q 1	State the most important reasons for health, safety and security programs in workplace.
Q 2.	List out the potential sources of hazards in an organisation.
Q 3.	List some of the IT workplace hazards.
Q 4.	What are the examples of potential hazards?
Q 5.	Describe information technology workplace hazards.
Q 6	What are the workplace safety rules?
Q 7.	Describe type of emergency with example.

CHAPTER- 14 (Workplace Quality Measures)

Q 1.	What causes the water pollution?
Q 2.	What is occupational overuse syndrome?
Q 3.	What are musculoskeletal problems?
Q 4.	What cautions to be taken while working on the computer?
Q 5.	Why there is no right way to use a laptop?

CHAPTER – 15 (Prevent Accidents and Emergencies)

Q 1.	What is a workplace emergency?
Q 2.	How do you protect yourself, your employees, and your business?
Q 3.	What should your emergency action plan include?
Q 4.	How do you establish evacuation routes and exits?
Q 5.	What are the various types of fire extinguisher and their extinguishing material?
Q 6.	What are the steps for operating a fire extinguisher in case of a fire emergency?
Q 7.	Compare the different type of fire extinguisher.
Q 8.	List the different class of fire.
Q 9.	List out electrical rescue techniques.
Q 10.	What is the first aid for electrical emergencies?

Activity 1: Benefits of taking a holiday

- Write an essay to describe the place and your experience during a holiday trip or summer camp.
- Highlight how the trip helped you de-stress.

Activity 2: Self Reflection Technique

Write any 5 Stress Causing Situation(s) and Write Stress Management Techniques.

Activity 3: My Interests and Abilities

I am happiest when	
My idea of a perfect day	
Five things I really enjoy doing	
Three things I like to do every day	
I am most passionate about	
Ideas or issues I care deeply about	
If I had the talent or ability, I would	
If I could choose any job, it would be	
The three activities that I love to do?	
What stops me from doing the activities more often?	
What specific changes do I need to make in order to engage in these activities more frequently?	

Activity 4: Create a model on E-Waste

PUNJABI

ਵਿਦਿਆਰਥੀ ਅੰਗ-ਸੰਗ ਅਤੇ ਧਰਤੀ ਹੇਠਲਾ ਬਲਦ ਕਹਾਣੀਆਂ ਪੜ੍ਹ ਕੇ ਇੱਕ-ਇੱਕ ਅੰਕ ਵਾਲੇ ਪ੍ਰਸ਼ਨ ਉੱਤਰ ਕਾਪੀਆਂ ਤੇ ਲਿਖ ਕੇ ਲਿਆਉਣਗੇ। (40-40 ਪ੍ਰਸ਼ਨ ਉੱਤਰ)