CLASS XI HHW (DIPAWALI & CHATT)

English

1. Write a travelogue describing any memorable travel experience, either to a beach or a mountainous destination.
2. Include details about the journey, the place, its natural beauty, local culture, food, activities and your personal experiences.
3. If you have not visited such a place, you may create an imaginative or fictional travelogue based on an interesting destination.

Instruction: Write an original and descriptive travelogue in your English classwork copy.

HINDI

1) दिए गए विषयों पर रचनात्मक लेख लिखें-

क) यदि पेड़ बोल सकते

ख) सपना और संघर्ष

2)सोशल मीडिया के प्रभाव पर एक पोस्टर तैयार करें।

3)पढ़ाए गए पाठों की पुनरावृत्ति करें।

MATHEMATICS (041)

CHAPTER 8: SEQUENCE AND SERIES

Q1. If the sum of a certain number of terms of the A.P. 25, 22, 19, ... is 116, find the last term. (NCERT)

Q2. Find the sum of all natural numbers lying between 100 and 1000, which are multiples of 5. (CBSE Important)

Q3. The sum of n terms of two arithmetic progressions are in the ratio (3n + 8) : (7n + 15). Find the ratio of their 12th terms. (NCERT Exemplar)

Q4. If the sum of m terms of an A.P. is equal to the sum of n terms, then show that the sum of its (m + n) terms is zero. (CBSE)

Q5. Find a G.P. for which sum of the first two terms is -4 and the fifth term is 4 times the third term. (NCERT)

Q6. If the 4th, 10th and 16th terms of a G.P. are x, y and z respectively. Prove that x, y, z are in G.P. (CBSE)

Q7. Find the sum of n terms of the sequence: 8, 88, 888, 8888, ... (NCERT Exemplar)

Q8. The sum of three numbers in G.P. is 56. If we subtract 1, 7, 21 from these numbers in that order, we obtain an arithmetic progression. Find the numbers. (NCERT)

Q9. Insert three numbers between 1 and 256 so that the resulting sequence is a G.P. (CBSE)

Q10. If A and G be A.M. and G.M. between two positive numbers, prove that the numbers are $A \pm \sqrt{(A^2 - G^2)}$. (NCERT Exemplar)

CHAPTER 9: STRAIGHT LINES

Q1. Find the equation of the line which cuts off equal intercepts on the coordinate axes and passes through the point (2, 3). (NCERT)

Q2. Find the angle between the lines $y - \sqrt{3}x - 5 = 0$ and $\sqrt{3}y - x + 6 = 0$. (CBSE)

Q3. Find the equation of the line passing through the point (2, 2) such that the sum of its intercepts on the axes is 9. (NCERT Exemplar)

Q4. Find the distance of the point (3, -5) from the line $3x - 4y - 26 = 0$. (NCERT)

Q5. If the lines $2x + y - 3 = 0$, $5x + ky - 3 = 0$ and $3x - y - 2 = 0$ are concurrent, find the value of k. (CBSE Important)

Q6. Find the equation of the line passing through the intersection of the lines $4x + 7y - 3 = 0$ and $2x - 3y + 1 = 0$ that has equal intercepts on the axes. (NCERT Exemplar)

Q7. Find the image of the point (3, 8) with respect to the line $x + 3y = 7$ assuming the line to be a plane mirror. (NCERT)

Q8. Prove that the line passing through the points (x_1, y_1) and parallel to the line $Ax + By + C = 0$ is $A(x - x_1) + B(y - y_1) = 0$. (CBSE)

Q9. Find the perpendicular distance from the origin to the line joining the points $(\cos\theta, \sin\theta)$ and $(\cos\varphi, \sin\varphi)$. (NCERT Exemplar)

Q10. A line passes through (x_1, y_1) and (h, k). If slope of the line is m, show that $k - y_1 = m(h - x_1)$. (NCERT)

CHAPTER 10: CONIC SECTIONS (CIRCLES & BASIC CONICS)

Q1. Find the equation of the circle with centre (1, 1) and radius $\sqrt{2}$. (NCERT)

Q2. Find the centre and radius of the circle $x^2 + y^2 - 8x + 10y - 12 = 0$. (CBSE)

Q3. Find the equation of the circle passing through the points (2, 3) and (-1, 1) and whose centre is on the line $x - 3y - 11 = 0$. (NCERT Exemplar)

Q4. Find the equation of the circle which passes through the points (2, -2), and (3, 4) and whose centre lies on the line $x + y = 2$. (NCERT)

Q5. Find the equation of a circle concentric with the circle $x^2 + y^2 - 4x - 6y - 9 = 0$ and passing through the point (-4, 7). (CBSE Important)

Q6. Find the equation of the circle radius 5 whose centre lies on x-axis and passes through the point (2, 3). (NCERT Exemplar)

Q7. Find the coordinates of the focus, axis of the parabola, the equation of the directrix and the length of the latus rectum for $y^2 = 12x$. (NCERT)

Q8. Find the equation of the ellipse whose vertices are $(\pm 13, 0)$ and foci are $(\pm 5, 0)$. (NCERT)

Q9. Find the eccentricity, coordinates of the foci, and length of latus rectum of the hyperbola $9x^2 - 16y^2 = 144$. (CBSE)

Q10. Show that the equation $x^2 + y^2 - 6x + 4y + 14 = 0$ does not represent a real circle. (NCERT Exemplar)

APPLIED MATHEMATICS

Functions

Q1. Let f(x) = x^2 - 4x + 5. Find the domain and range of the function for real values of x.

Q2. If f(x) = (3x + 4) / (5x - 7) and g(x) = (7x + 4) / (5x - 3), show that f(g(x)) = g(f(x)) = x.

Q3. Find the domain of the function f(x) = 1 / sqrt(x^2 - 9).

Q4. A company sells a product for Rs. 50 per unit. The fixed cost is Rs. 20,000 and the variable cost per unit is Rs. 30. Express the total cost function, revenue function, and break-even point.

Q5. Determine whether the function f(x) = log(x + sqrt(x^2 + 1)) is an even function or an odd function.

Q6. If f(x) = e^x and g(x) = log_e(x), find the domain and expressions for (f + g)(x) and (fg)(x).

Q7. A manufacturer can sell x items at a price of p = 330 - 2x each. The cost price of x items is C(x) = x^2 + 10x + 12. Find the profit function and the number of items to maximize profit.

Q8. Find the range of the real-valued function f(x) = |x - 3|.

Q9. If f(x) = x + 1 and g(x) = 2x - 3, find the value of x for which f(g(x)) = g(f(x)).

Q10. Define a step function (greatest integer function) and find its domain and range.

Permutations and Combinations

Q1. In how many ways can a team of 11 players be selected from 15 players if a particular player is always included?

Q2. Find the number of 4-digit numbers that can be formed using the digits 1, 2, 3, 4, 5 if repetition of digits is not allowed.

Q3. If nP_4 = 12 * nP_2, find the value of n.

Q4. In how many ways can the letters of the word 'PERMUTATIONS' be arranged if the words start with P and end with S?

Q5. A committee of 5 members is to be formed from 6 gentlemen and 4 ladies. In how many ways can this be done if the committee must contain at least 2 ladies?

Q6. If nC_8 = nC_2, find the value of nC_2.

Q7. How many words, with or without meaning, can be formed using all the letters of the word 'EQUATION' at a time so that vowels and consonants occur together?

Q8. Find the number of diagonals that can be drawn in a polygon of 12 sides.

Q9. Out of 7 consonants and 4 vowels, how many words of 3 consonants and 2 vowels can be formed?

Q10. In an examination, a student has to answer 4 questions out of 5 questions divided into two groups, each containing 5 questions. He is not permitted to attempt more than 3 questions from either group. In how many ways can he choose the questions?

Probability

Q1. Two dice are thrown simultaneously. Find the probability of getting a total score of 7 or 11.

Q2. A card is drawn from a well-shuffled pack of 52 cards. Find the probability that the card is either a red card or a king.

Q3. Three coins are tossed simultaneously. Find the probability of getting at least two heads.

Q4. The probability that a contractor will get a plumbing contract is 2/3 and the probability that he will get an electric contract is 4/9. If the probability of getting at least one contract is 4/5, find the probability that he will get both.

Q5. If A and B are two events such that P(A) = 0.4, P(B) = 0.8, and P(B|A) = 0.6, find P(A|B) and P(A union B).

Q6. A bag contains 5 white, 7 red, and 8 black balls. If four balls are drawn one by one without replacement, find the probability that all are white.

Q7. An investment analyst states that there is a 30% chance that stock A will increase in value, a 40% chance that stock B will increase, and a 15% chance that both will increase. What is the probability that neither stock will increase?

Q8. Two cards are drawn successively with replacement from a well-shuffled pack of 52 cards. Find the probability distribution of the number of aces.

Q9. A problem in Applied Mathematics is given to three students whose chances of solving it are 1/2, 1/3, and 1/4 respectively. What is the probability that the problem is solved?

Q10. In a class of 60 students, 30 opted for NCC, 32 opted for NSS, and 24 opted for both. If one of these students is selected at random, find the probability that the student opted for NCC or NSS.

PHYSICS

Chapter: Gravitation

Q1. How does the value of acceleration due to gravity (g) change as one moves from the surface towards the centre of the Earth? Show its mathematical dependence on depth.
Q2. Distinguish between universal gravitational constant (G) and acceleration due to gravity (g). State one reason why G is called a universal constant while g is not.
Q3. State Kepler's law of periods (Third Law). If the distance of a planet from the Sun becomes four times its present value, how many times will its orbital time period increase?
Q4. Two bodies of masses 2 kg and 8 kg are separated by a distance of 9 m. Find the point along the line joining their centres where the net gravitational field intensity due to these masses is zero, and calculate the gravitational potential energy of the system.
Q5. Define escape velocity. Does the escape velocity of a body depend on the mass of the body being projected or the angle of its projection? Explain briefly.
Q6. The gravitational potential energy of a system of two masses is always negative. What is the physical significance of this negative sign?
Q7. Find the depth at which the acceleration due to gravity becomes 25% of its value at the surface of the Earth. (Take the radius of the Earth as R = 6400 km).
Q8. Explain why the value of acceleration due to gravity (g) is maximum at the poles and minimum at the equator of the Earth.
Q9. Establish the mathematical relationship between the orbital velocity (v_o) of a satellite close to the Earth's surface and the escape velocity (v_e) from the Earth's surface.
Q10. What is the value of the gravitational field intensity inside a hollow spherical shell of uniform mass density? Provide a brief physical reasoning for your answer.

CHEMISTRY

1. What is the difference between an open system, closed system and isolated system? Give one example of each.
2. Explain the following types of enthalpy changes with suitable examples:

    a) Enthalpy of formation
    b) Enthalpy of combustion
    c) Enthalpy of atomization

3. Define bond enthalpy. Explain how the enthalpy change of a reaction can be calculated using bond enthalpy values.
4. State the first law of thermodynamics. Write its mathematical expression.
5. What is an adiabatic process? How does it differ from an isothermal process?
6. Differentiate between intensive and extensive properties
7. State Hess's law of constant heat summation. Why is it useful in thermochemical calculations?
8. The combustion of one mole of benzene takes place at 298 K and 1 atm. After combustion, $CO_2(g)$ and H_2O (1) are produced and 3267.0 kJ of heat is liberated. Calculate the standard enthalpy of formation, $\Delta f H^0$ of benzene. Standard enthalpies of formation of $CO_2(g)$ and $H_2O(l)$ are –393.5 kJ mol^{-1} and – 285.83 kJ mol^{-1} respectively.
9. In a process, 701 J of heat is absorbed by a system and 394 J of work is done by the system. What is the change in internal energy for the process?
10. The reaction of cyanamide, NH_2CN (s), with dioxygen was carried out in a bomb calorimeter, and ΔU was found to be –742.7 kJ mol^{-1} at 298 K. Calculate enthalpy change for the reaction at 298 K.

    $$NH_2CN(g) + \frac{3}{2}O_2(g) \rightarrow N_2(g) + CO_2(g) + H_2O(l)$$

11. Enthalpies of formation of $CO(g)$, $CO_2(g)$, $N_2O(g)$ and $N_2O_4(g)$ are –110, – 393, 81 and 9.7 kJ mol^{-1} respectively. Find the value of $\Delta r H$ for the reaction:

    $$N_2O_4(g) + 3CO(g) \rightarrow N_2O(g) + 3CO_2(g)$$

12. Enthalpy of combustion of carbon to CO_2 is –393.5 kJ mol^{-1}. Calculate the heat released upon formation of 35.2 g of CO_2 from carbon and dioxygen gas.

BIOLOGY

1. Prepare practical record in all respects.

2. Revise unit 1,2&3.

3. Solve 200 mcq from above 3 units.

COMPUTER

1. Write a program to take your name as input and print Hello [name], Welcome to Python.
2. Write a program to find the length of a string without using len() function. Use a loop.
3. Write a program to count how many times the letter a appears in a given string. Use count().
4. Write a program to convert a string to uppercase and lowercase using upper() and lower().
5. Write a program to reverse a string using slicing [::-1].
6. Write a program to check if the first character of a string is a vowel or not.
7. Write a program to take 3 words as input and join them with - using join().
8. Write a program to split a sentence into words using split() and print each word on a new line.
9. Write a program to print the first and last character of a string using indexing.
10. Write a program to replace the word bad with good in the sentence This is bad using replace().
11. Write a program to check if a string contains only digits using isdigit().
12. Write a program to remove extra spaces from start and end of a string using strip().
13. Write a program to find the position of the word Python in a string using find().
14. Write a program to check if a string starts with Hello using startswith().
15. Write a program to count total vowels in a string using a loop and in operator.
16. Write a program to print each character of a string on a new line using a for loop.
17. Write a program to take first name and last name as input and print full name with a space in between.
18. Write a program to check if a string contains only alphabets using isalpha().
19. Write a program to capitalize the first letter of a string using capitalize().
20. Write a program to print a string 5 times without using loop, using * operator.
21. Write a program to print first 3 characters and last 3 characters of a string using slicing.
22. Write a program to check if a string contains only spaces using isspace().
23. Write a program to swap the case of a string using swapcase().
24. Write a program to count total number of words in a sentence using split() and len().
25. Write a program to check if a string like madam is a palindrome using [::-1]

DEEPAWALI & CHHATH PUJA HOLIDAY HOME WORK

Class XI ACCOUNTANCY Session 2026–27

General instruction:

i) **Prepare project on accountancy as per the discussion and provided sample project**

ii) **And Solve the following question**

Q1. Depreciation is charged on fixed assets due to:
(a) Increase in market value (b) Wear and tear (c) Increase in demand (d) Appreciation in value
Q2. Under the Straight Line Method, the amount of depreciation charged every year is:
(a) Increasing (b) Decreasing (c) Equal (d) Uncertain
Q3. Which of the following methods of depreciation is also known as the Reducing Balance Method?
(a) Straight Line Method (b) Written Down Value Method (c) Annuity Method (d) Sinking Fund Method
Q4. A machine costing ₹1,00,000 has a residual value of ₹10,000 and a useful life of 9 years. The annual depreciation under Straight Line Method will be:
(a) ₹9,000 (b) ₹10,000 (c) ₹11,000 (d) ₹12,000
Q5. Depreciation is charged on fixed assets even if they are not used during the year because of:
(a) Obsolescence (b) Passage of time (c) Increase in value (d) Market fluctuations
Q6. A cheque issued but not yet presented for payment will:
(a) Increase the passbook balance (b) Decrease the passbook balance
(c) Increase the cash book balance (d) Have no effect on either balance
Q7. Bank charges recorded in the passbook but not in the cash book will be:
(a) Added to the cash book balance (b) Deducted from the cash book balance
(c) Added to the passbook balance (d) Ignored
Q8. A Bank Reconciliation Statement is prepared to reconcile the balance of:
(a) Cash Book and Sales Book (b) Cash Book and Passbook
(c) Purchase Book and Cash Book (d) Ledger and Journal
Q9. Under the Written Down Value Method, depreciation is calculated on:
(a) Original Cost of Asset (b) Market Value of Asset
(c) Opening Book Value of Asset (d) Residual Value of Asset
Q10. When a cheque deposited into the bank is dishonoured, the bank balance as per passbook will be:
(a) Higher than the cash book balance (b) Lower than the cash book balance
(c) Equal to the cash book balance (d) Nil
Q11. Explain any three causes of depreciation.
Q12. Differentiate between Straight Line Method and Written Down Value Method of providing depreciation on any three bases.
Q13. A machine was purchased for ₹2,00,000. Its estimated useful life is 10 years and its estimated residual value is ₹20,000. Calculate:
(a) Annual depreciation under Straight Line Method. (b) Rate of depreciation per annum.
Q14. Prepare a Bank Reconciliation Statement from the following particulars as on 31st March, 2026:

- Balance as per Cash Book (Debit balance) ₹25,000.
- Cheques issued but not presented for payment ₹5,000.
- Cheques deposited but not yet collected ₹8,000.
- Bank charges debited by the bank ₹500.

Q15. State any three reasons why the balance shown by the Cash Book and Passbook may differ.

Q16. A company purchased machinery for ₹5,00,000 on 1st April, 2023. Depreciation is charged at 10% per annum under the Written Down Value Method.

Calculate the amount of depreciation for the first three years and prepare the Machinery Account for three years.

Q17. From the following information, prepare a Bank Reconciliation Statement as on 31st March, 2026:

- Balance as per Passbook ₹40,000.
- Cheques issued but not presented for payment ₹8,000.
- Cheques deposited but not yet credited by the bank ₹12,000.
- Interest credited by the bank ₹1,000.
- Insurance premium paid by the bank as per standing instructions ₹2,000.

Q18. A firm purchased a machine on 1st April, 2024, for ₹4,00,000. On 1st October, 2025, another machine was purchased for ₹2,00,000. Depreciation is charged at 10% per annum under the Straight Line Method.

Calculate the depreciation for the financial years 2024–25 and 2025–26.

Q19. On 1st April, 2023, X Ltd. purchased machinery for ₹6,00,000. On 1st October, 2024, additional machinery costing ₹2,00,000 was purchased. On 1st April, 2025, the machinery purchased on 1st April, 2023, was sold for ₹4,00,000.

Depreciation is charged at 10% per annum under the Written Down Value Method.

Prepare the Machinery Account for the first three financial years, assuming the books are closed on 31st March every year.

Q20. From the following information, prepare a Bank Reconciliation Statement as on 31st March, 2026:

The Cash Book of a business showed a bank balance of ₹75,000.

On comparing the Cash Book with the Passbook, the following differences were found:

1. Cheques issued but not presented for payment ₹15,000.
2. Cheques deposited but not yet collected by the bank ₹20,000.
3. Bank charges debited by the bank ₹500.
4. Interest allowed by the bank ₹1,500.
5. A customer directly deposited ₹10,000 into the bank account.
6. A cheque of ₹5,000 deposited into the bank was dishonoured, but no entry was passed in the Cash Book.

Prepare the Bank Reconciliation Statement and calculate the balance as per Passbook.

DEEPAWALI & CHHATH PUJA HOLIDAY HOME WORK

BUSINESS STUDIES Class XI Session 2026–27

General Instructions

i) **Prepare project on accountancy as per the discussion and provided sample project**

ii) **And Solve the following question**

Q1. Which of the following is an example of an owner's fund?

(a) Debentures (b) Bank Loan (c) Equity Shares (d) Trade Credit

Q2. The funds raised by a company through the issue of preference shares are known as:

(a) Borrowed Funds (b) Owner's Funds (c) Retained Earnings (d) Trade Credit

Q3. Which source of finance does not involve any cost in the form of interest or dividend?

(a) Debentures (b) Retained Earnings (c) Bank Loan (d) Public Deposits

Q4. A company raises funds by inviting the general public to deposit money with it for a specified period. This source is known as:

(a) Trade Credit (b) Public Deposits (c) Commercial Paper (d) Factoring

Q5. Which of the following financial institutions provides financial assistance to businesses for medium and long-term requirements?

(a) Commercial Banks (b) Development Banks (c) Stock Exchanges (d) Insurance Companies

Q6. The instrument issued by companies to raise short-term funds from the money market is called:

(a) Equity Shares (b) Debentures (c) Commercial Paper (d) Preference Shares

Q7. Which of the following shareholders enjoy preferential rights regarding payment of dividend and repayment of capital?

(a) Equity Shareholders (b) Preference Shareholders (c) Debenture Holders (d) Bond Holders

Q8. Funds generated by a company from its business operations and retained for reinvestment are known as:

(a) Trade Credit (b) Retained Earnings (c) Public Deposits (d) Lease Financing

Q9. Which of the following is a short-term source of finance?

(a) Equity Shares (b) Debentures (c) Trade Credit (d) Preference Shares

Q10. A company wants to raise funds without diluting the control of existing shareholders. Which source should it prefer? (a) Equity Shares (b) Retained Earnings (c) Ordinary Shares (d) Bonus Shares

Q11. Explain any three merits of retained earnings as a source of business finance.

Q12. Differentiate between Equity Shares and Preference Shares on any three bases.

Q13. Explain any three factors affecting the choice of source of finance.

Q14. What is Trade Credit? Explain any two advantages of Trade Credit to a business organisation.

Q15. Explain the meaning of Commercial Paper. State any two features of Commercial Paper.

Q16. Explain any four merits of raising funds through the issue of debentures.

Q17. Differentiate between Owner's Funds and Borrowed Funds on any four bases.

Q18. Explain any four limitations of retained earnings as a source of business finance.

Q19. Explain the following sources of short-term finance:

(a) Trade Credit (b) Factoring (c) Commercial Paper (d) Bank Overdraft.

Q20. Explain any four advantages of public deposits as a source of business finance.

ECONOMICS

TOPIC:CONSUMER BEHAVIOUR ,DEMAND , ELASTICITY OF DEMAND.BEHAVIOUR OF PRODUCER, COST , REVENUE,PRODUCER EQUILIBRIUM, FORMS OF MARKETI,SUPPLY AND ELASTICITY OF SUPPLY, INDEX NUMBER,MAKE PROJECT ON ANY ONE THE ABOVE TOPIC

Social Science

History

- Write the answer of the following questions from the Chapter ***Displacing the Indigenous peoples***
  - What do you know about the earliest inhabitants of North America?
  - Discuss the methods adopted by the Europeans to displace the Natives?
  - What do you understand by the term The Gold rush?
  - What do you know about winds of change in the U.S.A and Canada?
  - Write a description about the winds of change in Australia?

Physical Education (048)

Class XI :-

1. Calculate the B.M.I. of yourself & your parents as well as siblings (if any) & mention the category of Index.
2. Mention the names of the medalists from India of the previous paralympics held .
3. Write the 3 disabilities with their reasons

Drawing and colouring –
Folk art, Traditional art or any indigenous art forms Any one of the following





