



Summer Vacation

Dear parents ,

Hello! Thank you for your care and support for a long time. Summer holiday is coming, and we are very much concerned about whether students could spend a colorful and happy summer vacation. Because your children are not only the hope and future of the motherland but also expectations of every family. Their security is related to every family. In order to let them have a healthy, safe, civilized and happy holiday, please fulfill the duties of guardians conscientiously and urge children to do safety work well. We put forward the following suggestions to you:

First, we should create a good atmosphere at home. Home is the life of the harbor and is the paradise of learning. Many successful examples show that harmonious and good family atmosphere can improve the students' inner qualities spontaneously, develop good study habits and is also conducive to the healthy growth of students. Therefore, as a parent, you should communicate and exchange with your children more, make friends with them, encourage them to do some housework in the range of their own ability and create a clean, beautiful, warm and harmonious family atmosphere.

Second, children should maintain regular life and keep learning. Although the summer holiday was a period of rest and relaxation, parents should require children to maintain regular life, go to bed early and rise early. Parents should urge their children to complete homework on time, read some healthy extra-curricular books, broaden children's horizon and expand the field of children's vision. Parents should also encourage students to participate in a variety of reading activities, community activities, social investigation and the social practice activities actively, which could increase their social knowledge. Parents should help children develop good reading habits.

Three, life is no small matter; security should be in your mind. Pupils are minors, lack of safety awareness and the sense of safety precaution. Parents should often remind them and teach them the necessary safety prevention knowledge:

1. Pay attention to traffic safety. Children must obey the traffic rules and go out with friends or in your company. If they go out together or alone, they must tell you where they would go, who would go with them and what time they would come back. Don't promise them that they could invite classmates to play out without permission or stay outside overnight.

2. Safety education about drowning prevention: Children must go swimming under adult supervision. Without safety measures or adult supervision, children mustn't go swimming alone or with friends. Children should learn self-protection knowledge and skills. Security should be always in mind.

3 Parents should pay close attention to kids around your children. Communication with bad guys should be strictly prohibited. Don't open the door to strangers at home or contact with strangers. Prevent violence.

Forth, keep civilized on the Internet and keep healthy every day. Children should go on Internet at home under adult supervision. Children shouldn't log in or browse unhealthy website. Children should resist the adverse information consciously. Arrange time reasonably and don't indulge in the games. Children shouldn't go to the game rooms, Internet cafes and other unhealthy places. Be a civilized, good moral juvenile.

Five, do exercise regularly and make sure of food safety. Supervise children to do more exercise. Pay attention to personal hygiene, environmental hygiene and food hygiene. Don't eat rotten, bad food or "three nose" food. Don't take children to eat out and participate in the banquet. Prevent overeating and food poisoning.

Six, there are some students enrolled in summer school. Please pick up the children according to the rules of the school time.

Dear parents, I hope you can cooperate closely with school, and be positive and responsible to arrange the students' summer life.

The summer vacation begins from May 21st to 30th June. The school will reopen on July 1st.

Finally, hope for our students -- be safe, grow healthily. And we wish you success in work, family happiness, and good luck in everything.

Sonila Bhagat
Principal

GREEN FIELD PUBLIC SCHOOL
CLASS - XII COMM
HOLIDAY HOME WORK (2019-20)

ECONOMICS

Project 1

Do project in your copy

- (1) Collect information 2016 and 2017 railways and Indian economics budget with bar, pie diagram?
- (2) Write about the Indian banking system
- (3) Details for Gdp,Gnp,Nnp
- (4) Write about the micro economics and macro economics solutions apply for Indian economy.
- (5) Collect the information" indianplannings" up to 1st to 12th plan's
- (6) Write about liberation, privatization, and globalization.
- (7) Write about the SEZ. Explain?
- (8) Privatizations merits and demerits in Indian economy

Project 2

- (1) students are supposed to conduct an original research work and prepare an individuals power point presentations for any one of the topics listed below
 - (A) demonetization
 - (B) goods and services tax (GST)
 - (C) foreign direct investment
 - (D) make in India
 - (E) RBI functions and policies
- (2) Conduct a survey on demographic structure in your neighborhood to have the knowledge of various demographic characterstics.

Sex ratio,density of population,occupational structure,average income of the household, per capita income, total production.

For this they have to conduct a research on 10 household. It should cover

- (1) Acknowledgement
- (2) Introduction
- (3) Objective
- (4) Collection of data
- (5) Classification and organization of data
- (6) Presentation of data
- (7) Analysis of data
- (8) Interpretation of data

ENGLISH

Q1. FROM THE POEMS GIVEN IN YOUR BOOK HIGHLIGHT THE PRESENCE OF LISTED LITERARY DEVICES WITH ITS EXPLANATION & SUITABLE EXAMPLES FROM THE GIVEN POEM IN YOUR ENGLISH PRACTICE NOTEBOOK.

SIMILE
METAPHOR
PERSONIFICATION

ALLITERATION
REPETITION
OXYMORON
REFRAIN
HYPERBOLE
ALLUSION
APOSTROPHE
IRONY
PARADOX
ONOMATOPOEIA
PUN

Q2. FROM THE LAST 5yrs BOARD PAPER DO THE FOLLOWING:-

- I. QUESTIONS OF THE CHAPTERS DONE IN THE CLASS
- II. UNSEEN PASSAGE
- III. QUESTIONS OF WRITING SKILLS

ACCOUNTS

Ch 1 fundamental of partnership (vol- 1)

Q1 mahesh and ramesh are partners with a capital of Rs. 50000 and 60000 respectively. On 1st January 1998 mahesh give a loan of Rs 10000 and ramesh introduced Rs 20000 as additional capital. Profit during the year ended 31st march was Rs 15200. There is no partnership deed. Show how the profit would divided? Give reason

Q2 A and B are partners sharing profit and ratio of 3:2 having capital balance of Rs 50000 and 40000 respectively on 1/4/2003. A introduced Rs 10000 as his additional capital and B introduced only 1000. 10% interest on capital is allowed to the partners. Calculate interest on capital if the financial year closes on 31st march every year.

Q3 B and W are partners in a firm. They withdrew Rs 18000 and 36000 respectively during the year evenly at the middle of the every month. According to the partnership agreement, interest on drawings to be charged @ 10%pa. calculate interest on drawings.

Q4 vinod and mohan are partners in a firm. As per deed interest on drawings to be charged @ 12%pa. vinod had withdrew following amounts during the year ended 31.12.2013

Date	amount drew
01 jan	10000
31 march	16000
01 july	20000
31 December	4000

Calculate interest on vinod's drawings .

Q5 how will you calculate interest on drawings of equal amounts on the first every month of a calendar year?

Q6 how will you calculate interest on drawings of equals amounts on the last day.

Q7 how will you calculate interest on drawings of equal amounts on the 15th of every month of a calendar year?

Q8 geeta and meeta are partners in a firm sharing profit in the ratio of 5:3. Their fixed capital were Rs 500000 and 300000 respectively. The partnership deed provided that

- (a) Interest on capital should be allowed @ 12%pa.
- (b) Meeta should be allowed salary of Rs 40000pa
- (c) A commission of 5% of the net profit should be allowed to meeta. The net profit for the year ending 31/03/2001 was Rs 200000.

Prepare profit and loss appropriation accounts.

ch - 1 financial statement (vol - 2)

Q1 explain contents of balance sheet

Q2 prepare detailed format of balance sheet by assuming at least 100 transactions .

Q3 explain contents of profit and loss accounts.

Q4 prepare detailed format of balance sheet by assuming at least 50 transactions.

Ch - 2 financial statement analysis

Q1 what do you mean by financial statement analysis and need for the same.

Q2 explain different kind of tools which can be used for financial statement analysis.

Q3 objective and advantages of financial statement analysis.

Ch - 5 cash flow statements

Q1 Define cash flow statements and objective for preparation of cash flow statements.

Q2 what is financing activity explain with example.

Q3 what is investing activity. Explain with example.

Q4 find out cash form financing activity and investing activity from the following

- (1) Purchase of fixed assets 100000
- (2) Sales of non current investment 20000
- (3) Issue of shares 100000
- (4) Opening balance of goodwill 100000
- (5) Closing balance of goodwill 80000
- (6) Opening balance in debentures 20000
- (7) Closing balance in debentures 10000
- (8) Repaid loan 10000
- (9) Issues of preference shares 100000 with a premium of 10%
- (10) Dividend received 10000 and dividend paid 20000

BUSINESS STUDIES

1) Project Work on Marketing-

Students you are required to collect the information on any one topic out of the following for the project work on marketing. The topics are as follows:

- a) Toothpaste
- b) noodles
- c) Shampoo
- d) Bathing soap

- e) Washing detergents
- f) Cosmetic items
- g) Pens
- h) Shoes
- i) Hair dye
- j) Mobile
- k) Chocolates
- l) Body sprays
- m) Fairness creams
- n) Jeans
- o) Jams
- p) Pickles
- q) Squashes
- r) Roasted snacks
- s) Hair oil
- t) Salt
- u) Bread/butter
- v) Any other product of your choice

You are required to gather complete information/data of the topic you have selected for your project based on CBSE guidelines. The following are few points to be kept in mind such as:

- 1) Why have they selected this product/service?
- 2) Find out '5' competitive brands that exist in the market?
- 3) What permission and licenses would be required to make the project?
- 4) What are your competitors Unique Selling Proposition?
- 5) Does your product have any range? Give details.
- 6) What is the name of your product?
- 7) Draw the 'Label' of your product?
- 8) Draw the 'logo' of your product?
- 9) Draft a tagline.
- 10) What is the selling price of your competitor's product?
- 11) What is going to be your selling price?
- 12) list five ways of promoting your product.
- 13) What is going to be your USP?
- 14) Draft a social message for your label.
- 15) What cost effective techniques will you follow for your promotion plan?
- 16) Any schemes for
 - 1) The Wholesaler
 - 2) The Retailer
 - 3) The Consumer

Other essential information required.

Solve the questions related to the topics covered from the last three years sample papers.

HINDI

1. परियोजना कार्य- हरिवंश राँय बच्चन/गोस्वामी तुलसीदास,व्यक्तित्वे और कृतित्व
2. अर्धवार्षिक परीक्षा पाठ्यक्रम पढ़ कर प्रत्येक पाठ से १० प्रश्न उत्तर सहित कॉपी में लिखिए
3. कोई उपन्यास पढ़ कर निम्न मूल्यांकन बिन्दुओ पर लिखिए
 - * लेखक तथा उपन्यास का नाम
 - * लेखक का परिचय
 - * उपन्यास का सारांश
 - * उपन्यास के बारे में आपके विचार

PHYSICAL EDUCATION

Prepare practical file with the following topics -

Aapahar test - game of your choice (as per syllabus)

Sports awards (only five with photo graphs prepare project file)

Any five asanas (describe with help of diagram)

MATHEMATICS

1. Find the principal value of the following:
a) $\sin^{-1}\left(\frac{1}{\sqrt{2}}\right)$ b) $\cos^{-1}\left(\frac{-1}{\sqrt{2}}\right)$ c) $\tan^{-1}\left(\frac{-1}{\sqrt{3}}\right)$ d) $\operatorname{cosec}^{-1}(-2)$ e) $\sec^{-1}\left(-\frac{2}{\sqrt{3}}\right)$
2. Find the value of the following:
a) $\sin^{-1}\left(\sin\frac{3\pi}{5}\right)$ b) $\cos^{-1}\left(\cos\frac{13\pi}{6}\right)$ c) $\tan^{-1}\left(\tan\frac{7\pi}{6}\right)$ d) $\operatorname{cosec}^{-1}\left(\operatorname{cosec}\frac{\pi}{8}\right)$ e) $\sec^{-1}\left(\sec\frac{3\pi}{4}\right)$.
3. Evaluate the following:
a) $\sin\left\{\frac{\pi}{3} - \sin^{-1}\left(\frac{-1}{2}\right)\right\}$ b) $\sin\left(\frac{1}{2}\cos^{-1}\frac{4}{5}\right)$ c) $\tan\frac{1}{2}\left(\cos^{-1}\frac{\sqrt{5}}{3}\right)$.
4. Evaluate: $\cos\left(\sin^{-1}\frac{3}{5} + \cos^{-1}\frac{12}{13}\right)$.
5. Show that $\sin^{-1}(\sqrt{x}) = \frac{1}{2}\cos^{-1}\left(\frac{1-x}{1+x}\right)$.

6. Prove that $\tan^{-1} \left\{ \frac{\sqrt{1+x^2} + \sqrt{1-x^2}}{\sqrt{1+x^2} - \sqrt{1-x^2}} \right\} = \frac{\pi}{4} + \frac{1}{2} \cos^{-1} x^2$.

7. Prove that $\tan^{-1} \frac{1}{4} + \tan^{-1} \frac{2}{9} = \frac{1}{2} \cos^{-1} \frac{3}{5}$.

8. Prove that $\cot^{-1} \left(\frac{ab+1}{a-b} \right) + \cot^{-1} \left(\frac{bc+1}{b-c} \right) + \cot^{-1} \left(\frac{ca+1}{c-a} \right) = 0$. (NCERT EXEMPLAR)

9. Prove that $\tan^{-1} \frac{3}{4} + \tan^{-1} \frac{3}{5} - \tan^{-1} \frac{8}{19} = \frac{\pi}{4}$.

10. Prove that $\cos^{-1} \frac{4}{5} + \cos^{-1} \frac{12}{13} = \cos^{-1} \frac{33}{65}$.

11. Solve for x: $\sin^{-1}(1-x) - 2\sin^{-1}x = \frac{\pi}{2}$.

12. If $\cos^{-1} \frac{x}{a} + \cos^{-1} \frac{y}{b} = \theta$, then prove that $\frac{x^2}{a^2} - \frac{2xy}{ab} \cos \theta + \frac{y^2}{b^2} = \sin^2 \theta$. (NCERT EXEMPLAR)

13. Prove that $\tan \left(\frac{\pi}{4} + \frac{1}{2} \cos^{-1} \frac{a}{b} \right) + \tan \left(\frac{\pi}{4} - \frac{1}{2} \cos^{-1} \frac{a}{b} \right) = \frac{2b}{a}$. (CBSE 2010, 2013)

14. Solve for x: $\cos^{-1} \left(\frac{x^2-1}{x^2+1} \right) + \tan^{-1} \left(\frac{2x}{x^2-1} \right) = \frac{2\pi}{3}$.



15. If $A = \begin{pmatrix} 1 & 2 & 0 \\ 3 & -4 & 5 \\ 0 & -1 & 3 \end{pmatrix}$, find $A^2 - 4A + 3I_3$

16. Construct a 4x3 matrix whose elements are:-

$ae_j = 2i + \frac{e^i}{f}$ (ii) $ae_j = \frac{i-j}{j+j}$ (iii) $ae_j = i$

17. If $\begin{pmatrix} 2+3 & 2+4 & 2y-7 \\ 4x+6 & a-1 & 0 \\ b-3 & 3b & z=2c \end{pmatrix} = \begin{pmatrix} 0 & 6 & 3y-2 \\ 2x & -3 & 2c-2 \\ 2b+4 & -21 & 0 \end{pmatrix}$

Obtain the values of a, b, c, x, y and z.

18. Find matrices x and y i.e.

$2x-y = \begin{pmatrix} 6 & -6 & 0 \\ -4 & 2 & 1 \end{pmatrix}$ and $x+2y = \begin{pmatrix} 3 & 2 & 5 \\ -2 & 1 & -7 \end{pmatrix}$

19. Find the value of x such that :-

$[1 \quad 1 \quad x] \begin{pmatrix} 1 & 0 & 2 \\ 0 & 2 & 1 \\ 2 & 1 & 0 \end{pmatrix} \begin{pmatrix} 1 \\ 1 \\ 1 \end{pmatrix} = 0$

If $A = \begin{pmatrix} 3 & -4 \\ 1 & -1 \end{pmatrix}$ prove that $A^n = \begin{pmatrix} 1+2n & -4n \\ n & 1-2n \end{pmatrix}$ where n is any positive integer.

20. Express the matrix $A = \begin{pmatrix} 4 & 2 & -1 \\ 3 & 5 & 7 \\ 1 & -2 & 1 \end{pmatrix}$ as the sum of a symmetric and a skew symmetric matrix

21. Express the following matrices as the sum of symmetric and skew-symmetric matrices:-

(i) $A = \begin{pmatrix} 6 & 1 \\ 3 & 4 \end{pmatrix}$ (ii) $A = \begin{pmatrix} 3 & 2 & 3 \\ 4 & 5 & 3 \\ 2 & 4 & 5 \end{pmatrix}$

(iii) $A = \begin{pmatrix} 2 & 3 & -1 \\ -1 & 4 & 2 \\ 6 & 0 & 8 \end{pmatrix}$ (iv) $A = \begin{pmatrix} 6 & 1 & -5 \\ -2 & -5 & 4 \\ -3 & 3 & -1 \end{pmatrix}$

22. Using elementary transformation, find the inverse of the following matrices :-

(i) $\begin{pmatrix} 2 & 0 & -1 \\ 5 & 1 & 0 \\ 0 & 1 & 3 \end{pmatrix}$ (ii) $\begin{pmatrix} 0 & 1 & 2 \\ 1 & 2 & 3 \\ 3 & 1 & 1 \end{pmatrix}$ (iii) $\begin{pmatrix} 2 & -3 & 3 \\ 1 & 5 & 9 \\ 6 & 4 & 7 \end{pmatrix}$

(iv) $\begin{pmatrix} 3 & -1 & -2 \\ 2 & 0 & -1 \\ 3 & -5 & 0 \end{pmatrix}$

23. Find the area of the triangle whose vertices are A(-2, -3), B(3,2) and C (-1, -8)

24. Show that the pts A(a+b+c), B(b+c+a) and C (c+a+b) are collinear. Find the inverse of each of the matrices given below :-

(i) $\begin{vmatrix} 3 & -5 \\ -1 & 2 \end{vmatrix}$ (ii) $\begin{vmatrix} 1 & 2 & 5 \\ 1 & -1 & -1 \\ 2 & 3 & -1 \end{vmatrix}$ (iii) $\begin{vmatrix} 2 & -1 & -1 \\ 3 & 0 & -1 \\ 2 & 6 & 0 \end{vmatrix}$

(iv) $\begin{vmatrix} 2 & -3 & 3 \\ 2 & 2 & 3 \\ 3 & -2 & 2 \end{vmatrix}$ (v) $\begin{vmatrix} 8 & -4 & 1 \\ 10 & 0 & -6 \\ 8 & 1 & 6 \end{vmatrix}$

25. $5x+2y=4$ 25. $3x+4y-5=0$ 26. $3x-2y+3z=8$
 $7x+3y=5$ $x-y+3=0$ $2x+y-z=1$

27. $x-y+z=-1$ 28. $x+y+z=4$ 29. $4x+2y+3z=5$
 $2x+y-z=2$ $2x-y+z=-1$ $x-2y+z=-4$
 $x-2y-z=4$ $2x+y-3=-9$ $3x-y-2z=3$

30. $4x+2y+3z=9$ 31. $3x-4y+2z=-1$ 32. $6x-9y-20z=-4$
 $X+y+z=1$ $2x+3y+5z=7$ $4x-15y+10z=-1$
 $3x+y-2z=1$ $x+z=2$ $2x-3y-5z=-1$

GREEN FIELD PUBLIC SCHOOL
CLASS - XII SCIENCE
HOLIDAY HOME WORK (2019-20)

MATHEMATICS

1. Find the principal value of the following:

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3. Evaluate the following:

a) $\sin\left\{\frac{\pi}{3} - \sin^{-1}\left(\frac{-1}{2}\right)\right\}$ b) $\sin\left(\frac{1}{2}\cos^{-1}\frac{4}{5}\right)$ c) $\tan\frac{1}{2}\left(\cos^{-1}\frac{\sqrt{5}}{3}\right)$.

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$$\begin{pmatrix} 2+3 & 2+4 & 2y-7 \\ 4x+6 & a-1 & 0 \\ b-3 & 3b & z=2c \end{pmatrix} = \begin{pmatrix} 0 & 6 & 3y-2 \\ 2x & -3 & 2c-2 \\ 2b+4 & -21 & 0 \end{pmatrix}$$

Obtain the values of a, b, c, x, y and z.

18. Find matrices x and y i.e.

$$2x-y = \begin{pmatrix} 6 & -6 & 0 \\ -4 & 2 & 1 \end{pmatrix} \quad \text{and} \quad x+2y = \begin{pmatrix} 3 & 2 & 5 \\ -2 & 1 & -7 \end{pmatrix}$$

19. Find the value of x such that :-

$$\begin{bmatrix} 1 & 1 & x \end{bmatrix} \begin{pmatrix} 1 & 0 & 2 \\ 0 & 2 & 1 \\ 2 & 1 & 0 \end{pmatrix} \begin{pmatrix} 1 \\ 1 \\ 1 \end{pmatrix} = 0$$

If $A = \begin{pmatrix} 3 & -4 \\ 1 & -1 \end{pmatrix}$, prove that $A^n = \begin{pmatrix} 1+2n & -4n \\ n & 1-2n \end{pmatrix}$ where n is any positive integer.

20. Express the matrix $A = \begin{pmatrix} 4 & 2 & -1 \\ 3 & 5 & 7 \\ 1 & -2 & 1 \end{pmatrix}$ as the sum of a symmetric and a skew symmetric matrix

21. Express the following matrices as the sum of symmetric and skew-symmetric matrices:-

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22. Using elementary transformation, find the inverse of the following matrices :-

(i) $\begin{pmatrix} 2 & 0 & -1 \\ 5 & 1 & 0 \\ 0 & 1 & 3 \end{pmatrix}$ (ii) $\begin{pmatrix} 0 & 1 & 2 \\ 1 & 2 & 3 \\ 3 & 1 & 1 \end{pmatrix}$ (iii) $\begin{pmatrix} 2 & -3 & 3 \\ 1 & 5 & 9 \\ 6 & 4 & 7 \end{pmatrix}$

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24. Show that the pts A(a+b+c), B(b+c+a) and C (c+a+b) are collinear. Find the inverse of each of the matrices given below :-

$$(i) \begin{vmatrix} 3 & -5 \\ -1 & 2 \end{vmatrix} \quad (ii) \begin{vmatrix} 1 & 2 & 5 \\ 1 & -1 & -1 \\ 2 & 3 & -1 \end{vmatrix} \quad (iii) \begin{vmatrix} 2 & -1 & -1 \\ 3 & 0 & -1 \\ 2 & 6 & 0 \end{vmatrix}$$

$$(iv) \begin{vmatrix} 2 & -3 & 3 \\ 2 & 2 & 3 \\ 3 & -2 & 2 \end{vmatrix} \quad (v) \begin{vmatrix} 8 & -4 & 1 \\ 10 & 0 & -6 \\ 8 & 1 & 6 \end{vmatrix}$$

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 $x-2y-z=4$ $2x+y-3=-9$ $3x-y-2z=3$
30. $4x+2y+3z=9$ 31. $3x-4y+2z=-1$ 32. $6x-9y-20z=-4$
 $X+y+z=1$ $2x+3y+5z=7$ $4x-15y+10z=-1$
 $3x+y-2z=1$ $x+z=2$ $2x-3y-5z=-1$

PHYSICS

Attempt all the questions.

1. A free proton and a free electron are placed in a uniform field. Which of the two experience greater force and greater acceleration?

2. When a glass rod is rubbed with a silk cloth, charges appear on both. A similar phenomenon is observed with many other pairs of bodies. Explain how this observation is consistent with the law of conservation of charge.

3.(a) An electrostatic field line is a continuous curve. That is, a field line cannot have sudden breaks. Why not?

(b) Explain why two field lines never cross each other at any point?

4. Careful measurement of the electric field at the surface of a black box indicates that the net outward flux through the surface of the box is $8 \times 10^3 \text{ Nm}^2$. (a) What is the net charge inside the box? (b) If the net outward flux through the surface of the box were zero, could you conclude that there were no charges inside the box? Why or

Why not?

5. A particle of mass m and charge q is released from rest in a uniform electric field of intensity E . Calculate the kinetic energy it attains after moving a distance between the plates?

6. Electric charge is uniformly distributed on the surface of a spherical balloon. Show how electric intensity and electric potential vary (a) on the surface (b) inside and (c) outside.

7. A uniformly charged conducting sphere of 2.4 m diameter has a surface charge density of 80.0 C/m^2 . (a) Find the charge on the sphere. (b) What is the total electric flux leaving the surface of the sphere?

8. (a) What is an equi-potential surface? Show that the electric field is always directed perpendicular to an equi-potential surface.

(b) Derive an expression for the potential at a point along the axial line of a short electric dipole?

9. An oil drop of 12 excess electrons is held stationary under a constant electric field $2.55 \times 10^4 \text{ NC}^{-1}$ in Millikan's oil drop experiment. The density of the oil is 1.26 g/cm^3 . Estimate the radius of the drop.

10. What is the work done in moving a 2 uC point charge from corner A to corner B of a square ABCD when a 10 uC charge exists at the center of the square?

11. The distance of the field point on the equatorial plane of a small electric dipole is halved. By what factor will the electric field due to the dipole change?

12. Show mathematically that the potential at a point on the equatorial line of an electric dipole is zero?

13. Two charges 2 uC and -2 uC are placed at points A and B 6 cm apart.

A) Identify an equipotential surface of the system.

b) What is the direction of the electric field at every point on this surface?

14. In a Van de Graaff type generator a spherical metal shell is to be a $15 \times 10^6 \text{ V}$ electrode. The dielectric strength of the gas surrounding the electrode is $5 \times 10^7 \text{ V/m}$. What is the minimum radius of the spherical shell required?

15. Two dielectric slabs of dielectric constant k_1 and k_2 are filled in between the two plates, each of area A , of the parallel plate capacitor. Find the net capacitance of the capacitor? Area of each plate $= A/2$

16. Three capacitors each of capacitance 9 pF are connected in series.

- What is the total capacitance of the combination?
- What is the potential difference across each capacitor if the combination is connected to a 120 V supply?

17. A 12 pF capacitor is connected to a 50V battery. How much electrostatic energy is stored in the capacitor?

18. An air filled capacitor is given a charge of 2 μ C raising its potential to 200 V. If on inserting a dielectric medium, its potential falls to 50 V, what is the dielectric constant of the medium?

19. Two wires A and B are of the same metal and of same length have their areas of cross section in the ratio 2:1 if the same potential difference is applied across each wire in turn, what will be the ratio of current flowing in A & B?

20. A set of n-identical resistors, each of resistance R ohm when connected in series have an effective resistance of X ohm and when the resistors are connected in parallel the effective resistance is Y ohm. Find the relation between R, X and Y?

21. Obtain ohm's law from the expression for electrical conductivity.

(b) A cylindrical wire is stretched to increase its length by 10% calculate the percentage increase in resistance?

22. The current I flows through a wire of radius r and the free electron drift with a velocity v, what is drift velocity of electrons through a wire of same material but having double the radius, when a current of 2I flows through it?

23. A battery of emf 10 V and Internal resistance 3 ohms is connected resistor. If the current in the circuit is 0.5 A, what is the resistance of the resistor? What is the terminal voltage of the battery when the circuit is closed?

24. A silver wire has a resistance of 2.1 Ω at 27.5 $^{\circ}$ C, and a resistance of 2.7 Ω at 100 $^{\circ}$ C. Determine the temperature coefficient of resistivity of silver.

25. Given n resistors each of resistance R, how will you combine them to get the (i) maximum (ii) minimum effective resistance? What is the ratio of the maximum to minimum resistance?

B. Students have to submit a project report along with working model after summer

breaks. The project should be relevant and strictly related to the syllabus content as prescribed by CBSE. He/she have to present the project theme after submission of project .

CHEMISTRY

SOLUTION

1. A solution is prepared by dissolving 10 g of non- volatile solute in 200g of water. It has a vapour pressure of 31.84 mm Hg at 308K. Calculate the molar mass of the solute (Vapour pressure of pure water at 308K = 32 mmHg)
2. Derive expression for Raoult's law when the solute is non- volatile.
3. 18 g of glucose is dissolved in 1 Kg of water in a saucepan. At what temperature will boil at 1.103 bar? (K_b for water = 0.52 K Kg/mol)
4. Find the boiling point of a solution containing 0.520g of glucose dissolved in 80.2g of water. (K_b for water = 0.52 K Kg/mol)
5. 1g of non -electrolyte solute dissolved in 50g of benzene lowered the freezing point of benzene by 0.40K. The freezing point depression constant of benzene is 5.12K kg/mol. Find the molar mass of the solute.
6. A 1.0 molal aq. Solution of tri chloro acetic acid is heated to its boiling point. The solution has the boiling point of 100.18°C. Determine the van't Hoff factor for tri chloro acetic acid. (K_b for water = 0.52 K Kg/mol)
7. A 0.561m solution of an unknown electrolyte depresses the freezing point of water by 2.93°C. What is van't Hoff factor for this electrolyte? (K_f for water = 1.86 K Kg/mol)
8. Some ethylene glycol is added to your car's cooling system along with 5 kg of water. If the freezing point of water glycol solution is -15°C, what is boiling point of solution?
9. What mass of ethylene glycol (molar mass = 62g/mol) must be added to 5.50 kg of water to lower the freezing point of water from 0°C to -10°C? (K_f for water = 1.86 K Kg/mol)
10. 15g of an unknown molecular substance was dissolved in 450g of water. The resulting solution freezes at - 0.34°C. What is the molar mass of the substance? (K_f for water = 1.86 K Kg/mol)
11. A solution of urea in water has a boiling point of 373.128K. Calculate the freezing point of the same solution. (K_b and K_f for water = 1.86 K Kg/mol)
12. Calculate the mass of a compound(molar mass = 256 g/mol) to be dissolved in 75 g of benzene to lower its freezing point by 0.48 K. (K_f = 5.12 K Kg/mol)
13. State the main advantage of molality over molarity as the unit of conc.
14. Define Ebullioscopic constant or molal elevation constant.
15. Measurement is of which colligative property preferred foe determination of molar mass.
16. Calculate the amount of NaCl which must be added to 1 Kg of water so that the freezing point of water is depressed by 3K. (K_f for water = 1.86 K Kg/mol)
17. Calculate the amount of CaCl₂ (Molar mass = 111 g/mol) which must be added to 500 g of water to lower the freezing point by 2K, assuming CaCl₂ is completely dissociated. (K_f for water = 1.86 K Kg/mol)

BIOLOGY

CHAPTER 1 ASEXUAL REPRODUCTION

1. Offspring produced by asexual reproduction are referred to as clones. Why?
2. Name the most invasive aquatic plant weed which is called as 'Terror of Bengal'?
3. How does Zygote usually differ from Zoospore in terms of ploidy?
4. Mention the main difference between the offspring produced by asexual reproduction and progeny produced by sexual reproduction.
5. Which characteristic property of Bryophyllum is exploited by gardeners and farmers?
6. Higher organisms have resorted to sexual reproduction in spite of its complexity. Why?
7. Tapeworms possess both male and female reproductive organs. What is the name given to such organism? Give two more examples of such organisms.
8. Study the relationship between first two words and suggest a suitable word for fourth place.
 - i. Male flower: Stamens:: Female Flower: _____
 - ii. Birds: oviparous:: Primates:: _____
 - iii. Chlamydomonas: Zoospores:: Penicillium:: _____
 - iv. Ginger: Rhizome:: Agave: _____
9. Bryophytes and Pteridophytes produce a large number of male gametes but relatively very few female gametes. Why?
10. Mention the site of zygote formation in the ovule of a flowering plant. What happens to sepals, petals and stamens after fertilization? State the fate of Zygote, ovule and ovary in these plants.
11. Distinguish between gametogenesis and embryogenesis.
12. Fill the blank spaces a, b, c and d given in the following table.

Organism	Organ	Gamete
a _____	Testes	Spermatozoa
Human female	b _____	Ovum
Plant (Angiosperm)	c _____	Pollen grains
Plant (pteridophytes)	antheridium	d _____

13. A. Distinguish between asexual and sexual reproduction. Why vegetative reproduction is also considered as a type of asexual reproduction?
- B. Which is better mode of reproduction: Sexual or Asexual? Why?

Chapter 2 SEXUAL REPRODUCTION IN FLOWERING PLANTS

Draw all the diagrams present in the chapter with labelling and write one or two lines regarding all the labeling.

CHAPTER 3 HUMAN REPRODUCTION

1. Failure of testes to descend into scrotal sacs leads to sterility. Why?
2. Both vaccine and colostrum produce immunity. Name type of immunity produced by these.
3. How many sperms will be produced from 10 primary spermatocytes and how many eggs will be produced from 10 primary oocytes?
4. The spermatogonial cell has 46 chromosomes in human male. Give the number of chromosomes in – a. Primary spermatocyte b. Spermatid.
5. In ovary which structure transforms as corpus luteum and name the hormone secreted by corpus luteum?
6. “ Each and every coitus does not result in fertilization and pregnancy”. Justify the statement.
7. Give the function of a. Corpus luteum b. Endometrium.
8. Give reason for the following: a. The first half of the menstrual cycle is called follicular phase as well as proliferative phase.
b. The second half of the menstrual cycle is called luteal phase as well as secretory phase..
9. What is meant by L.H Surge? Write the role of L.H.
10. Explain significance of the condition in which the testes remain suspended in scrotum outside the abdomen.
11. Mention the name and role of hormones which are involved in regulation of gamete formation in human in human male.
12. Three of the steps of neuro endocrine mechanism in respect of parturition are mentioned below. Write the missing steps in proper sequence.
 - a. Signals originate from fully developed foetus and placenta.
 - b. _____.
 - c. _____.
 - d. Oxytocin causes strong uterine contraction
 - e. Uterine contraction stimulates further secretion of oxytocin.
 - f. _____.
13. The events of the menstrual cycle are represented below. Answer the following questions

ENGLISH

Q1. FROM THE POEMS GIVEN IN YOUR BOOK HIGHLIGHT THE PRESENCE OF LISTED LITERARY DEVICES WITH ITS EXPLANATION & SUITABLE EXAMPLES FROM THE GIVEN POEM IN YOUR ENGLISH PRACTICE NOTEBOOK.

SIMILE

METAPHOR
PERSONIFICATION
ALLITERATION
REPETITION
OXYMORON
REFRAIN
HYPERBOLE
ALLUSION
APOSTROPHE
IRONY
PARADOX
ONOMATOPOEIA
PUN

Q2. FROM THE LAST 5yrs BOARD PAPER DO THE FOLLOWING:-

- IV. QUESTIONS OF THE CHAPTERS DONE IN THE CLASS
- V. UNSEEN PASSAGE
- VI. QUESTIONS OF WRITING SKILLS

HINDI

१. परियोजना कार्य- हरिवंश रॉय बच्चन/गोस्वामी तुलसीदास,व्यक्तित्वे और कृतित्व
२. अर्धवार्षिक परीक्षा पाठ्यक्रम पढ़ कर प्रत्येक पाठ से १० प्रश्न उत्तर सहित कॉपी में लिखिए
३. कोई उपन्यास पढ़ कर निम्न मूल्यांकन बिन्दुओं पर लिखिए
 - * लेखक तथा उपन्यास का नाम
 - * लेखक का परिचय
 - * उपन्यास का सारांश
 - * उपन्यास के बारे में आपके विचार

PHYSICAL EDUCATION

Prepare practical file with the following topics –

Aapahar test – game of your choice (as per syllabus)

Sports awards (only five with photo graphs prepare project file)

Any five asanas (describe with help of diagram)

