BHARTIYA VIDYA MANDIR

SENIOR SECONDARY SCHOOL

SECTOR-39, CHANDIGARH ROAD, LUDHIANA

Vacation Learning Pack

Create, Think & explore

Class : XII

Create

Be Kind

Stay Curious

Keep Learning

Read

Imagine

Discover

Grow

पवित्र मन रखो पवित्र तन रखो

पवित्र मन रखो पवित्र तन रखो
पवित्रता मनुष्यता की शान है

जो मन ,वचन, कर्म से पवित्र है वह चरित्रवान ही यहां महान है

1 बड़ा ही मूल्यवान है तुम्हारा यह जन्म, तुम्हारा यह जन्म।
जगत की कर्मभूमि में करो भले कर्म, करो भले कर्म।

अच्छे रखो विचार ,उत्तम करो व्यवहार,
आदर्श व्यक्ति की यह पहचान है।
जो मन, वचन ,कर्म से पवित्र है
वह चरित्रवान ही यहां महान है।।

2 तुम अपनी आंख मैं अमूत रखो विमल विमल, सदा विमल विमल।
तुम्हारी वाणी में माधुर्य हो सरल सरल, सदा सरल सरल।।

तुम हो के निर्विकार, सबका करो सत्कार,
यह जन्म तुम्हारा इम्तहान है।
जो मन, वचन ,कर्म से पवित्र है
वह चरित्रवान ही यहां महान है।।

पवित्र मन रखो पवित्र तन रखो

अच्छे विचार
उत्तम व्यवहार
श्रेष्ठ चरित्र
सफल जीवन

शुद्ध मन

मधुर वचन

सत्कर्म

पवित्रता ही मानवता की सबसे बड़ी पहचान है।

पवित्र विचार अपनाओ, पवित्र वाणी बोलो, पवित्र कर्म करो – यही है जीवन का सच्चा धन।
यही है चरित्र की पहचान और महानता की राह।

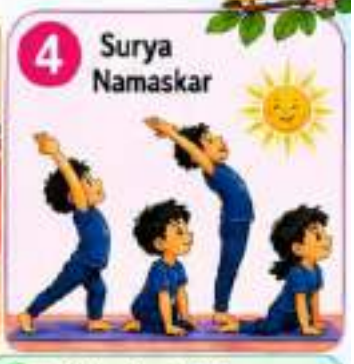
DAILY HABITS OF CHILD DURING SUMMER VACATION

1. Wake up early

2. Meditation and Affirmation

3. Pranam to Earth and Parents

4. Surya Namaskar



5. Brushing teeth

6. Bathing daily

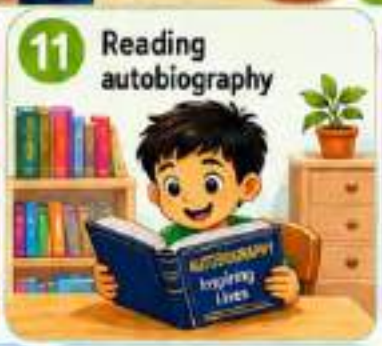
7. Offering water to Sun

8. Watering birds and plants

9. Healthy breakfast

10. Doing vacation learning pack

11. Reading autobiography



12. Fruit time

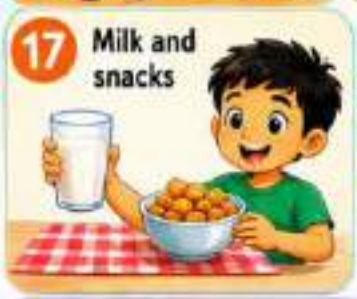
13. Creative new skills

14. Day time nap

15. Lunch – nutritious food

16. Tech time (app time)

17. Milk and snacks



18. Outdoor games

19. Dinner with family and siblings

20. Meditation and Affirmation

21. Going to bed

GOOD HABITS TODAY, BRIGHT FUTURE TOMORROW!

CLASS +2 BIOLOGY (2026-27)

SUMMER VACATIONS HOMEWORK

1 Pollination Comparison Lab

Objective: Compare morphological adaptations in **Entomophilous** (insect-pollinated) and **Anemophilous** (wind-pollinated) plants.

The Task- Find two plants in your surroundings—one colorful and one "weedy" or grass-like. Complete the comparison table below in your notebook based on your field observations.

Feature	Insect Pollinated (e.g., Hibiscus / Rose)	Wind Pollinated (e.g., Maize / Grass
Petal Color		
Scent/Nectar		
Pollen Grains		
Stamens		

Analyze: Why must wind-pollinated plants produce *millions* more pollen grains than insect-pollinated ones?

2. The Liquid Life Observation

- **Task**: Compare the Endosperm of a tender coconut and a mature coconut.
- **Action**: Describe the physical differences between the "water" and the "kernel."
- **Worksheet Question**: Explain the biological transition from Free-nuclear endosperm to Cellular endosperm based on your observations

3 Task 1: The Great Seed Dissection

Part A: Dicot Exploration (Pea or Gram)

Procedure: Soak a few seeds overnight to soften the seed coat. Gently peel off the outer layer and use your fingernail or a blunt tool to separate the two **Cotyledons**.

Your Mission: Use a magnifying glass to find the tiny "baby plant" nestled between the halves.

Observation Check: 1 How many cotyledons are present in the dicot seed and where is the embryo located?

2 Can you identify the embryonal axis along with the plumule and radicle

3 What structures did you observe after removing the seed coat and separating the cotyledons?

Part B: Monocot Analysis (Maize/Corn)

Procedure: Soak a dried maize grain for 24 hours. Using a steady hand (and adult supervision if needed), perform a **Longitudinal Section (LS)** by cutting the grain lengthwise through the center.

Your Mission: Observe the two distinct regions inside.

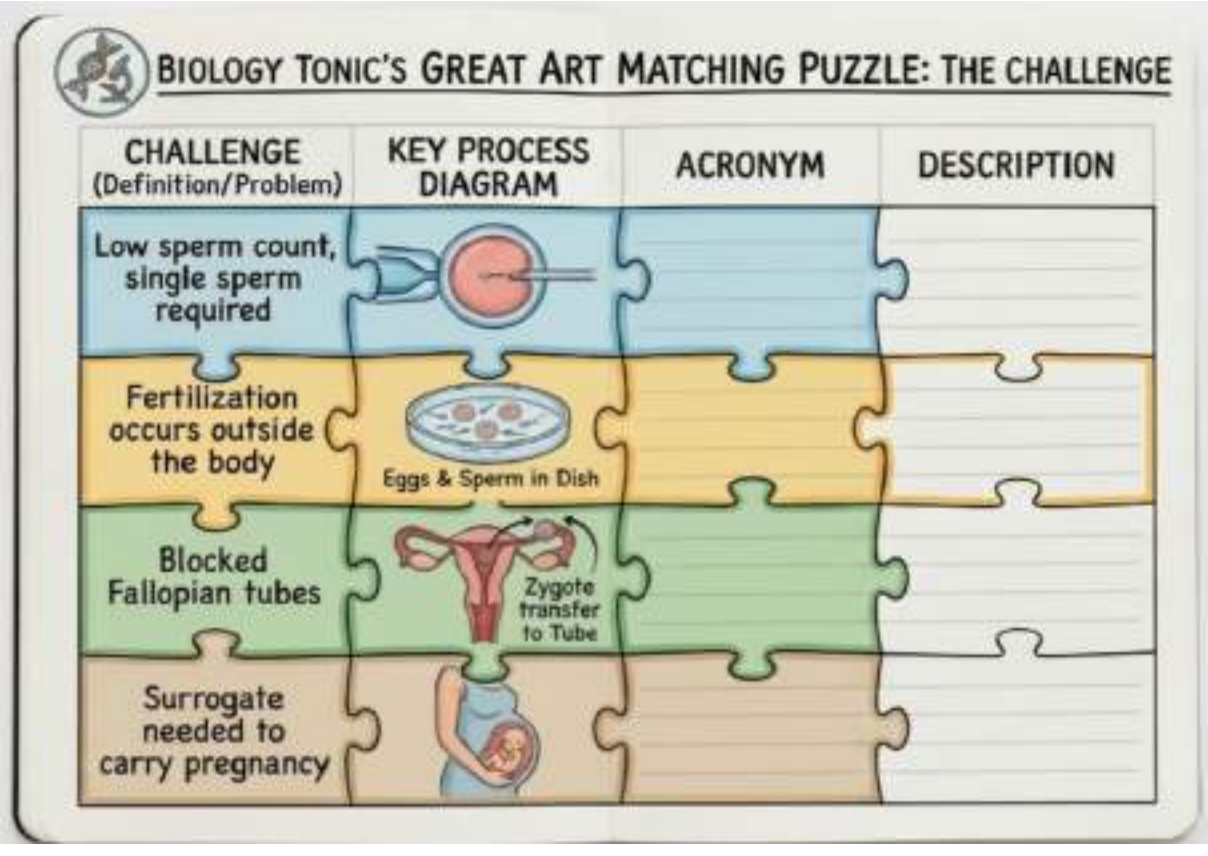
Observation Check:1 Which two main regions can be observed inside the maize grain after cutting it longitudinally?

2 Can you identify the scutellum, coleoptile, and coleorhiza in the seed?

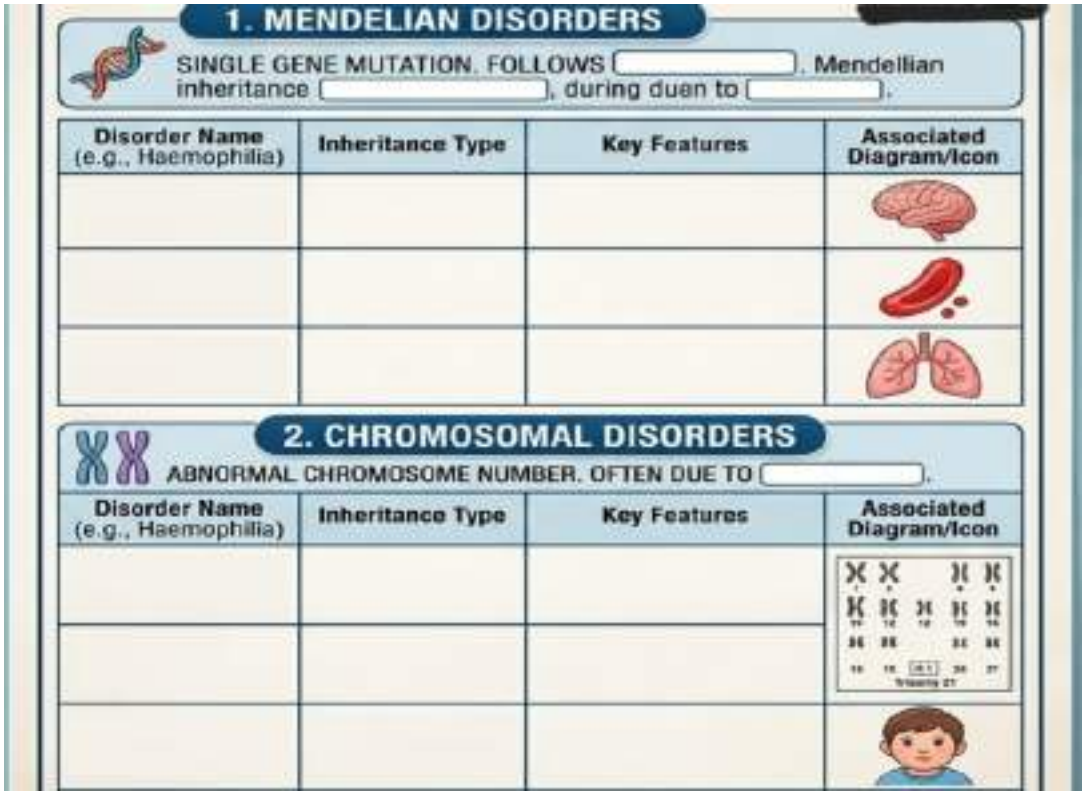
3 What is the role of the endosperm in the maize grain?

Note - Draw what you actually saw under your magnifying glass.

3 **From Challenge to Conception: Understanding Assisted Reproduction**



4 Solve the table



5.PROJECTS - To help you build a professional-grade project file that meets CBSE standards, here is the structural breakdown.

1. The First Page (Title Page)

Layout: Center-aligned text.

- **Top:** Name of your School (in bold capitals).
- **Middle:** TITLE OF THE PROJECT (e.g., *STUDY OF MITOSIS IN ONION ROOT TIP*).
- **Bottom Left:** Submitted by: [Your Name], Class: XII, Roll No: [Board Roll No].
- **Bottom Right:** Guided by: [Teacher's Name], Department of Biology.

2. SECOND PAGE Heading (Acknowledgement)

You can also write in your Own words

"I would like to express my sincere gratitude to my Biology teacher, **[Teacher's Name]**, for their vital support and guidance throughout this project. I also extend my thanks to our Principal, **[Principal's Name]**, for providing the laboratory facilities. Finally, I am grateful to my parents and friends for their constant encouragement which helped me complete this project within the stipulated
time."

3 Topic introduction,Detail of Topic ,Detail of SuB topic, Paste Colourful Pictures,(File must be with 10 to 12 pages)

4. The Last Page: Bibliography

Format:

1. **NCERT Textbook:** Biology Class XII, NCERT Publications.
2. **Lab Manual:** Comprehensive Biology Practical Class XII.
3. **Websites:** www.learncbse.in, www.biologydiscussion.com.
4. **Encyclopedias:** Britannica or Wikipedia (for general images).

List of Projects

1. Comparative DNA Yield (Chapter 6: Molecular Basis of Inheritance) Rollno (1 and 2)

- The Project: Instead of just extracting DNA (which is the practical), extract and compare the *amount* of DNA yielded from different sources (e.g., ripe banana vs. unripe banana, or strawberry vs. onion) to investigate cellular density.

2. Mendelian Traits in a Local Population (Chapter 5: Principles of Inheritance) Rollno (3 and 4)

- The Project: Conduct a large-scale survey of your school/neighborhood to map the frequency of specific traits (widow's peak, attached earlobes, tongue rolling). Analyze the data to determine if the genetically "dominant" trait is actually the most common in your population.

3 Awareness of Reproductive Health (Chapter 4: Reproductive Health) Rollno (5 and 6)

- The Project: Design and conduct an anonymous questionnaire to study the awareness levels of Assisted Reproductive Technologies (ART, IVF) and Sexually Transmitted Infections (STIs) across different age groups

4 Public Perception of GM Crops (Chapter 12: Biotechnology and its Applications)Rollno (7 and 8)

- The Project: A research and survey-based study analyzing what local consumers and farmers actually know about Genetically Modified (GM) foods (like Bt Cotton or Golden Rice), focusing on their safety concerns and ethical viewpoints.

5. Pollinator Biodiversity (Chapter 15: Biodiversity and Conservation)Rollno (9 and 10)

- The Project: Select a patch of local flora and conduct an observational study over a week to record the variety, frequency, and types of insect pollinators (bees, butterflies, moths) visiting at different times of the day.

6 Micro-Biogas Production Rates (Chapter 10: Microbes in Human Welfare)Rollno (11 and 12)

- The Project: Create mini anaerobic digesters using plastic bottles topped with balloons. Fill them with equal weights of different wastes (cow dung, fruit peels, vegetable scraps) to see which substrate produces biogas (methane) the fastest.

7. Decomposition Rates in Ecosystems (Chapter 14: Ecosystem) Rollno (13)

- The Project: Bury equal weights of different organic/biodegradable materials (cotton cloth, newspaper, banana peels, and "bioplastic" bags) in identical soil pots. Dig them up after 3-4 weeks to calculate and compare their exact mass loss and decomposition rate.

8. Mosquito Vector Breeding Sites (Chapter 8: Human Health and Disease)Rollno (14)

- The Project: Collect water samples from various stagnant sources around your locality (abandoned tires, flower pots, coolers, puddles). Observe them to count mosquito larvae density, correlating it with the risk of Malaria/Dengue outbreaks in your area.

6 PRACTICALS(TRUEMAN'S PUBLICATIONS)

To get full marks for your **Practical Record (4 Marks)**, follow this "Golden Rule":

- **Right Side (Ruled Page):** Write the Aim, Requirements, Procedure, and Results in neat, print-style handwriting.
- **Left Side (Blank Page):** Give heading Aim ,Requirements, Diagram with labelling and name of Diagram.Draw your diagrams with a sharp HB pencil.

A. List of Experiments

1. **Pollen Germination:** Prepare a temporary mount to observe pollen germination.
2. **Plant Population Density:** Study the plant population density by the quadrat method.
3. **Plant Population Frequency:** Study the plant population frequency by the quadrat method.
4. **Mitosis Study:** Prepare a temporary mount of onion root tip to study mitosis.
5. **DNA Isolation:** Isolate DNA from available plant material such as spinach, green pea seeds, papaya, banana, etc.

B. Study and Observation (Spotting)

1. **Pollination Adaptations:** Flowers adapted to pollination by different agencies (wind, insects, birds).
2. **Pollen Germination:** Observation of pollen germination on the stigma through a permanent slide or scanning electron micrograph.
3. **Gamete Development:** Identification of stages of gamete development (T.S. of testis and T.S. of ovary) through permanent slides from grasshopper or mice.

4. **Meiosis:** Observation of meiosis in onion bud cells or grasshopper testis through permanent slides.
5. **Embryology:** T.S. of blastula through permanent slides (Mammalian).
6. **Mendelian Inheritance:** Study of Mendelian inheritance using seeds of different colors/sizes of any plant.
7. **Pedigree Analysis:** Prepared pedigree charts of genetic traits such as rolling of tongue, blood groups, ear lobes, widow's peak, and color blindness.
8. **Controlled Pollination:** Demonstration of emasculation, tagging, and bagging.
9. **Pathology:** Common disease-causing organisms like *Ascaris*, *Entamoeba*, *Plasmodium*, or any fungus causing ringworm through permanent slides, models, or virtual images.
10. **Symbiosis and Parasitism:** Models or specimens showing symbiotic association in lichens, root nodules of leguminous plants, and parasitic mode of nutrition shown by *Cuscuta* on host.
11. **Evolutionary Evidence:** Flashcards or models showing examples of homologous and analogous organs.

BHARTIYA VIDYA MANDIR SENIOR SECONDARY SCHOOL, LUDHIANA

HOLIDAYS HOMEWORK 2026-27 XII COMMERCE

PRACTICE ASSIGNMENT

ACCOUNTANCY

General Instructions:

- **Complete all holiday homework neatly and on time.**
- **Mention Name, Class, Section and Roll Number on all work.**
- **Do the work independently and avoid copying.**
- **Maintain proper handwriting and formats.**
- **Submit the homework on the reopening day without fail.**

Q1 – Define partnership and its features.

Q2- Explain fixed vs. fluctuating capital accounts.

Q3- Why are 'reserves and surplus' distributed at the time of reconstitution of the firm?

Q4- Assertion (A)–*Partnership may be conducted on the basis of written or oral agreement and all partners should contribute capital in the firm.*

Reason (R) - *It is necessary that a written agreement exists and the business may be conducted on by all or any of them acting for all.*

Based on the above statements, which of the below option is correct?

(A)Both (A) and (R) are correct and (R) is the correct explanation of (A).

(B)Both (A) and (R) are correct but (R) is not correct explanation of (A).

(C)Both (A) and (R) are not correct.

(D)(A) is correct but (R) is not correct.

Q5- Assertion (A)–*Revaluation A/c is prepared at the time of admission of a partner.*

Reason (R) - *It is required to adjust the values of assets and liabilities at the time of admission of a partner, so that the true financial position of the firm is reflected.*

Based on the above statements, which of the below option is correct?

(A) Both (A) and (R) are correct and (R) is the correct explanation of (A).

(B) Both (A) and (R) are correct but (R) is not correct explanation of (A).

(C) Both (A) and (R) are not correct.

(D) (A) is correct but (R) is not correct.

Q6- Assertion (A)– *Self-generated goodwill is not recorded in the books of accounts.*

Reason (R) - *Accounting Standards (such as AS 26) prescribe that goodwill should only be recognized when a consideration in money or money's worth is paid for it.*

Based on the above statements, which of the below option is correct?

(A) Both (A) and (R) are correct and (R) is the correct explanation of (A).

(B) Both (A) and (R) are correct but (R) is not correct explanation of (A).

(C) Both (A) and (R) are not correct.

(D) (A) is correct but (R) is not correct.

Q7- Rohit, Raman and Raina are partners in a firm. Their capital accounts on 1st April, 2025, stood at ₹2,00,000, ₹1,20,000 and ₹1,60,000 respectively. Each partner withdrew ₹15,000 during the financial year 2025-2026.

As per provisions of their partnership deed:

(a) Interest on capital was to be allowed @5% per annum.

(b) Interest on drawings was to be charged @4% per annum.

(c) Profits and losses were to be shared in the ratio 5:4:1.

The net profit of ₹72,000 for the year ended 31st March,2026, was divided equally amongst the partners without providing for the terms of the deed.You are required to pass a single adjustment entry to rectify the error (show workings clearly).

Q8- Aman, Anmol and Rohan entered into partnership on 1st July, 2025 to share profits and losses in the ratio of 3:2:1. Amay guaranteed that Rohan's share of profit after charging interest on capital @6% p.a would not be less than ₹36,000 p.a. Their fixed capital balances are: ₹2,00,000, ₹1,00,000 and ₹1,00,000 respectively. Profit for the year ended 31st March, 2026 was ₹1,38,000.

Prepare Profit and Loss Appropriation A/c.

Q9- (Existing goodwill to be written off): A and B are partners in a firm sharing profits and losses in the ratio of 3:2. They admit C into partnership for 1/5th share. C brings ₹30,000 as capital and ₹10,000 as goodwill. At the time of admission of C, goodwill appears in the balance sheet of A and B at ₹3,000. New Profit-sharing ratio of partners shall be 5:3:2. Pass necessary entries.

Case (1) Premium brought in cash

Case (2) Premium brought in kind.

CASE BASED QUESTIONS

Q10- A and B are in partnership, sharing profits in the ratio of 5: 3 respectively.

Their balance sheet is as follows:

Liabilities	₹	Assets		₹
Creditors	3,20,000	Debtors	1,00,000	
Workmen's compensation fund	80,000	Less: Prov. for DD	(3,000)	97,000
Outstanding Expenses	10,000	Plant and machinery		7,20,000
Capital: A	5,00,000	Stock		4,40,000
B	4,00,000	Bank		53,000
	13,10,000			13,10,000

C is admitted into partnership on the following terms:

1. The new profit-sharing ratio will be 4: 3: 2 between A, B and C respectively.

2. C is to bring in ₹2,00,000 as Capital.

3. Goodwill of the firm is valued at ₹3,60,000 but C is unable to bring his share of goodwill in cash.

4. Outstanding expenses be brought down to ₹4,000.

5. To Write off bad debts amounting to ₹5,000.

6. A Creditor for ₹20,000 is not traceable for a number of years and the amount is to be written off.

Based on the above information you are required to answer the following questions:

I- Loss/Gain on Revaluation will be :

(A) Loss ₹24,000 (B) Gain ₹24,000

(C) Gain ₹21,000 (D) Gain ₹22,000

II- Goodwill will be :

(A) Credited to A ₹ 50,000 and B ₹ 30,000

(B) Credited to A ₹2, 92,500 and B ₹67,500

(C) Credited to A ₹65,000 and B ₹15,000

(D) Credited to A ₹2,25,000 and B ₹1,35,000

III- Balance of A's Capital Account will be :

(A) ₹6,28,125 (B) ₹6,15,000

(C) ₹6,30,000 (D) ₹6,13,125

Q11- A, B and C were partners sharing profits in the ratio of 2: 2: 1. On this date firm had assets of ₹3, 80,000 including cash of ₹20,000. The partner's capital accounts showed a balance of ₹3,00,000 and reserves constituted the rest. Normal rate of return is 10% and the goodwill of the firm is valued at ₹75,000 at 3 year's purchase of super profits.

On the basis of the above information, answer the following:

I- Normal Profit of the firm is

A) ₹30,000 (B) ₹38,000

(C) ₹36,000 (D) ₹40,000

II- Super Profit will be:

(A) ₹ 2, 25,000 (B) ₹13,000

(C) ₹ 25,000 (D) ₹75,000

III- Average Profit will be:

(A) ₹13,000 (B) ₹38,000

(C) ₹25,000 (D) ₹63,000

Q12- Sweta and Tripti are partners sharing profits and losses in the ratio of 2: 1 with Capitals of ₹3,00,000 and ₹2,00,000.You are required to answer the following questions in each of the following alternative cases:

I- If the partnership deed provides for interest on Capital @ 9% p.a. and the profits for the year are ₹36,000, then Sweta's share of interest on Capital will be:

(A) ₹24,000 (B) ₹27,000

(C) ₹21,600 (D) ₹14,400

II- If the partnership deed provides for interest on Capital @ 9% p.a. and the loss for the year is ₹15,000, then Sweta's share of interest on Capital will be :

(A) ₹27,000 (B) ₹79,000

(C) ₹10,000 (D) Nil

III- If the partnership deed is silent as to interest on Capital and the profits for the year are ₹60,000, then Tripti's share of interest on Capital will be :

(A) ₹18,000 (B) Nil

(C) ₹27,000 (D) ₹12,000

CLASS XII

SUBJECT: MATHEMATICS

INVERSE TRIGONOMETRY

1. Evaluate the following:

(a) $\left(\sin\left(-\frac{7\pi}{3}\right)\right)$ (b) $\cos^{-1}\left(\cos\frac{8\pi}{7}\right)$

(c) $\cot^{-1}\left(\cot\left(-\frac{9\pi}{4}\right)\right)$ (d) $\sec^{-1}\left(\sec\left(-\frac{8\pi}{5}\right)\right)$

2. Evaluate the following:

(a) $\sin^{-1}(\sin 10)$ (b) $\tan^{-1}(\tan(-4))$

(c) $\cos^{-1}(\cos 12) - \sin^{-1}(\sin\ 12)$

3. Write the value of

(a) $\tan\left(2\tan^{-1}\frac{1}{5}\right) + \sin\left(2\sin^{-1}\frac{3}{5}\right)$ (b) $\tan\left(\frac{1}{2}\sin^{-1}\frac{3}{5}\right)$

(c) $\tan^{-1}\left(\sin(-\frac{\pi}{2})\right)$ (d) $\cos\left(\tan^{-1}\frac{3}{4}\right)$

(e) $\tan\left(\cos^{-1}\frac{8}{17}\right)$

4. Find domain

(a) $\sin x + \sin^{-1}x$ (b) $\cos^{-1}(3x-2)$

5. Prove that

(a) $\sin^{-1}\frac{3}{5} = \frac{1}{2}\tan^{-1}\frac{24}{7}$ (b) $\tan^{-1}\frac{1}{4} = \frac{1}{3}\cot^{-1}\frac{52}{47}$

(c) $\cos^{-1}\frac{5}{\sqrt{26}} = \frac{1}{4}\tan^{-1}\frac{120}{119}$

6. Show that : $\tan\left(\frac{1}{2}\sin^{-1}\frac{3}{4}\right) = \frac{4-\sqrt{7}}{3}$

7. Prove that

(a) $2\tan^{-1}(-3) = -\frac{\pi}{2} + \tan^{-1}\left(-\frac{4}{3}\right)$ (b) $\sin\left(2\tan^{-1}\frac{1}{3}\right) + \cos\left(\tan^{-1}2\sqrt{2}\right) = \frac{14}{15}$

8. Evaluate :- $\tan\left(2\tan^{-1}\frac{1}{5} + \frac{\pi}{4}\right)$

9. Prove that:- $\cot\left(\frac{\pi}{4} - 2\cot^{-1}3\right) = 7$

10. Prove that:- $2\sin^{-1}\frac{3}{5} - \tan^{-1}\frac{17}{31} = \frac{\pi}{4}$

11. Prove that:- $\cot^{-1}7 + \cot^{-1}8 + \cot^{-1}18 = \cot^{-1}3$

12. Prove that:- $\tan^{-1}1 + \tan^{-1}2 + \tan^{-1}3 = \pi$

13. If $\tan^{-1}x + \tan^{-1}y + \tan^{-1}z = \pi$ to prove $x + y + z = xyz$.

14. If $\tan^{-1}x + \tan^{-1}y + \tan^{-1}z = \frac{\pi}{2}$, $x, y, z > 0$ prove that $xy + yz + zx = 1$

15. If two angle of triangle are $\tan^{-1}2$ and $\tan^{-1}3$ find the third angle

16. Prove that $\cos^{-1}\left(\frac{3}{5}\cos x + \frac{4}{5}\sin x\right) = \cos^{-1}\frac{3}{5} - x$

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

18. Prove that $2\tan^{-1}\left(\sqrt{\frac{a-b}{a+b}}\tan\frac{x}{2}\right)=\cos^{-1}\left(\frac{a\cos x+b}{a+b\cos x}\right)$

19. Prove that $\tan^{-1}\left(\frac{3\sin 2\theta}{5+3\cos 2\theta}\right)+\tan^{-1}\left(\frac{1}{4}\tan\theta\right)=\theta;\ \frac{-\pi}{2}<\theta<\frac{\pi}{2}$

20. Prove that $\cos^{-1}\left(\frac{\cos\alpha+\cos\beta}{1+\cos\alpha\cos\beta}\right)=2\tan^{-1}\left(\tan\frac{\alpha}{2}\tan\frac{\beta}{2}\right)$

21. Prove that $2\tan^{-1}(\tan\frac{\alpha}{2}\tan\left(\frac{\pi}{4}-\frac{\beta}{2}\right))=\tan^{-1}\left(\frac{\sin\alpha\cos\beta}{\sin\beta+\cos\alpha}\right)$.

22. Prove that $\tan^{-1}\left(\frac{6x-8x^3}{1-12x^2}\right)-\tan^{-1}\left(\frac{4x}{1-4x^2}\right)=\tan^{-1}2x, |2x|<\frac{1}{\sqrt{3}}$

23. Prove that $\tan^{-1}\left[\frac{\sqrt{x(x+y+z)}}{\sqrt{yz}}\right]+\tan^{-1}\left[\frac{\sqrt{y(x+y+z)}}{\sqrt{zx}}\right]+\tan^{-1}\left[\frac{\sqrt{z(x+y+z)}}{\sqrt{xy}}\right]=0$

24. If $\sin^{-1}x+\tan^{-1}x=\frac{\pi}{2}$, prove that $2x^2+1=\sqrt{5}$

25. If $y=\cot^{-1}\left(\sqrt{\cos x}\right)-\tan^{-1}\left(\sqrt{\cos x}\right)$,Prove $\sin y=\tan^2\frac{x}{2}$.

26. If $\left(\tan^{-1}(x)\right)^2+(\cot^{-1}x)^2=\frac{5\pi^2}{8}$, then prove $x=-1$

27. If $\cos^{-1}x+\cos^{-1}y+\cos^{-1}z=\pi$ to prove $x^2+y^2+z^2+2xyz=1$

28. If $\cos^{-1}\frac{x}{a}+\cos^{-1}\frac{y}{b}=\alpha$ to prove $\frac{x^2}{a^2}-\frac{2xy}{ab}\cos\alpha+\frac{y^2}{b^2}=\sin^2\alpha$

29. If $\cos^{-1}\frac{x}{2}+\cos^{-1}\frac{y}{3}=t$ to prove $9x^2-12xy\cos t+4y^2=36\ \sin^2 t$

30. If $\sin^{-1}x+\sin^{-1}y+\sin^{-1}z=\pi$ to prove $x\sqrt{1-x^2}+y\sqrt{1-y^2}+z\sqrt{1-z^2}=2xyz$

MATRIX AND DETERMINANT

1. If $\begin{bmatrix}2x+y & 4x\\ 5x-7 & 4x\end{bmatrix}=\begin{bmatrix}7 & 7y-13\\ y & x+6\end{bmatrix}$. Find the value of $x+y$.

2. If A is square matrix such that $A^2 = A$, then find the value of $7A - (I + A)^3$.

3. If A is a square matrix of order 3, $|A| = 7$ write the value of $|\text{adj } A|$.

4. Write A^{-1} in term of A for $A=\begin{bmatrix}2 & 1\\ -1 & 2\end{bmatrix}$

5. Show that $A=\begin{bmatrix}3 & 1\\ -1 & 2\end{bmatrix}$, show that equation $A^2-5A+7I=0$.Hence find A^{-1}

6. Find the matrix X for which $\begin{bmatrix}1 & -4\\ 3 & -2\end{bmatrix}X=\begin{bmatrix}-16 & -6\\ 7 & 2\end{bmatrix}$

7. There are 2 families A and B There are 4 men, 6 women and 2 children in family A and 2 men, 2 women and 4 children in family B. The recommended daily amount of calories is 2400, 1900 and 1800 for each man, woman and child respectively and amount of protein is 45 gm, 55 gm and 33 gm for each man, women and child respectively. Using matrix multiplication, calculate the total requirement of calories and protein.

8. Two schools A and B want to award their selected students on the value of sincerity, truthfulness and helpfulness. The school A wants to award ₹ x, ₹ y and ₹ z each for

three respective value of 3, 2 and 1 students respectively with a total award money of ₹ 1600. School B wants to spend ₹ 2300 award it 4, 1, and 3 on the respective value. If total amount of award for one prize on each value is ₹ 900. Using matrices, find the award money for each value

9. Find the value of x for which the matrix product

$$\begin{bmatrix} 2 & 0 & 7 \\ 0 & 1 & 0 \\ 1 & -2 & 1 \end{bmatrix}\begin{bmatrix} -x & 14x & 7x \\ 0 & 1 & 0 \\ x & -4x & -2x \end{bmatrix}$$ equal to an identity matrix.

Solve the following equations, using inverse of Matrices or Matrix Method

10.
$$\begin{aligned} x - y + 2z &= 7 \\ 3x + 4y - 5z &= -5 \\ 2x - y + 3z &= 12 \end{aligned}$$

11.
$$\begin{aligned} x + y + z &= 5, \\ 2x + y - z &= 2, \\ 2x - y + z &= 2 \end{aligned}$$

12. $\frac{2}{x} - \frac{3}{y} + \frac{3}{z} = 10, \frac{1}{x} + \frac{1}{y} + \frac{1}{z} = 10, \frac{3}{x} - \frac{1}{y} + \frac{2}{z} = 13$

13. $\frac{3}{x} + \frac{4}{y} + \frac{7}{z} = 14,\ \frac{2}{x} - \frac{1}{y} + \frac{3}{z} = 4, \frac{1}{x} + \frac{2}{y} - \frac{3}{z} = 0$

14. If $A = \begin{bmatrix} 8 & -4 & 1 \\ 10 & 0 & 6 \\ 8 & 1 & 6 \end{bmatrix}$, then find A^{-1}.Hence solve:

$$\begin{aligned} 8x - 4y + z &= 5 \\ 10x + 6z &= 5 \\ 8x + y + 6z &= \frac{5}{2} \end{aligned}$$

15. If $A = \begin{bmatrix} 3 & 2 & 1 \\ 4 & -1 & 2 \\ 7 & 3 & -3 \end{bmatrix}$, then find A^{-1}.Hence find the following system of equations:

$$\begin{aligned} 3x + 2y + z &= 6, \\ 4x - y + 2z &= 5, \\ 7x + 3y - 3z &= 7. \end{aligned}$$

16. If $A = \begin{bmatrix} 1 & 2 & 3 \\ 2 & 3 & -3 \\ -3 & 2 & -4 \end{bmatrix}$, find A^{-1}.Using solve the following system of linear equations:

$$x + 2y - 3z = -4$$
$$2x + 3y + 2z = 2$$
$$3x - 3y - 4z = 11$$

17. If $A = \begin{bmatrix} 1 & 1 & 2 \\ 2 & -1 & 3 \\ 5 & -1 & -1 \end{bmatrix}$, find A^{-1}. hence solve

$$x + 2y + 5z = 10$$
$$x - y - z = -2$$
$$2x + 3y - z = -11$$

18. If $A = \begin{bmatrix} 2 & -1 & 1 \\ -1 & 2 & -1 \\ 1 & -1 & 2 \end{bmatrix}$ and $B = \begin{bmatrix} 3 & 1 & -1 \\ 1 & 3 & 1 \\ -1 & 1 & 3 \end{bmatrix}$,

Find the product AB and use this result to solve the following system of linear equations:

$2x - y + z = -1, -x + 2y - z = 4, x - y + 2z = -3.$

19. Determine the product

$\begin{bmatrix} -4 & 4 & 4 \\ -7 & 1 & 3 \\ 5 & -3 & -1 \end{bmatrix} \begin{bmatrix} 1 & -1 & 1 \\ 1 & -2 & -2 \\ 2 & 1 & 3 \end{bmatrix}$, use it to solve the system of equations:

$x - y + z = 4, x - 2y - 2z = 9, 2x + y + 3z = 1.$

20. If $A = \begin{bmatrix} 2 & -1 & 1 \\ -1 & 2 & -1 \\ 1 & -1 & 2 \end{bmatrix}$, then verify that $A^3 - 6A^2 + 9A - 4I = 0$ and hence find A^{-1}.

BHARTIYA VIDYA MANDIR SEN SEC SCHOOL
SEC39, CHD ROAD LUDHIANA
SUBJECT : POLITICAL SCIENCE
Holiday Homework Allocation (Class XII)

CBSE Guidelines for Holiday Homework

- Each student must prepare a **typed or handwritten project report** (10–12 pages).
- Include **Introduction, Main Content, Case Studies, Current Updates, and Conclusion**.
- Use **maps, charts, diagrams, and newspaper clippings** wherever relevant.
- Highlight **India's role and perspective** in international topics.
- Maintain **individual originality** – plagiarism will not be accepted.
- Submission deadline: **First week after reopening**.
- Viva-voce will be conducted to assess understanding.

Roll No.	Assigned Topic
1	NAM – 1961 to present times
2	Division of Germany with focus on Berlin Wall construction & dismantling
3	CIS – Central Asian Republics
4	Disintegration of USSR with focus on Gorbachev
5	Arab Spring
6	India–Russia Relations (positive & negative aspects, current updates)
7	India–China Relations (positive & negative aspects, current updates)
8	India–Pakistan Relations (positive & negative aspects, current updates)
9	India–Bangladesh Relations (positive & negative aspects, current updates)
10	ASEAN and India
11	European Union and India
12	BRICS
13	SAARC
14	India's Nuclear Policy

Roll No.	Assigned Topic
15	United Nations – India's candidature in Security Council
16	UN Agencies – UNICEF, UNESCO, WHO
17	Pandemics: COVID-19 – Global impact, cooperation, preparedness & controversies
18	Partition of India – Theory & legacy
19	Comparison between NITI Aayog & Planning Commission
20	Election Commission of India – Electoral Roll & its revision
21	Elections 2019 – Rise of BJP & Downfall of Congress (1989–2019)
22	Imposition of Emergency in India
23	NDA III – Social & Economic welfare programs
24	NDA IV – Social & Economic welfare programs
25	India and Globalization (extension topic for enrichment)
26	Climate Change & India's role in global cooperation
27	Digital India Initiatives
28	Sustainable Development in India
29	NAM – 1961 to present times
30	Division of Germany with focus on Berlin Wall construction & dismantling
31	India–Russia Relations (positive & negative aspects, current updates)
32	Disintegration of USSR with focus on Gorbachev
33	India–China Relations (positive & negative aspects, current updates)
34	Imposition of Emergency in India
35	Partition of India – Theory & legacy
36	India's Nuclear Policy

HOLIDAY HOMEWORK CLASS XII SUBJECT- CHEMISTRY

CHAPTER 1 SOLUTIONS

1. In a chemistry laboratory, Richa took 5g of a solute from an unknown box and prepared a 0.25 M basic solution. The volume of the solution was 500 ml.
Based on the above data, which of the following is likely to be the unknown substance used by Richa?
(Approx. Atomic masses of Ca = 40 u; Na = 23 u; Li = 7 u; Cs = 133 u; O = 16 u; H = 1 u)
A. Ca(OH)2
B. NaOH
C. LiOH
D. CsOH

2. A glycerine solution, at 293 K, has a molality of 3.89 molal and molarity of 5.33 M. Which of these would be CORRECT for molarity and molality of the same glycerine solution at 450K?
A. Molarity < 5.33 M; Molality = 3.89 molal
B. Molarity < 5.33 M; Molality < 3.89 molal
C. Molarity > 5.33 M; Molality = 3.89 molal
D. Molarity = 5.33 M; Molality = 3.89 molal

3. A mixture of acetone and chloroform forms a maximum boiling azeotrope at a specific composition.
Which of these is CORRECT for the mixture?
A.. Change in volume on mixing will be positive.
B. Change in enthalpy on mixing will be positive.
C. Interaction between unlike molecules is stronger than that between like molecules in the mixture.
D. The proportion of acetone and chloroform in the mixture in the liquid phase is not the same as in the vapor phase.

4. In a chemistry laboratory, a student has 0.01 L of 10-2 mol dm-3 sulphuric acid solution. The lab assistant asked the student to reduce its concentration to 2 x 10- 4 mol dm-3 by adding water into it.
What should be the volume of the water added?
A. 200 ml
B. 490 ml
C. 500 ml
D. 510 ml

5. As per Henry's law KH= p/x; where p is the partial pressure, x is the mole fraction of the gas, and KH is the Henry law constant.
If, the concentration of N2 gas in water at constant pressure increases

quadratically, how will the value of KH change?
A. Increases linearly
B. Decreases quadratically
C. Decreases linearly
D. Remains the same

6. some countries use the colligative property of solutions to remove the snow from the roads. The snow is salted with NaCl or $CaCl_2$, lowering its freezing point and causing it to melt and clear the space.
Assuming that NaCl dissolves completely in ice and forms an ideal solution, what mass of NaCl must be dissolved in 5.5 kg of ice on the road to decrease the melting point of water to -10°C? (Kf = 1.86 °C kg/mole; atomic mass of sodium = 23 g/mol, atomic mass of chlorine = 35.44 g/mol)

7. Rakesh took 20 g of solute A to prepare a 50 ml solution. This solution is isotonic to another solution of the same volume with a weight of 40 g of a different solute B.
(i) If both the solution is prepared at the same temperature, then what is the ratio of molecular mass of solute A to that of B?
(ii) If the two solutions are placed at different temperatures, keeping all other variables constant, and separated by SPM, will the osmosis happen, and why?

8. A solution containing two non-interacting solid solutes A and B in the mass ratio 5:1 is isotonic with another solution of A and B (with the same volume) having a mass ratio of 3:5.
What is the ratio of the molar mass of A: B?

9. Two solutions A and B are prepared. Both solutions A and B contain an equal amount of organic compounds P and Q respectively as solutes in 500 g benzene (as a solvent).
The boiling point of solution A is 0.4oC higher than that of pure benzene and the boiling point of solution B is 0.8oC higher than that of pure benzene.
(i) Calculate the ratio of molecular weight of P: Q
(ii) If the molecular weight of P is 200, what is the minimum value of the sum of molecular weights P &Q.

10. The osmotic pressure of NaCl in water is 3 times that of the solution of 0.2M $MgCl_2$. If NaCl dissociates completely in water, then calculate the concentration of NaCl.
(Assume the value of R and T as the same for both the solutions)

Q.11. The vapor pressure of compound A at 90°C is 526 mm Hg and that of compound B is 11250 mm of Hg.
(i) What will be the total concentration (in terms of mole fraction) of the boiling mixture of A and B at 90° C if the two liquids are completely miscible with each other?

(ii) Using i, calculate XA and XB. (Round off to two decimal places(Take Ptotal = 760 mm Hg)

CHAPTER 2 ELECTROCHEMISTRY

1. If the standard emf of Galvanic cell−I: Cu (s)/Cu2+(aq)II Ag+(aq)/Ag(s) is 0.46V, and the standard emf of Galvanic cell–II: 3 Cu(s) + 6 Ag+ → 3Cu2+ (aq) (aq) + 6 Ag (s) is 0.46q V.

What is the value of q?

A. 3

B. 2

C. 1

D. Infinite

2. There are two beakers 'A' and 'B' containing KCl and CH3COOH solutions respectively. On adding water to beakers A and B, which of the following change in Λm of the solutions will be correct?

A. It increases sharply in beaker A and slowly in beaker B

B. It increases slowly in beaker A and sharply in beaker B

C. It decreases in beaker A but no change in beaker B.

D. There is no change in beaker A but it decreases slowly in beaker B.

3 . Copper metal is purified by electrolytic refining. If the electrolyte used for refining of copper in an electrolytic cell is aq.salt solution of copper, which out of the following statement about this cell is INCORRECT?

A. The impure Copper rod undergoes oxidation.

B. Oxidation takes place at the anode.

C. Impure copper rod acts as the negativ

4. How much electricity in Faraday is required for the complete reduction of MnO4 ions present in 500 ml of 0.5 M solution to Mn2+?

A. 5 F

B. 2.5 F

C. 2.25 F

D. 1.25 F

5. Given that the standard reduction potential for Fe3+/Fe2+= 0.77 V and I2/I− = 0.54V.

Which of the following is correct when the cell is made by using Fe3+ and I− salt solutions?

A. The standard emf of the cell is −0.23 V

B. The standard emf of the cell is +0.23 V

C. The standard emf of the cell is 1.31 V

D. The standard emf of the cell is -1.31 V

6. The value of E0 for two half cells are given as:

O2 + 4e−+H+ → 2H2O; E0= 1.228V and,

E0Ce4+/Ce3+= 1.60 V

Based on the above data, will Ce ion undergo oxidation or reduction in water? Explain it with the help of overall cell reaction. Also, find the emf of the cell

7. i) Write down the complete cell reactions taking place at anode and cathode in a zinc/carbon dry cell.

ii) Is the above given cell a primary cell or a secondary cell? Explain.

8. How much time does it require to reduce 3 moles of iron (III) to 3 moles of iron (II) ion by passing a 2.0 amp current?

(Note: For calculations use 1 Faraday = 96500 Coulombs.)

9. A rusted piece of iron undergoes electrochemical reactions. Write the chemical reactions taking place at the following spots of that rusting piece of iron:

a) At the spot that behaves as an anode

b) At the spot that behaves as a cathode

c) The overall balanced chemical reaction

d) Further oxidation of ferrous ion into rust

10. The Gibbs energy change for the reduction of Al2O3 at 500°c is given as:

2/3 Al2O3 ----- > 4/3 Al3 + O2; ΔG = +960KJ

Calculate the minimum potential difference required to reduce 2/3 mole of Al2O3 at 500°C. (1F = 96500C)

11. In an experiment, the electrolysis of copper sulfate solution takes place under the following conditions-

- Electrolysis time (t) = 10 min. - Current passed (I) = 1.5 amp.

What mass of copper will be deposited at the cathode in this experiment?

(Note: atomic mass Cu= 63.5g; For calculation use 1 Faraday = 96500 Coulombs.))

12. The electrolytic conductivity of BaCl2 solution is 0.580 Sm-1 . Find out molar concentration of the solution if molar conductivity of this solution is 2.416x10- 2 Sm2/mol.

13. The molar conductivity of a dilute solution of methanoic acid is 46.1 S cm2/mol. Calculate its degree of dissociation.

(Given $\lambda 0(H+)$ = 349.6 S cm2/mol and $\lambda 0(HCOO-)$ = 54.6 S cm2/mol)

14. One Faraday of electric charge is passed through the electrolytic cells placed in a series containing solution of Ag+, Cu2+and Al3+respectively.Find out the simple mass ratio of the metals deposited at the respective electrodes.

(Given - Atomic mass Ag=108g, Cu=63.5g. Al=27g)

15. ımagine you are in a chemistry lab and the teacher is explaining the electrolysis of CuSO4 solution and the products liberated after electrolysis. The teacher made two Setups for the electrolysis process. In Set up-i electrolysis of CuSO4 solution is done by using Pt electrodes and in Set up-II electrolysis of CuSO4 solution is done by using Cu electrodes. Answer the following questions based on this:

i) In which Set up I or II will the colour of CuSO4 solution fades away and why?

ii) Write the chemical reaction taking place at the Cu anode in Set up II.

iii) Name the product obtained at the anode in Set up I.

iv) Which out of Set up I or II depict refining of crude copper?

CHAPTER 6 HALOALKANES AND HALOARENES

1. Toluene reacts with a halogen in the presence of iron (III) chloride giving ortho and para halo compounds. The reaction is
(a) Electrophilic elimination reaction (c) Free radical addition reaction (b) Electrophilic substitution reaction
(d) Nucleophilic substitution reaction

2. Which reagent will you use for the following reaction?
$CH_3CH_2CH_2CH_3 \rightarrow CH_3CH_2CH_2CH_2Cl + CH_3CH_2CHClCH_3$
(a) Cl_2/UV light (b) NaCl + H_2SO_4 (c) Cl_2 gas in dark (d) Cl_2 gas in the presence of iron

3**.** Based on the position of –Br in the compound in $CH_3CH=CHC(Br)(CH_3)_2$ can be classified as _____ halide.
(a) Allyl (b) Aryl (c) Vinyl (d) Secondary

4. Chlorobenzene is formed by the reaction of chlorine with benzene in the presence of $AlCl_3$. Which of the following species attacks the benzene ring in this reaction?
(a) Cl^- (b) Cl^+ (c) $AlCl_3$ (d) $[AlCl_4]^-$

5. Ethylidene chloride is a/an _____.
(a) vicinal dihalide (b) geminal dihalide (c) allylic halide (d) vinylic halide

6. A primary alkyl halide would prefer to undergo _____.
(a) SN1 reaction (b) SN2 reaction (c) α–Elimination (d) Racemisation

7. Which of the following alkyl halides will undergo SN1 reaction most readily?
(a) $(CH_3)_3C—F$ (b) $(CH_3)_3C—Cl$ (c) $(CH_3)_3C—Br$ (d) $(CH_3)_3C—I$

8. What should be the correct IUPAC name for Diethyl bromomethane?
(a) 1-Bromo-1,1-diethylmethane (b) 3-Bromopentane
(c) 1-Bromo-1-ethylpropane (d) 1-Bromopentane

9. What happens when an excess of bromine attacks on $CH_2=CH—CH_2—C\equiv CH$?

10. Aryl chlorides and bromides can be easily prepared by electrophilic substitution of arenes with chlorine and bromine respectively in the presence of Lewis acid catalysts. But why does the preparation of aryl iodides require the presence of an oxidizing agent?

11. Out of o-and p-dibromo benzene which one has a higher melting point and why?

12. Compound ‘A’ with molecular formula C_4H_9Br is treated with aq. KOH solution. The rate of this reaction depends upon the concentration of compound ‘A’ only. When another optically active isomer ‘B’ of this compound was treated with aq. In KOH solution, the rate of reaction was found to be dependent on the concentration of the compound and KOH both.
(i) Write down the structural formula of both compounds ‘A’ and ‘B’.
(ii) Out of these two compounds, which one will be converted to the product with an inverted configuration?

13. Why can aryl halides not be prepared by reaction of phenol with HCl in the presence

of $ZnCl_2$?

14. Why is it necessary to avoid even traces of moisture during the use of a Grignard reagent?

15. Aryl halides are extremely less reactive towards nucleophilic substitution. Predict and explain the order of reactivity of the following compounds towards nucleophilic substitution:

16. Cyanide ion acts as an ambient nucleophile. From which end it acts as a stronger nucleophile in the aqueous medium? Give a reason for your answer.

17. What happens when

(i) n-butyl chloride is treated with alcoholic KOH,

(ii) bromobenzene is treated with Mg in the presence of dry ether,

(iii) chlorobenzene is subjected to hydrolysis,

(iv) ethyl chloride is treated with aqueous KOH,

(v) methyl bromide is treated with sodium in the presence of dry ether

18. Write the structures and names of the compounds formed when compound 'A' with the molecular formula, C_7H_8 is treated with Cl_2 in the presence of $FeCl_3$.

19. Identify the products A and B formed in the following reaction:

20. Write down the structure and IUPAC name for neo-pentyl bromide.

21. Which of the following haloalkanes reacts with aqueous KOH most easily? Explain giving reason.

(i) 1-Bromobutane(ii) 2-Bromobutane(iii) 2-Bromo-2-methylpropane(iv) 2-Chlorobutane

Investigatory Project

Prepare a project file on assigned ONE topic:

* Project should include:
* Introduction
* Aim/Objectives
* Theory
* Observation
* Conclusion
* Bibliography
* Pictures/Diagrams

HOLIDAY ASSIGNMENT

CLASS XII **SUBJECT PUNJABI**

PROJECT

1..ਦਿੱਤੇ ਗਏ ਵਿਸ਼ਿਆਂ ਵਿੱਚੋਂ ਕਿਸੇ ਇੱਕ ਵਿਸ਼ੇ ਉੱਤੇ ਸੁੰਦਰ ਪ੍ਰੋਜੈਕਟ 10ਤੋਂ 15 ਪੰਨਿਆਂ ਦਾ (ਚਿੱਤਰ ਸਹਿਤ) ਤਿਆਰ ਕਰੋ।

1. ਖੁਰਾਕ (ਕਿਸੇ ਇੱਕ ਰਾਜ /ਪ੍ਰਦੇਸ਼ ਅਧਾਰਤ)
2. ਪੰਜਾਬ ਦੇ ਮੇਲੇ ਤੇ ਤਿਉਹਾਰ
3. ਬਜ਼ੁਰਗਾਂ ਦਾ ਘੱਟ ਰਿਹਾ ਸਤਿਕਾਰ (ਕਾਰਨ ਤੇ ਸੁਝਾਅ)
4. ਕਰੋਨਾ ਕਾਲ ਸਮੇਂ ਪੇਂਡੂ ਤੇ ਸ਼ਹਿਰੀ ਜੀਵਨ ਦਾ ਅੰਤਰ
5. ਕਰੋਨਾ ਕਾਲ ਸਮੇਂ ਆਨਲਾਈਨ ਪੜ੍ਹਾਈ
6. ਕਰੋਨਾ ਕਾਲ ਸਮੇਂ ਉਭਰੀ ਲੋਕ ਸੇਵਾ ਭਾਵਨਾ
7. ਕਰੋਨਾ ਕਾਲ ਸਮੇਂ ਪ੍ਰਦੂਸ਼ਣ ਦੀ ਸਥਿਤੀ
8. ਕਰੋਨਾ ਕਾਲ ਤੋਂ ਬਾਅਦ ਸਕੂਲਾਂ ਦੀ ਸਥਿਤੀ ਤੇ ਵਿਦਿਆਰਥੀਆਂ ਦਾ ਵਿਹਾਰ
9. ਵਿਦੇਸ਼ਾਂ ਵਿੱਚ ਜਾਣ ਦੀ ਹੋੜ (ਸ਼ੌਂਕ, ਮਜਬੂਰੀ ਜਾਂ ਸਮਾਜਿਕ ਰੁਤਬਾ)
10. ਸੋਸ਼ਲ ਮੀਡੀਆ ਦਾ ਵੱਧ ਰਿਹਾ ਪ੍ਰਭਾਵ
11. ਵਿਗਿਆਨੀ (ਸਮਾਜ ਨੂੰ ਦੇਣ)
12. ਲੇਖਕ (ਸਾਹਿਤਿਕ ਦੇਣ)
13. ਮਹਾਂਪੁਰਖ (ਜੀਵਨੀ ਤੇ ਉਪਦੇਸ਼)

2. ਆਪਣੇ ਆਸ - ਪਾਸ ਹੁੰਦੀ ਕੋਈ ਤਾਜ਼ਾ ਗਤੀਵਿਧੀ ਉੱਤੇ ਇੱਕ ਰਿਪੋਰਟ 150 ਸ਼ਬਦਾਂ ਦੀ ਤਿਆਰ ਕਰੋ।

3. ਦਸ ਚੀਜ਼ਾਂ ਜਿਨ੍ਹਾਂ ਲਈ ਤੁਸੀਂ ਧੰਨਵਾਦੀ ਹੋ ਨੂੰ A4 ਸ਼ੀਟ ਉੱਤੇ ਲਿਖੋ।

4. ਆਪਣੀ ਲਾਜ਼ਮੀ ਪੰਜਾਬੀ ਭਾਗ 12 ਵਿੱਚ ਦਿੱਤੇ ਅਖਾਣਾ ਤੋਂ ਇਲਾਵਾ ਕੋਈ 10 ਅਖਾਣ ਲਿਖ ਕੇ ਉਹਨਾਂ ਦੇ ਵਾਕ ਬਣਾਓ।

5. ਕਰਵਾਏ ਗਏ ਸਿਲੇਬਸ ਦੀ ਦੁਹਰਾਈ ਕਰੋ।

HOLIDAYS HOME WORK (2026-27)

BUSINESS STUDIES (054)

CLASS XII

- **GENERAL INSTRUCTIONS:-**

1) Complete the whole work neatly in your booklet /file /note book.

2) Use real life examples, creative examples where needed.

3) SUBMISSION DATE: - REOPENING DATE OF SCHOOL.

- **PROJECT WORK:-**

Make a project according to the syllabus and guidelines provided by CBSE. (Discuss your topic with your subject teacher before starting the project.

- **COMMUNITY ENGAGEMENT**

Watch any one episode of Shark Tank India Season 5 and write the principles of Henri Fayol you noticed being used there.

- **NATURE BASED PROJECT:-**

Prepare a PPT showing different solutions to control pollution in your city.

<u>"MCQ`S & ASSERION / REASON BASED QUESTIONS"</u>

1) Identify the feature of coordination being highlighted in the given statement: "Coordination is not a one-time function, it begins at the planning stage and continues till controlling."

(a) Coordination ensures unity of action.

(b) Coordination is an all-pervasive function.

(c) Coordination is a continuous process.

(d) Coordination is a deliberate function.

2) This function of management related to placing the right person at the right job is____.

(a) Organising (b) Staffing (c) Planning (d) Controlling

3) This level of management serves as a link between top-level managers and first-line managers.

(a) Supervisory level management. **(b) Operational management.**

(c) Middle-level management. **(d) None of the above.**

4) Which of the following is not a designation related to lower-level management?

(a) Plant Superintendent **(b) Supervisors**

(c) Section Officers **(d) Marketing Manager**

5) Assertion: Efficiency aims at performing tasks with the least wastage of time and effort. Reason: Efficiency is about doing the job in a cost-effective manner, i.e., getting maximum output with minimum input.

(a)Both Assertion (A) and the Reason (R) are true and Reason (R) is the correct explanation of Assertion (A)

(b) Both Assertion (A) and the Reason (R) are true and Reason (R) is not the correct explanation of Assertion (A)

(c) Assertion (A) is true but the Reason(R) is False.

(d) Assertion (A) is false but Reason(R) is true

6) Alok a mobility platform is in the process of laying off 400-500 employees in a move aimed at driving cost efficiency. Which objective of management will the firm not be able to achieve by carrying out this process.

(a)Efficiency (b) Social (c) Profit (d) Survival

7) What distinguishes a successful manager from a less successful one is the ability to put the principles into practice." Which aspect of the nature of management is highlighted in the above statement?

(a)Management as a science **(b) Management as an art**

(c)Management as a profession **(d) Management is an intangible**

8) Selina and Manish completed their MBA and started working in multinational companies at the same level. Both are working hard and are happy with their employer. Manish had the habit of backbiting and wrong reporting about his colleagues to impress his boss. All the employees in the organisation knew about it. At a time of performance appraisal the performance of Selina was judged better than Manish. Even then their boss, Kishore decided to promote Manish stating that being a female Selina will not be able to handle the complaints of a higher post. Identify the principle of management which is not followed by the multinational company.

(a) Unity of command (b) Scalar chain (c) Principle of Equity (d) Discipline

9) Saksham limited is a large company. manufacturing electric motors. The company has several departments production marketing finance and HRM. Mr. Abhinav, CEO of the company set the target sale of Rs.10, 00,000 in the month. To increase the sale, the marketing manager, Mr. Himanshu, insist on offering 10% discount to the customer. But the finance manager, Mr. Aryan, does not approve such discount as it would means loss of the revenue. Because of dual subordination, the sales manager, Mr. Abhishek, could not achieve the sales target. Which principle of management has been overlooked by the company?

(a) Unity of command (b) Scalar chain (c) Principle of Equity (d) Discipline

10) Gauri Ltd. Is leading automobile company in which the various departments are setting up their own objectives without paying any interest to the organisational objectives. Which principle of management violated by the Gauri limited.

(a) Unity of command

(b) Subordination of individual interest to general interest.

(c) Unity of direction

(d) Discipline

11) She/he keeps machines, materials, tools etc. ready for operations by concerned workers. Whose work is described by this sentence under functional foremanship?

(a) Gang Boss (b) Repair Boss (c) Speed Boss (d) Disciplinarian

12) Mr. Rajput, HR, manager of a company, select each person scientifically, assigns work to its employees according to his/her physical, mental and intellectual capability, He also gives them to required training so that they may produce more and earn more. This will ensure their prosperity for the both company and the workers. Identify the principle of management highlighted in the above case.

(a) Development of each and every person to his/her greatest efficiency and prosperity

(b) Subordination of individual interest to general interest.

(c) Produce more and earn more

(d) Physical, mental and intellectual capability development of workers

13) A worker directly contact to CEO of the company with a complaint regarding working condition in the factory. Which of the following principle is being violated here?

(A) Unity of command (B) Scalar chain (C) Unity of direction (D) Discipline

14) Statement I: Management is multi-dimensional.

Statement II: The activities involved in managing an enterprise are common to all organisations whether economic, social or political. Choose the correct option from the options given below:

(a)Statement I is true and II is false (b)Statement II is true and I is false.

(c)Both the statements are false.

(d)Both the statements are true

15) Assertion (A): Techniques are procedures or methods which involves series of steps to be taken to desired goals.

Reason (R) principles are the guideline to take decisions or action while practicing techniques.

(a) Both (A) and (R) are true and (R) is the correct explanation of (A)

(b) Both (A) and (R) are true but (R) is not the correct explanation of (A)

(c) (A) is true but (R) is false.

(d) (A) is false but (R) is true.

❖ CASE STUDIES

1) Ashutosh Goenka works at Axe Ltd., an air purifier manufacturer. Noticing that profits had declined over the last six months, he analyzed the business environment and decided to restructure the company to ensure its survival. At which level of management is Ashutosh working? State his key functions.

2) Volvo Ltd.'s target is to produce 10,000 shirts per month at a cost of ₹100 per shirt. The Production Manager achieved this target successfully but incurred a production cost of ₹90 per shirt .Is the Production Manager effective OR efficient OR Both. Why?

3) XYZ Ltd. is a management oriented company. Time and again all the employees learn from their seniors various ways of dealing with diverse situations. They are provided training whenever required. They are also given incentives both financial as well as non-financial. The result is employees see their development in the organisation. The organisation tries to behave as a responsible constituent of society and always creates good quality products. It has a very good image in the market. The training modules are superb and the employees always try to find unique ways of providing solutions in the context of rapidly changing business environment. This has helped the organisation to adjust frequently in a very good manner. Which importance of management is highlighted here? Also identify the lines.

HOLIDAYS HOMEWORK

CLASS- XII (PAINTING)

Practical work

Make 1 Land scape based on Nature Themes:

- Rainy Day
- Village scene

Create any one Traditional Indian folk art Painting:

- Madhubani
- Warli art

Create any 1 composition Painting based on:

- Dance
- Music

Create 1 Still Life studies using objects like:

- Earthen Pot
- Bottle
- Fruits
- Drapery
- Metallic Utensils
  (Make all sheets on A2 size sheet)

- Prepare an art piece
  Lippan Art
  OR
  Mandala Art
  OR
  Mosaic Art
  (Use ivory sheet and MDF Board to create your art piece)

Theory Work

- Revise Chapter Rajasthani And Pahari School
- Learn points to be Remember and Also make a table from the same on Project file

"Art enables us to express what words cannot."

Happy Holidays and Keep creating!

Bhartiya Vidya Mandir Sen. Sec .School Sec-39 Chd Road

Holidays Homework Class XII

Subject - Music

1.Definitions;-Alankar ,Varna . Gram ,Murchna ,Gamak ,Khatka

Write all the definitions on colourful flash cards.

2.Draw and colour any Musical Instrument with name on a chart.

3.Rag Bhairav;-Aaroh ,Avroh, Time of singing .

Paste or draw related Visual .,listen the performance and write observations

Any famous classical Khyal singer.

4. Interview Activity;-connect classroom music with real life

This activity will be performed student and any one of her/his family member

As a podcast Interview [in digital form] Make a small Audio/Video clip.

Interview;-Music Teacher, Local singer, Grand parents Families with classical music.

[Questions may include[1.Importance of Riyaz 2. Favourite Rag with Information.

3. Role of Music in life]

Note;-Students can submit written report Audio/Video clip.

- Best Interview clip will be Awarded.

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SUMMER HOLIDAYS ASSIGNMENT

XII ECONOMICS (030)

Macro Economics (Chapter -Money, Chapter - Banking, Chapter -Budget)

1. "Bank of issue function of the Central Bank promotes efficiency in the financial system." Defend or refute the statement. Defend or refute the statement by giving valid reasons.
2. "The U.S. federal reserve in December 2021 announced no change in interest rates following its meeting but did signals concerns about rising inflation."
   Based on the statement, answer the question below:
   (a) Why does inflation occur?
   (b) Mention three contradictory monetary policies that can be used to combat this issue while explaining each in brief.
3. "The process of credit creation by commercial banks comes to an end when the total of required reserves becomes equal to the initial deposits." With the help of a numerical examples, prove that given statement is true.
4. If the total deposit created by the commercial banks are₹50000cr and legal reserve ratio is 20%, then calculate the amount primary and secondary deposit.
5. Why are the banks required to keep only a fraction of deposits as cash reserve? what will banks do if the demand for cash withdrawn is more than cash reserve at some point in time?
6. Explain how money comprises cash and demand deposits.
7. Numerically demonstrate the role of money as store of value.
8. "Public provision and public production are one and the same things" Defend or refute the statement with valid reason.
9. In the govt of India's budget, the finance minister proposed raising the excise duty on cigarettes. He also proposed increasing income tax on individua learning more than ₹one cr. per annum. Identify and explain the types of taxes proposed by the finance minister. Was the objective only to earn revenue for the govt? What possible welfare objectives cold the govt be considering?
10. "The govt budget of a country cannot have a fiscal deficit without the existence of a revenue deficit" Defend or refute the given statement with valid reasons in support of your answer.
11. Two friends, Deepak and Krish were discussing the impact of increase in GST rates on luxury items, as recently undertaken by the Government. Krish was of the view that most of the luxury items (like foreign travel, imported cigarettes, etc.) should be taxed exorbitantly, while the items related to daily consumption of poor and middle class should be tax-free.
    (a) Identify and explain the objective of government budget Krish is suggesting.
    (b) State any two examples of non-tax receipts of the Government.
12. Suppose you are a member of Advisory Committee to the Finance Minister of India— The Finance Minister is concerned about the rising revenue deficit in the budget. Suggest three measures to control the rising revenue deficit of the government.
13. Which objective of the government is trying to fulfil through the following:
    (i) Government provides essential things like food grains at minimum cost to the families below poverty line.
    (ii) The government under Ujjwala Yojna is providing free LPG kitchen connections to the families below poverty line.

(iii) Equitable Restrictions on liquor and imposing sin tax on products like pan masala and tobacco.
(iv) Setting up production units in the backward regions.

14. A person claims that he should be exempted from tax payment as he does not use any government services in general. Should the person be allowed to do so?
15. What is debt trap? Suggest some measures to improve it.
16. Can there be a fiscal deficit in a government budget without a revenue deficit?
17. "In the recent times, the Government of India has incurred a lot of expenditure on acquisition of indigenous defence items under Make in India Program". Identify and discuss the two types of budget expenditures which may be undertaken by the govt.
18. In a government budget, revenue deficit is ₹ 70 crore. If revenue receipts are ₹ 140 crore and capital expenditures is ₹ 240 crore, then how much is the revenue expenditures? Q22. In a government budget, primary deficit is ₹ 24,000 crore and interest payment is ₹ 14,000 crore. How much is the fiscal deficit?

CASE STUDIES

1. RBI extends CRR and SLR relaxations for three more months Keeping in view the continuing of hardships faced by banks in terms of social distancing of staff and consequent strains on reporting requirements, the Reserve Bank of India has extended the relaxation of the minimum daily maintenance of the CRR of 80% for up to September-25,2020. "As announced in the Statement of Developmental and Regulatory Policies of March 27, 2020, the minimum daily maintenance of the Cash Reserve Ratio (CRR) was reduced from 90% of the prescribed CRR to 80% effective the fortnight beginning March 28, 2020 till June 26, 2020 that has now been extended up to September 25, 2020," said the RBI Currently, the CRR is at 3% of a bank's total deposits. and SLR is 18.50%. "As announced in the Statement of Developmental and Regulatory Policies of March 27, 2022, the minimum daily maintenance of CRR was reduced from 90% of the prescribed CRR to 80% effective the fortnight beginning March 28, 2022 till June 22,2022 that has now been extended up to September 25, 2022," said the RBI

   Source: The Economic Times Published on Jun 29, 2020

   (i) Derive the value of money multiplier?
   (ii) Define SLR?
   (iii) Explain the effect of decrease in CRR on the general price level?

2. Tight liquidity: Open-market operation not on the discussion table "Discussion around OMO is dying down because the liquidity is in a very tight mode. As soon as the liquidity starts easing out, it will again come to the discussion table," said Vijay Sharma, senior executive vice-president at PNB Gilts. "We expect liquidity to remain tight at least till December 15," he said.

   Source: Business Standards (Nov 30, 2023)

   a) Identify the monetary policy mentioned in the article
   b) How the monetary policy variable mentioned above will affect the money supply in the economy

3. India's fiscal deficit touched 115% of the budgeted target in the first half of 2020-21 as the Covid-19 pandemic continued to hurt government's receipts while expenditure remained close to the same level of last year. The gap between revenue and expenditure stood at Rs 9.14 lakh crore during April-September, according to data on the website of the Controller General of Accounts. Fiscal deficit can prove inflationary if deficit is financed by printing of new currency as it will increase the money supply and purchasing power in the economy.
    1. Define fiscal deficit?
    2. A rise in fiscal deficit when the government revises salary structure of its employees leads to a rise in primary deficit as well. Comment.

PART B (INDIAN ECONOMIC DEVELOPMENT) Chapter -1 & 2

1. "During the colonial period, a number of socio-economic indicators were in a dilapidated state." List any three such indicators that led to the worsening of India's demographic profile.
2. "The pre-independent India's occupational structure experienced growing regional variation." Justify the above statement with valid explanation.
3. "The pre-independent India's occupational structure experienced growing regional variation." Justify the above statement with valid explanation
4. "The pre-independent India's occupational structure experienced growing regional variation." Justify the above statement with valid explanation.
5. Green revolution transformed India from a subsistent food grain economy to a food surplus economy." Justify the statement, giving reasons in support of your answer.
6. Green revolution transformed India from a subsistent food grain economy to a food surplus economy." Justify the statement, giving reasons in support of your answer.
7. "In India, after 1947 land reforms were introduced on a large scale." In the light of the given statement, discuss any one such land reform.
8. While subsidies encourage farmers to use new technology, they are a huge burden on government finances. Discuss the usefulness of subsidies in light of this fact.
9. Explain briefly the rationale behind the 'License Raj'
10. Elaborate the reasons owing to which the private sector was regulated under the Industrial Policy Resolution, 1956.

ACTIVITIES

1. Make a table consisting of a comparison of key indicators like mortality rate, infant mortality rate, life expectancy, female literacy rate and share of agriculture in employment and GDP at the time of independence and their current values. Express the contrast in a few words, throwing light on the factors that caused this change.

2. Collect data on the contribution of agriculture in the GDP and employment over the years after independence. Find out the change in share of agriculture.

3. Make mind map from following topics:
    - money & its functions.
    - Central bank & its functions
    - Process of credit creation by commercial bank.
    - Monetary policy tools
    - Components of budget

PROJECT WORK

Expected Checklist: • Introduction of topic/title • Identifying the causes, consequences and/or remedies • Various stakeholders and effect on each of them • Advantages and disadvantages of situations or issues identified • Short-term and long-term implications of economic strategies suggested in the course of research • Validity, reliability, appropriateness and relevance of data used for research work and for presentation in the project file • Presentation and writing that is succinct and coherent in project file • Citation of the materials referred to, in the file in footnotes, resources section, bibliography etc.

PROJECT 20 Marks

TOPICS FOR ECONOMICS PROJECT (choose any one topic)

Micro and Small Scale Industries • Food Supply Channel in India • Contemporary Employment situation in India • Disinvestment policy of the government • Goods and Services Tax Act and its Impact on GDP • Health Expenditure (of any state) • Human Development Index • Self-help group • Inclusive Growth Strategy • Trends in Credit availability in 1 India • Monetary Policy Committee and its functions • Role of RBI in Control of Credit • Government Budget & its Components • Trends in budgetary condition of India • Exchange Rate determination – Methods and Techniques • Currency War – reasons and repercussions

Digital India- Step towards the future • Rain Water Harvesting – A solution to water crisis • Vertical Farming – An alternate way • Make in India – The way ahead • Silk Route- Revival of the past • Bumper Production- Boon or Bane for the farmer • Rise of Concrete Jungle- Trend Analysis • Organic Farming – Back to the Nature • Aatamnirbhar Bharat • Sri Lanka's Economic Crisis • e-Rupee (e- ₹) • Sustainable Goals (SDG's) • Environmental Crisis • Comparative Development Study of Economies (Maximum three economies) • New Education Policy (NEP) 2020: A Promise for a New Education System • G-20: Inclusive and Action Oriented • Amrit Kaal: Empowered and Inclusive Economy • Cashless Economy • Any other newspaper article and its evaluation on basis of economic principles • Any other topic

The project work should be hand written on hard colored plain sheet of 30 pages.

1. Page 1 cover page including topic of the project, submitted to-name of teacher, submitted by-name of student
2. Page 2 Acknowledgement
3. Page3 Certificate
4. Page4 index(sub topic along with page no)
5. Page5-28 subject matter along with pictures, maps & graphs
6. Page29 summery/conclusion
7. Page30 Bibliography

BHARTIYA VIDYA MANDIR SR. SEC. SCHOOL
CLASS XII – ENGLISH CORE
HOLIDAYS HOMEWORK(SESSION 2026–27)

General Instructions:

1.Complete the work neatly in a file/notebook.
2.Use creativity, originality and proper presentation.Do not copy answers from the internet.
3.Read newspaper articles and books regularly during holidays.
4.Submit your homework when the school reopens.

SECTION A : READING SKILLS

1. Read the following passage carefully :

(1) Marketing is all about creativity and expression, so it must be an art, right? Not necessarily. While marketers once relied purely on instinct, they now rely on data-driven insights. On top of that, cutting-edge technologies and analytics have shifted the focus of marketing farther toward the science side of the spectrum. Armed with so much data, marketers can now track the impact of money spent on their bottom line.

(2) In today's world, the best approach to marketing combines both disciplines. And there's a distinct balance to the craft – a strategic mix of interpersonal empathy and tactical analysis. Neither side of the mix can be isolated or ignored, or the results will not be encouraging. Psychologists believe the brain is separated into two distinct functions : the left-brain and the right-brain. The right side of the brain is responsible for creative thinking and artistic intuition.

(3) As an art, marketing is all about understanding the nuances of human behaviour and determining how to make an emotional connection with the customer. More importantly, some level of art is needed to create brand standards for your company, including the logo, messaging, and overall visual identity for a brand.

(4) Right-brained marketers focus on the creative – the copy, graphics and emotions tied to the message. The science side of marketing tells us to let the data guide what strategies will be most effective. Marketers are now reporting the need for digital-first expertise including digital proficiency, data analysis, and data science. With science, marketers adopt an outcome-centric mindset that helps them curate smarter campaigns. Over the past few years, there has been an evolving prioritization on data-savvy talent. In 2020 and beyond, brands will need to focus on recruiting talent that can understand the complexities of AI and machine technologies.

(5) But when we reflect on earlier times, marketing was defined as the predominance of traditional advertising, like television, newspaper, and direct mail. Today, it ropes in digital channels, social media, mobile devices, and integrated, complex campaigns. And just as consumers today are more tech-savvy, employees should be able to match – and exceed – their expertise. It's important that brands continue to prioritize creative, engaging campaign messages while also focusing on key insights and performance metrics for optimal results.

Answer the following questions, based on the passage above :

(i) According to paragraph 1, how does the author describe the evolution of marketing ?

(ii) Choose ONE of the following statements that aptly reflects the point of view of the writer.

(a) In the field of marketing, there is a conflict between Art and Science.

(b) Art and Science should work in tandem to do effective marketing.

(iii) Provide ONE textual evidence with reference to paragraph 3 to support that marketing is an art.

(iv) Based on the passage, assess the way data and digital platforms have transformed the field of marketing and employment.

(v) "_____ cutting-edge technologies and analytics have shifted the focus of marketing." (Para 1)

By 'cutting-edge technologies', the writer refers to _____.

(vi) Complete the analogy with ONE word from paragraph 2 :

included : incorporated :: _____ : secluded

(A) approach (B) empathy (C) isolated (D) intuition

(vii) "Marketing is all about understanding the nuances of human behaviour." (Para 3)

The writer uses the word 'nuances' to denote

(A) man's appreciation for art.

(B) man's preference for branded clothes.

(C) the complexities of human character.

(D) human inclination for analytical approach.

(viii) Complete the following based on your understanding of the above passage :

According to the writer, modern marketing is built on both _____ and _____.

(ix) "_____ exceed their expertise". (Para 5)

With reference to paragraph 5, what skills do you think the employees should possess to match the demand of the consumers?

(x) What fascinating fact about the human brain is revealed by the writer in the above passage.

SECTION B : WRITING SKILLS

1. You are Yash/Yamini, President of the Environment Club of Sunrise Public School, Lucknow. Your school is launching a "Green Campus Initiative" involving waste segregation, plantation drives and awareness campaigns. Draft a notice inviting students to volunteer for the campaign.

2. You are Kartik/Karuna, Secretary of the Health and Wellness Club of St. Francis School, Mumbai. Your school is organising a Mental Health Awareness Week including counselling sessions, mindfulness activities and expert talks. Draft a notice informing students about the programme.

Community Awareness Task

Observe any social issue around you such as pollution, waste management or child labour and suggest practical solutions.

1.You have noticed increasing air and plastic pollution in your locality due to careless waste disposal, burning of garbage and excessive use of plastic. Write a letter to the Editor highlighting the harmful effects of pollution and suggesting practical solutions such as plantation drives, recycling, awareness campaigns and strict implementation of environmental laws.
2. Overflowing dustbins, littered streets and poor waste management have made your area unhygienic and unhealthy. Write a letter to the Editor expressing concern over improper waste disposal and suggesting measures like waste segregation, installation of more dustbins, regular sanitation drives and public awareness regarding cleanliness.

SECTION C : LITERATURE

SHORT ANSWER QUESTIONS (50–60 Words)

1. What thoughts came to Franz's mind when he entered the classroom on the day of the last lesson?
2. How did Franz's attitude towards M. Hamel and school change by the end of the story?
3. Franz was late for school that morning. Why did he feel like running away and enjoying the pleasant weather outside?
4. What was written on the bulletin board and why did it create fear among the people of Alsace?
5. Why were the villagers sitting quietly in the classroom during M. Hamel's last lesson? What does it reveal about them?
6. What did M. Hamel mean when he said, "We've all a great deal to reproach ourselves with"?
7. What was Saheb's full name? Why is it ironic in the context of his life?
8. Why does Anees Jung say that Saheb is no longer his own master after getting a job at the tea stall?
9. "Seemapuri is on the periphery of Delhi yet miles away from it metaphorically." Explain the statement in the context of poverty and inequality.
10. Describe the miserable living conditions of the ragpickers in Seemapuri.
11. Which two contrasting worlds of the bangle makers does Anees Jung present in Lost Spring?
12. "His dreams loom like a mirage." Whose dreams are being referred to here and why do they remain unfulfilled?
13. After looking at her ageing mother, why does the poet look at the young trees and happy children?
14. What message does Pablo Neruda convey through the poem Keeping Quiet?
15. Why does the poet ask people not to confuse stillness with inactivity in Keeping Quiet?
16. How can silence and introspection help people live more peacefully according to Neruda?
17. "Perhaps the Earth can teach us." Explain the significance of these lines.
18. Why does Charley describe Grand Central Station as "growing like a tree"? What does this suggest about modern life?

LONG ANSWER QUESTIONS (120–150 Words)

1. Franz in The Last Lesson realises the value of education only when it is taken away from him. Discuss the importance of language, learning and cultural identity in the story.
2. Anees Jung in Lost Spring highlights the painful realities of poverty, child labour and exploitation. Discuss the hardships faced by the ragpickers and bangle makers and suggest ways society can help them.
3. Firozabad presents a strange contrast between the beauty of glass bangles and the miserable lives of the people who make them. Discuss.
4. Write a comparative analysis of Keeping Quiet and My Mother at Sixty-Six focusing on silence, emotional understanding, fear and human relationships.
5. “Perhaps the Earth can teach us.” Explain how Pablo Neruda uses nature to convey the importance of peace, introspection and unity in Keeping Quiet.
6. In The Third Level, Charley’s strange experience reflects the stress and insecurity of modern life. As Louisa, write a diary entry expressing your thoughts about Charley’s growing obsession with the Third Level.
7. What made Charley realise that he had reached the Third Level? How did he understand that he had travelled into the past?
8. Describe the Third Level at Grand Central Station. How was it different from the Second Level? What does it symbolise?

ENRICHMENT ACTIVITIES

***Reading Enrichment:** Read any one book such as The Alchemist, Wings of Fire or The Diary of a Young Girl. Prepare a summary, favourite character sketch, life lessons and vocabulary list.

***Vocabulary And Reflection Journal**: Maintain a journal during the holidays by writing 50 new English words with meanings, synonyms and sentences. Also write a short daily reflection mentioning one good experience, one challenge, one lesson learnt and one thing you are grateful for.

PROJECT WORK (ANY ONE)

***Project 1 : Childhood, Education and Child Labour:**Based on Lost Spring, conduct a survey of underprivileged children to understand their education, dreams, challenges and living conditions. Prepare a project file including introduction, questionnaire, observations, conclusion and relevant pictures/drawings.
***Project 2 : Importance of Language and Education:**With reference to The Last Lesson, prepare a project on the importance of language, education and cultural identity during difficult times. You may include interviews, personal reflections, pictures and newspaper cuttings.
FUN LEARNING ACTIVITY: Create a comic strip on Lost Spring using dialogues, captions, colours and creative illustrations to represent the lives, struggles and dreams of the character.

HOLIDAY ASSIGNMENT(2026-27)

Class: XII

Subject: Physical Education (048)

General Instructions:

1). Use A4 size25-30 pages. Handwritten only, use blue pen.

2)Paper to be used for project should be superior Quality and Neatly Written.

3). Paste/Draw coloured diagrams/photos.

4). Viva will be taken in TERM -1 EXAM. Plagiarism = 0 marks.

5). ON Cover Page: Session 2026-27, Name, Class XII, Roll No, School Name,Stream.

6). Index, Certificate & Acknowledgement.

CONTENT:

7). Introduction: What are Lifestyle Diseases? Causes due to modern sedentary life. Why Yoga is Medicine for prevention?

8). Explain FIVE Diseases — For EACH disease write: Meaning, Causes, THREE Yogic Asanas with _Step-by-Step Procedure, Benefits, Contraindications_. Draw/Paste diagrams with stick diagram.

"Disease Recommended Asanas"

(A). Obesity: a) Trikonasana, b) Katichakrasana, c) Pawanmuktasana

(B). Diabetes: a)Bhujangasana, b)Paschimottanasana, c)Ardha- Matsyendrasana

(C). Hypertension: a)Tadasana, b)Vajrasana, c)Shavasana

(D). Back Pain & Arthritis: a)Vakrasana, b)Makarasana, c)Gomukhasana

(E). Asthma: a)Sukhasana, b)Chakrasana, c)Matsyasana

9). Role of Pranayama & Meditation: Explain a)Anulom-Vilom, b)Kapalbhati. c) suryebedan d)shitli with 3 benefits each for stress.

10). Conclusion : “Yoga is the cheapest health insurance” – Justify in 100 words.

11). Bibliography: NCERT book .

HOLIDAYS HOMEWORK CLASS-XII DANCE
Instructions: Complete all work in a separate notebook/file. Write neatly with proper headings. Add drawings/pictures wherever possible. Learn and practice all practical portions regularly.
THEORY WORK Write the brief history of other classical dance style of India; KATHAK BHARATANATYAM KUCHIPUDI ODISSI MOHINIATTAM KATHAKALI SATTRIYA MANIPURI. Show pictures of each dance. Write Abhinaye and it's four aspects ANGIKA VACHIKA AHARYA SATVIKA Complete F.M.B.
PRACTICAL WORK Make TAAL and JHAPTAAL's notation THAH DUGUN CHAUGUN Make any one: Poster on Indian Classical Dances Scrapbook on Kathak
PREACTICE WORK

Daily Practice (Minimum 20 Minutes)

Practice:

Tatkaar

Hastak

Chakkars

Teentaal counting

AAMAD

TUKRA

Toda

CLASS XII – INFORMATICS PRACTICES

Session: 2026–27

Theme: Technology for Smart and Sustainable Future

Instructions

- Complete all tasks with practical implementation.

- Include screenshots of outputs.

- Maintain a separate project file.

- Use Python, Pandas, and MySQL wherever required.

Section A – Research & Case Study

Research any TWO topics:

- AI and Machine Learning

- Cyber Crimes and Prevention

- E-Governance

- Big Data Analytics

- ❖ Prepare a detailed report with examples.

Section B – Python with Pandas

Create programs using Pandas:

1. Student Result Analysis

2. Sales Data Analysis

3. CSV File Handling

Perform:

- Filtering

- Sorting

- Statistical calculations

Section C – Data Visualization

Collect survey data on:

- Social Media Usage

- Online Learning Preferences
- Internet Addiction

Create:

- Line graph
- Pie chart
- Bar graph

Interpret results.

Section D – MySQL Practical

Create database SCHOOL_DB.

Create tables and perform:

- INSERT

- UPDATE

- DELETE

- ORDER BY

- GROUP BY

- Aggregate functions

Section E – Practical Mini Project

Develop any ONE:

- Library Management System
- Hospital Management System
- Banking Management System
- Inventory Management System

Project must include:

- Problem statement
- Flowchart
- Python code
- Database connectivity
- Output screenshots

Section F – Creative Awareness Activity

Create a digital poster or presentation on:

- Cyber Safety
- Ethical Hacking Awareness
- Responsible Use of AI
- Data Privacy

XII-PHYSICS

CONCEPT BASED QUESTIONS

Q.1 Two identical conducting spheres are charged by induction and then separated by a large distance sphere-1 has charge +Q and sphere-2 has charge −Q. 3rd sphere is initially uncharged. If sphere-3 is touched to the sphere-1 and then separated and then touch to sphere-2 and separated, what is the final charge on each of the three sphere?

Q.2 A glass rod rubbed with silk acquires a charge $+1.6 \times 10^{-12}$. What is the charge on the silk?

Q.3 Force of attraction between two point charges placed at a distance is F. What distance apart should they kept in the same medium so that force between them is

(1) F/3 (2) 3F

Q.4 What is the force of repulsion between two charges of 1 C each kept 1 m apart in vacuum?

Q.5 Two equal charges at distance x apart, exert a force on one another. The charge of one is doubled. What is the ratio of the distance between the two charges now and earlier if the force in two cases is same?

Q.6 The force between two charges placed in vacuum is F. What happens to the force if the two charges are dipped in kerosene oil of dielectric constant k = 2?

Q.7 Draw the pattern of electric field around a point charge

(i) $q > 0$. (ii) $q < 0$. (iii) Two equal +ve charge

(iv) +ve point charges placed near −ve point charge

Q.8 Charges of magnitude 2Q and −Q are located at pointy (a, 0, 0) and (4a, 0, 0). Find the ratio of the flux due to these charges through concentric sphere of radii 2a and 8a centred at the origin.

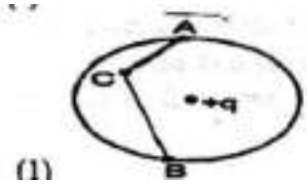
Q.9 What does $q_1 + q_2 = 0$ signify?

Q.10 If the distance between two equal point charges is doubled and their individual charges are also doubled, what would happen to the force between them?

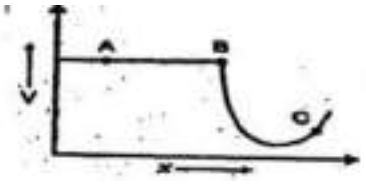
Q.11 Force between two point charges kept at a distance d apart in air is F. If these charges are kept at the same distance in water, how does the electric force between them change?

Q.12 Plot a graph showing the variation of coulomb force (F) versus $(1/r^2)$, where r is the distance between the two charges of each pair of charges: (1μC, 2μC) and (2μC, 3μC). Interpret the graphs obtain.

Q.13 what would be the work done if a point charge +q is taken from a point A to a point B on the circumference of a circle drawn with another point charge +q at the centre ? Fig (1)



(1)



(2)

Q.14 Variation of potential with distance X for a charge is given in the figure. Identify the points where electric field is

(i) Zero. (ii) Maximum. Fig (2)

Q.15 If a point charge +q is taken first from A to C and then from C to B of a circle drawn with another point charge +q as centre, then along which path more work will be done?

Q.16 An uncharged insulated conductor A is brought near a charged insulated conductor B. What happen to the charge and potential of B.

Q.17 A point charge Q is paced at point O as shown

X

Q

O——————————A——————————B

Is the potential difference VA-VB +ve, -ve or zero

If (1) Q is +ve (2) Q is -ve

Q.18 How does electric potential vary from point to point due to a thin charged spherical shell? Draw a graph showing variation of potential with distance.

Q.19 Draw a plot showing variation of Electric field E with distance r due to a point charge Q.

Q.20 The energy of a capacitor varying with its capacitance is shown by two graph. Find in which of the graph (a) charge is constant (b) potential is constant

Q.21 The potential at a point A is -500V and that at another point B is +500V. What is the work done by the external agent to take -2μC of charge from B to A.

Q.22 What is the change in resistance of a Eureka wire when its radius is halved and the length is reduced to one-fourth of its original value.

Q.23 A potential difference V is applied across the ends of copper wire of length L and diameter D. What is the effect on drift velocity if

(i) V is doubled (ii) L is doubled (iii) D is doubled.

Q.24 Is the current density a vector or scalar quantity? Deduce the relation between current density and potential difference across a current carrying conductor of length L area of cross

section A, the number density of electron n. How does the current density in a conductor vary with

(a) increase in potential gradient? (b) increase in temperature?

(c) increase in length? (d) increase in area of cross section?

Q.25 A steady current flow in a metallic conductor of non uniform cross section. Say which of these quantity is constant along the conductor

(a) current. (b) current density. (c) electric field. (d) Drift velocity.

Q.26 Explain giving reason internal resistance of a cell changes in the following cases

(a) when concentration of electrolyte is increased

(b) when area of anode is decreased

(c) when temperature of electrolyte is increased

(d) when the distance between two electrodes increases

Q.27 Two wire X, Y have same resistively but their cross sectional area are in the ratio 2:3 and length in the ratio 1:2 they are 1st connected in series then in parallel to a d.c. source. Find out the ratio of drift speeds of the electron in the two wires for two cases.

Q.28 A wire is stretched to double its original length without loss of mass. How will the resistivity of wire be influenced.

Q.29 There are two conductor A and B of the same material, having length l and 2l, and having radii r and r/2. What is the ratio of their resistances.

Q.30 In a certain arrangement, a proton does not get deflected while moving through a magnetic field region. Under what condition is it possible?

Q.31 Under what condition is the force acting on a charge moving through a uniform magnetic field zero?

Q.32 Find the condition under which the charge particle moving with different speed in the presence of electric and magnetic field vector can be used to select charged particle of a particular speed.

Q.33 A beam of α particles projected along +x axis, experience a force due to a magnetic field along +y axis. What is the direction of magnetic field?

Q.34 A beam of electrons projected along +x axis, experience a force due to a magnetic field along +y axis. What is the direction of magnetic field?

Q.35 A beam of protons projected along +x axis, experience a force due to a magnetic field along -y axis. What is the direction of magnetic field?

Q.36 Twenty electric bulb are connected in series with main 220V. After one bulb is fused, the remaining 19 bulb are again connected in series across the same mains. What will be the effect on illumination ?

Q.37 Two electric bulb are rated at 220V-100W and 220-V-60 Watt which one of these has greater resistance and why.

Numericals

Q.38 Five thousand lines of force enter a certain volume of space and three thousand lines emerge from it. What is the total charge in coulomb within this volume?

(Ans. -1.77×10^{-8} C)

Q.39 Two similar balls each having mass m and charge q are hung from a silk thread of

$$x = \left(\frac{q^2 l}{2\pi\epsilon_0 mg}\right)^{1/3}$$

length l, prove that equilibrium separation when each thread makes a small angle θ with the vertical.

Q.40 An infinite number of charges, each equal to q are placed along X-axis at x=1, x=2, x=4, x=8, ... and so on.

(i) Find the electric field at the point x=0 due to this set up of charges.

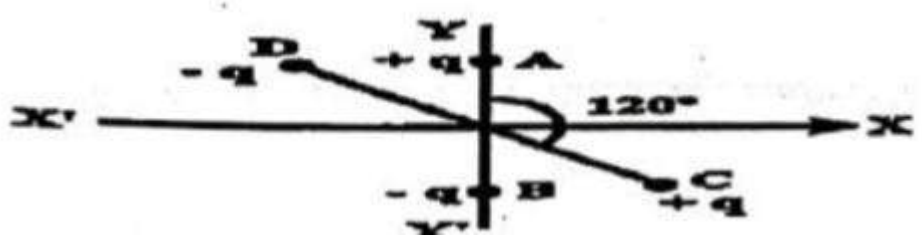
(ii) What will be the electric field, if in the above set up, the consecutive charges have opposite signs.

Q.41 An infinite number of charges each equal to 4 μC are placed along x-axis at x=1m, x=2m, x=4m, x=8m and so on. Find the electric field due to a charge of 1 C placed at the origin. (Ans. 4.8×10^4 N)

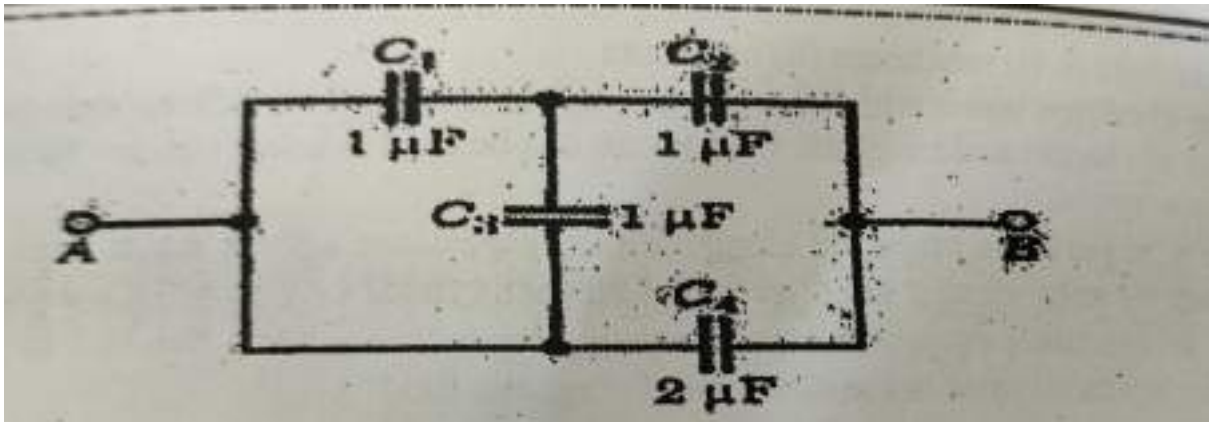
Q.42 How many electrons should be removed from a coin of mass 1.6g, so that it may just float in an electric field intensity 10^9N/C, directed upward. (Ans. 9.8×10^7)

Q.43 A copper ball of density 8.6 g/cc and 1 cm in diameter is immersed in oil of density 0.8 g/cc. What is the charge on the ball, if it remain just suspended in oil in electric field of intensity 3600 v/m acting in the upward direction?

Q.44 Two small identical electrical dipoles AB and CD each of dipole moment p are kept at an angle of 120° as shown in the figure. What is the resultant dipole moment of this combination ? If this system is subjected to electric field (E) directed along +X direction, what will be the magnitude and direction of the torque acting on this?

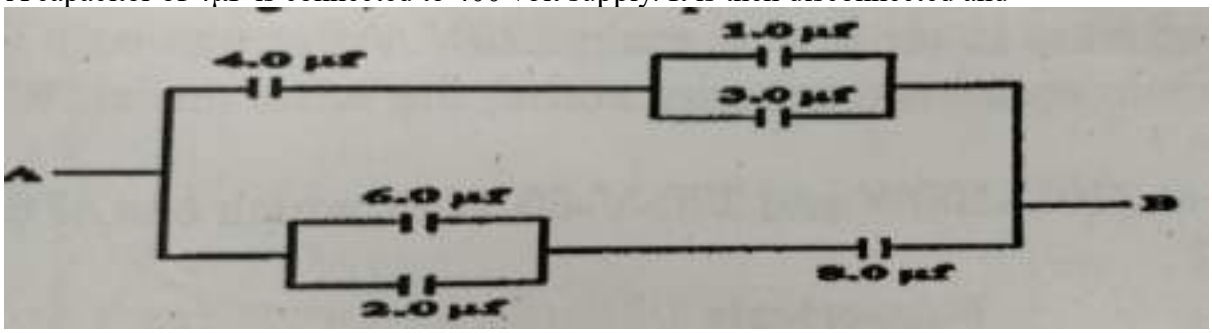


Q.45 Find the equivalent capacitance between points A and B for the network shown in figure.



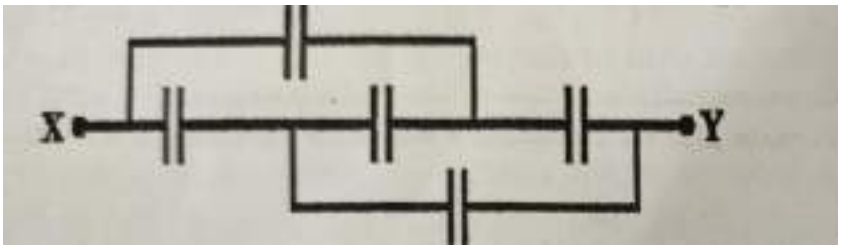
Q46. The equivalent capacitance between A and B combination of capacitors shown in figure where all capacitors are in microfarad is (Ans 6pF)

Q47. A capacitor of 4μF is connected to 400 volt supply. It is then disconnected and

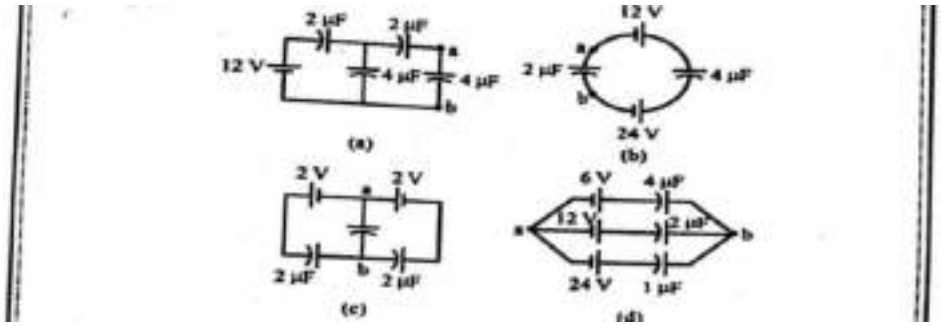


connected to an uncharged capacitor of 2μF. Calculate (a) common potential of the capacitors are connected together. (b) Loss of energy in the form of heat and radiation

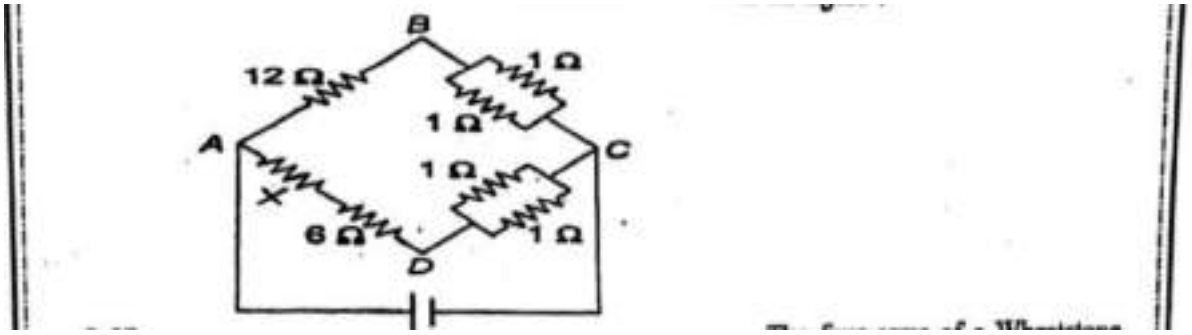
Q48. Find the equivalent capacitance of the network shown in the figure when each capacitor is of 1μF. When the ends X and Y are connected to a 6 volt battery, find out (i) the charge and (ii) the energy stored in the network



Q49 find the potential difference Va-Vb between the points a and b shown in each part of the figure



Q50. For what value of unknown resistance x , the potential difference between B and D will be zero in the circuit shown in the figure



NOTE:- All students are instructed to prepare:

One Project File on the topic allotted by the subject teacher.

One Practical File according to the instructions .

श्री शिव रुद्राष्टकम्

नमामीशमीशान निर्वाणरूपं विभुं व्यापकं ब्रह्म वेदस्वरूपम्। निजं निर्गुणं निर्विकल्पं निरीहं,चिदाकाशमाकाशवासं भजेऽहम्॥
निराकारमोङ्कारमूलं तुरीयं, गिरा ग्यान गोतीतमीशं गिरीशम्।करालं महाकाल कालं कृपालं, गुणागार संसारपारं नतोऽहम्॥2॥
तुषाराद्रि संकाश गौरं गभीरं, मनोभूत कोटि प्रभा श्री शरीरम्। स्फुरन्मौलि कल्लोलिनी चारु गंगा,लसद्भालबालेन्दु कंठे भुजंगा॥3॥
चलत्कुंडलं भ्रू सुनेत्रं विशालं, प्रसन्राननं नीलकंठं दयालम्। मृगाधीशचर्माम्बरं मुंडमालं, प्रियं शंकरं सर्वनाथं भजामि ॥4॥
प्रचंडं प्रकृष्टं प्रगल्भं परेशं, अखंडं अजं भानुकोटि प्रकाशम्। त्रयः शूल निर्मूलनं शूलपाणिं भजेऽहं भवानिपतिं भावगम्यम्॥5॥
कलातीत कल्याण कल्पान्तकारी, सदा सज्जनानन्ददाता पुरारी। चिदानंद संदोह मोहापहारी, प्रसीद प्रसीद प्रभो मन्मथारी॥6॥
न यावद् उमानाथ पादारविन्दं, भजंतीह लोके परे वा नराणाम्। न तावत्सुखं शान्ति सन्तापनाशं, प्रसीद प्रभो सर्वभूताधिवासम्॥7॥
न जानामि योगं जपं नैव पूजां,नतोऽहं सदा सर्वदा शंभु तुभ्यम्। जरा जन्म दुःखौघ तातप्यमानं, प्रभो पाहि आपन्नमामीश शंभो॥8॥

हिंदी अर्थ

हे ईशान ! मैं मुक्तिस्वरूप, समर्थ, सर्वव्यापक, ब्रह्म, वेदस्वरूप, निजस्वरूप में स्थित, निर्गुण, निर्विकल्प, निरीह, अनन्त ज्ञानमय और आकाश के समान सर्वत्र व्याप्त प्रभु को प्रणाम करता हूँ।जो निराकार हैं, ओंकाररूप आदि कारण हैं, तुरीय हैं, वाणी बुद्धि और इन्द्रियों के पथ से परे हैं, कैलासनाथ हैं, विकराल और महाकाल के भी काल, कृपाल, गुणों के आगार और संसार से तारने वाले हैं, उन भगवान को मैं नमस्कार करता हूँ।जो हिमालय के समान श्वेतवर्ण, गंभीर और करोड़ों कामदेव के समान कान्तिमान शरीर वाले हैं, जिनके मस्तक पर मनोहर गंगा जी लहरा रही हैं, भालदेश में बाल चन्द्रमा सुशोभित होते हैं और गले में सर्पों की माला शोभा देती है।जिनके कानों में कुण्डल हिल रहे हैं, जिनके नेत्र एवं भृकुटी सुन्दर और विशाल हैं, जिनका मुख प्रसन्न और कण्ठ नील है, जो बड़े ही दयालु हैं, जो बाघ की खाल का वस्त्र और मुण्डों की माला पहनते हैं, उन सर्वाधीश्वर प्रियतम शिव का मैं भजन करता हूँ।जो प्रचण्ड, सर्वश्रेष्ठ, प्रगल्भ, परमेश्वर, पूर्ण, अजन्मा, कोटि सूर्य के समान प्रकाशमान, त्रिभुवन के शूलनाशक और हाथ में त्रिशूल धारण करने वाले हैं, उन भावगम्य भवानी पति का मैं भजन करता हूँ। हे प्रभो !आप कालरहित, कल्याणकारी और कल्प का अंत करने वाले हैं। आप सर्वदा सत्पुरुषों को आनंद देते हैं, आपने त्रिपुरासुर का नाश किया था, आप मोहनाशक और ज्ञानानन्दघन परमेश्वर है, कामदेव के आप शत्रु हैं, आप मुझ पर प्रसन्न हों, प्रसन्न हों।मनुष्य जब तक उमाकांत महादेवजी के चरणारविन्दों का भजन नहीं करते, उन्हें इहलोक या परलोक में कभी सुख और शांति की प्राप्ति नहीं होती और न उनका संताप ही दूर होता है। हे समस्त भूतों के निवासस्थान भगवान शिव! आप मुझ पर प्रसन्न हों।हे प्रभो! हे शम्भो! हे ईश! मैं योग, जप और पूजा कुछ भी नहीं जानता। हे शम्भो ! मैं सदा सर्वदा आपको नमस्कार करता हूँ। जरा, जन्म और दुःख समूह से संतप्त होते हुए मुझ दुःखी की दुःख से आप रक्षा कीजिये।

ਮੂਲ ਮੰਤਰ

ੴ (Ek Onkar): There is One God.
ਸਤਿ ਨਾਮੁ (Sat Naam): God's name is Truth. God is True.
ਕਰਤਾ ਪੁਰਖੁ (Karta Purakh): He is the Creator.
ਨਿਰਭਉ (Nirbhav): He is without fear.
ਨਿਰਵੈਰੁ (Nirvair): He is without enmity.
ਅਕਾਲ ਮੂਰਤਿ (Akal Moorat): His form is timeless.
ਅਜੂਨੀ (Ajooni): He is beyond birth & death.
ਸੈਭੰ (Saibhang): He is self-existent.
ਗੁਰ ਪ੍ਰਸਾਦਿ (Gur Prasaad): (Known) by the grace of the Guru

BHARTIYA VIDYA MANDIR SEN. SEC. SCHOOL

SEC-39, CHANDIGARH ROAD, LUDHIANA

CONGRATULATIONS!!!

CLASS-X RESULT (2025-26)

FIRST POSITION

ASHISH SINGH
97.2%

RIDHI SHARMA
97.2%

ARSHPREET SINGH
97.2%

SECOND POSITION

SHUBHNEET ARORA
97%

ANJEL
97%

THIRD POSITION

GAURI
96.8%

WE ARE PROUD OF OUR ACHIEVERS ✦ KEEP SHINING AND REACHING NEW HEIGHTS!

BHARTIYA VIDYA MANDIR SEN. SEC. SCHOOL

SEC-39, CHANDIGARH ROAD, LUDHIANA

CONGRATULATIONS!!!

CLASS-XII RESULT (2025-26)

HUMANITIES

KANISHKA MISHRA
96.8%

CHARANPREET KAUR
88.8%

TARANJEET SINGH
88.6%

COMMERCE

ARMAAN SAINI
93.6%

VANSHIKA
89.6%

AASHIMA
86.4%

MANMEET KAUR
86.4%

NON-MEDICAL

HIMANSHU SHARMA
95%

RAMANAND
93%

NITIN TIWARI
90.6%

MEDICAL

TANMAY KUMAR
79.6%

ISHPREET KAUR
77.8%

SAHIL RAJ
70.6%

WE ARE PROUD OF OUR ACHIEVERS ✦ KEEP SHINING AND REACHING NEW HEIGHTS!