



HOLIDAY HOMEWORK - X

ENGLISH

Make a project on the life, work and achievements of the following poets

1. Robert Frost
2. Ogden Nash
3. William Butler Yeats
4. Walt Whitman

MATHS

1. Write whether $\frac{2\sqrt{45}+2\sqrt{20}}{2\sqrt{5}}$ on simplification gives a rational or irrational number.
2. The decimal expansion of the rational number $\frac{43}{2^4 5^3}$ will terminate after how many places of decimal?
3. 50 people work in a cooperative society. They all use their own conveyance. 20 people use their scooter, 12 go by their cars, 16 go by public transport and 2 use bicycle. Find the HCF of 20, 16, 12 and 2.
4. Show that $3\sqrt{7}$ is an irrational number.
5. If the HCF of 65 and 117 is in the form of $65m-117$, then find the value of m .
6. Use Euclid's Division lemma to show that the square of any positive integer is either in the form of $3m$ or $3m+1$, for some integer.
7. Find HCF of numbers 134791, 6341 and 6339 by Euclid's division lemma.
8. Find the HCF and LCM of 90 and 144 by the method of prime factorization.
9. Express the number 0.3178 in the form of rational number.
10. Find HCF and LCM of 404 and 96 and verify that HCF \times LCM = product of two given numbers.
11. For what value of p , (-4) is the zero of the polynomial $x^2 - 2x - (7p + 3)$?
12. If one of the zeroes of the quadratic polynomial $ax^2 + bx + c$ is 0 then find the other one.
13. If the polynomial $x^4 - 6x^3 + 16x^2 - 25x + 10$ is divided by $(x^2 - 2x + k)$, the remainder comes out to be $x+a$. Find the value of k and a .
14. If α and β are the zeroes of the quadratic polynomial such that $\alpha + \beta = 24$ and $\alpha - \beta = 8$. Find the quadratic polynomial α and β having its zeroes. Verify the relationship between the zeroes and coefficients of the polynomial.
15. If zeroes of the polynomial $x^2 + 4x + 2a$ are α and $\frac{2}{\alpha}$, then find the value of a .

16. Obtain all the zeroes of the polynomial $2x^4 + 3x^3 - 5x^2 - 9x - 3$, if two of its zeroes are $\sqrt{3}$ and $-\sqrt{3}$.
17. Verify whether 2, 3 and $\frac{1}{2}$ are the zeroes of the polynomial $P(x) = 2x^3 - 11x^2 + 17x - 6$
18. If a polynomial $x^4 - 3x^3 - 6x^2 + kx - 16$ is exactly divisible by $x^2 - 3x + 2$, then find the value of k.
19. If α and β are the zeroes of the polynomial $6y^2 - 7y + 2$, find a quadratic polynomial whose zeroes are $\frac{1}{\alpha}$ and $\frac{1}{\beta}$.
20. What should be added to $x^3 - 3x^2 + 6x - 15$ so that it is completely divisible by $x - 3$.
21. Solve by substitution method:
 $x - y = 2$
 $3x + 2y = 16$
22. If the system of equations $6x + 2y = 3$ and $kx + y = 2$ has a unique solution, find the value of k.
23. Solve graphically the pair of linear equations
 $3x - 4y + 3 = 0$ and $3x + 4y - 21 = 0$
24. The area of a rectangle reduces by 160m^2 if its length is increased by 5m and breadth is reduced by 4m. However if the length is decreased by 10m and breadth is increased by 2m, then its area is decreased by 100m^2 . Find the dimensions of the rectangle.
25. A boat covers 32 km upstream and 36 km downstream in 7 hours. Also it covers 40 km upstream and 48 km downstream in 9 hrs. Find the speed of the boat in still water and that of stream.
26. Find the value of k for which the following pair of equations has no solution:
 $X + 2y = 3$, $(k - 1)x + (k + 1)y = k + 2$
27. 2 men and 7 boys can do a piece of work in 4 days. It is done by 4 men and 4 boys in 3 days. How long would it take for 1 man or one boy to do it alone?
28. Solve :
 $99x + 101y = 499$
 $101x + 99y = 501$
29. Solve the following pair of equations:
 $\frac{2}{\sqrt{x}} + \frac{3}{\sqrt{y}} = 2$ and $\frac{4}{\sqrt{x}} - \frac{9}{\sqrt{y}} = -1$
30. The ratio of income of two persons is 11:7 and ratio of their expenditure 9:5. If each of them manages to save 2400 per month, find their monthly income.

SCIENCE

Physics

1. What is ohm's law? Derive its mathematical expression. Verify it experimentally.
2. Define resistivity and write its S.I. unit. Resistance of a metal wire of length 1 m is 26Ω at 20°C . If the diameter of the wire is 0.3 mm. What will be resistivity of metal at that temperature?
3. Derive the expression of equivalent resistance, when two or more resistors are joined in
[A]Series combination [B]Parallel combination.
4. A wire of given material having length l and cross sectional area A has a resistance of 4Ω . What would be the resistance of another wire of the same material having length $l/2$ and area of cross-section $2A$?
5. Derive [a] $H=I^2Rt$.
[b] $P=VI$
[c] $P=I^2R$
[d] $P=V^2/R$
6. An electric iron consumes energy at a rate of 840 watt when heating is at the maximum rate and 360 watt when heating is at the minimum. The voltage is 220V. What are the current and resistance in each case?
7. 100 J of heat are produced each second in a 4Ω resistance. Find the potential difference across the resistor.
8. An electric refrigerator rated 400 watt operates 8 hours per day. What is the cost of energy to operate it for 30 days at Rs 3 per KWh?
9. What are the factors affecting the resistance of a conductor? Explain.
10. Compare the power used in 2Ω resistor in each of the following circuits:-
 - a.) A 6 V battery in series with 1Ω and 2Ω resistors and
 - b.) A 4 V battery in parallel with 12Ω and 2Ω resistors.

Chemistry

1.
 - a) What is chemical reaction?
 - b) Which substance is used for white-washing the walls?
 - c) What are exothermic reactions? Give one example also?
 - d) Name four types of chemical reactions?
 - e) What is meant by electrolysis?

- 2.
- A) Name two compounds which undergo photolysis?
 - B) What are displacement reactions?
 - C) What are double displacement reactions?
 - D) What are oxidation reactions?
 - E) What are reduction reactions?
 - F) What is rancidity?
3. Why do we apply paint on iron articles?
4. What do you mean by precipitation reaction? Give its one example.
5. What are redox reactions? Give its two examples?
6. Write an activity to show the change in the state of matter and change in temperature during a chemical reaction (change).
7. Write an activity to show the electrolysis of water, as an example of decomposition reaction.
8. Balance the following:
- i) $\text{Ag} + \text{KCN} + \text{H}_2\text{O} + \text{O}_2 \rightarrow \text{KAg}(\text{CN})_2 + \text{KOH}$
 - ii) $\text{I}_2 + \text{HNO}_3 \rightarrow \text{HIO}_3 + \text{NO}_2 + \text{H}_2\text{O}$
9. What does the colour of copper sulphate solution change when an iron dipped in it?
10. What are the conditions essential for Chemical Change? mention all conditions with suitable reactions

Biology

Answer the following questions.

1. (i) An organ that stores bile in man.
- (ii) Enzyme that digests starch in mouth.
 - (iii) What is peristalsis.
 - (iv) Give the overall reaction of photosynthesis.
 - (v) Name the cells that surround a stomatal pore.
2. (i) Differentiate between the following:-
- a. Autotrophic and Heterotrophic nutrition
 - b. saprophytic and parasitic nutrition
3. Justify the statement “Bile does not contain any enzyme but is essential for digestion .”
4. Why does the lining of stomach wall not dissolve in an acidic pH.
5. How do guard cells regulate opening and closing of stomatal pore?
6. Why is small intestine in herbivores longer than in carnivores?

7. Discuss the role of liver and pancreas in digestion of food.
8. How does Amoeba take its food? Explain briefly with diagram.
9. Explain the process of digestion and absorption of food in man.
10. Draw a labeled diagram of human digestive system .

SOCIAL SCIENCE

History

1. Mention the dates and ideas adopted in the different Congress session namely
 - a.Nagpur
 - b.Lahore
 - c.Calcutta
 - d.Surat
 - e.Poona
2. On the map of India mark the following -
 - a.Places where the different congress sessions were held.
 - b.Places where Mahatma Gandhi successfully organised Satyagraha.
 - c.The place where the Jallianwala bagh incident occurred.
3. Describe. the specific aspirations of the different groups that participated in the Non-co operation movement.
4. What was the notion of swaraj among the plantation workers?
5. How did Non-cooperation become a movement ?

PROJECT :--

1. Make a project on the Civil Right Movement in USA.
2. "RTI Act passed in 2005 is a landmark legislation passed by our Parliament." Collect information about the act in detail and present in a file.

Geography & Economics

1. PROJECT :-
 - a) In the era of Commercialisation consumers always face various threats and insecurities. Make a project on existing rights and laws of Consumer Protection to safeguard the consumers. (Ch-5 - Economics).
 - b) Explain Seven great Techniques by which you can easily harvest rainwater at your home this monsoon. **(Present both the projects in a file).**

Learn and write the following answers :-

2. Collect more information about multi purpose River valley projects in India. Mention the list of important river valley projects in India in detail.
3. Indiscriminate use of resources had led to numerous problems. Justify this statement.
4. "Money cannot buy all the goods and services that a person may need to live well." Explain the statement with suitable examples.
5. Explain with reasons why state of Punjab with a very high per capita income has a very low literacy rate.

COMPUTER

1. Explain all the given protocols required on internet with proper picture and examples in computer practical notebook / lab manual.
 - TCP/IP
 - FTP
 - HTTP
 - SMTP
 - POP
 - NNTP
 - Gopher
 - USENET
 - TELNET

HINDI

- प्र०-1 'पौष्टी पटी-पटी जग भुजा' इस पंक्ति में कबीर ने किसपर व्यंग्य किया है और क्यों ?
- प्र०-2 संसार में सुखी व्यक्ति कौन है और दुःखी कौन ? यहाँ 'सौना' और 'जागना' किसके प्रतीक हैं ? साखी के आधार पर स्पष्ट करें ।
- प्र०-3 'निंदक' के संबंध में कबीर के क्या विचार हैं ? क्या आप उनके विचार से सहमत हैं ? अपने उत्तर के पक्ष में उचित तर्क दें ।
- प्र०-4 कबीर ने 'ज्ञान' पर सर्वाधिक बल दिया है क्यों ? उदाहरणों के माध्यम से कबीर की साखियों में ज्ञान की महत्ता को स्पष्ट करें ।
- प्र०-5 'हरिहर काका' पाठ के आधार पर बताइए कि हमारे देश के सच्चे भ्रातृप्रेम जैसे आदर्श को किस कारण क्षति पहुँच रही है ? आप इसे कहाँ तक समाज के लिये अहितकर मानते हैं ?
- प्र०-6 अंत में 'हरिहर काका' द्वारा जमीन के संदर्भ में खिया जाने वाला निर्णय क्या था और वह परिवार के मूल्यों को किस परिस्थिति में प्रभावित करता है ? यह स्थिति हर व्यक्ति को क्या संदेश प्रदान करती है ?
- प्र०-7 'हरिहर काका' पाठ रिश्तों की कौनसी परिभाषा प्रस्तुत करता है ?
- प्र०-8 'मीडिया का सामाजिक उत्तरदायित्व' विषय पर 100 शब्दों का एक अनुच्छेद लिखें ।
- प्र०-9 अपने क्षेत्र के वाह्यग्रस्त लोगों की सहायता के लिए निरुमालय के छात्रों से धन एवं कपड़े एकत्रित करने की अनुमति लेने हेतु प्रधानाचार्य के पास पत्र लिखें ।
- प्र०-10 आजकल स्कूली बच्चों द्वारा हो रही असावधानियों पर माता एवं पुत्र के बीच हुए संवाद को 50 से 60 शब्दों में प्रस्तुत करें ।