

Name: _____ Roll No. _____

Class In charge: Mr. Amit Sharma

English

Q.1 'Child labour is a curse on society' Write an article; 'How to eradicate child labour from the country in order to make it well educated and civilized' in about 150-180 words (critical analysis, Chapter 'Lost Spring')

Q.2 As per the prediction on the life of the 'Tiger King' by the chief astrologer, his end was supposed to come from tiger. Do you agree that lives of 100 tigers could be saved. Illustrate in about 180 - 200 words. (Value based critical thinking, chapter 'The Tiger King')

Biology

Q.1 Prepare the given Biology project as per the CBSE guidelines (Students are supposed to make a investigatory project of one of the given topic min. 15 to 20 pages along with 1. Acknowledgement 2. Index 3. Cover page 4. Project synopsis 5. Data/Statistical analysis 6. Analysis/Explanation and Interpretation 7. Conclusion 8. Bibliography) on topic "How do immune system agents function?" OR "Menstrual cycle and it's events" (take reference from ch-3 & ch-8 of NCERT book).

Write answers of the following questions in your fair notebook:

Q.2 Frame at least 10 your own questions from the topic Post fertilization events in plants?

Q.3 Why do hilly areas of Kerala, Karnataka and Tamil Nadu transform into blue stretches that attracts many tourists?

Q.4 Why are cleistogamous flowers invariably autogamous?

Q.5 Explain the formation of an embryo sac with diagram?

Q.6 Mention the name and role of hormones which are involved in regulation of gamete formation in human male?

Q.7 Three of the steps of neuroendocrine mechanism in respect of parturition are mentioned below. Write the missing steps in proper sequence-

a) Signals originate from fully developed foetus and placenta.

b)

c)

d) Oxytocin causes strong uterine contraction.

e) Uterine contraction stimulates the further secretion of oxytocin .

f)

Q.8 What is the reason for the absence of menstrual cycles during conception or pregnancy?

Q.9 Frame at least 5 your own questions from the topic Mendalian genetics?

Q.10 Why Mendel selected only pea plant for his experiments?

(ii) The vapour pressure (mm of Hg) of solution will be

- (a) 17.5 (b) 0.61
(c) 17.439 (d) 0.00348

(iii) Mole fraction of sugar in the solution is

- (a) 0.00348 (b) 0.9965
(c) 0.061 (d) 1.75

(iv) If weight of sugar taken is 5 g in 108 g of water then molar mass of sugar will be

- (a) 358 (b) 120
(c) 240 (d) 400

(v) The vapour pressure (mm of Hg) of water at 293K when 25g of glucose is dissolved in 450 g of water is

- (a) 17.2 (b) 17.4
(c) 17.120 (d) 17.02

2. The study of the conductivity of electrolyte solutions is important for the development of electrochemical devices, for the characterisation of the dissociation equilibrium of weak electrolytes, and for the fundamental understanding of charge

transport by ions. The conductivity of electrolyte is measured for electrolyte solution with concentrations in the range of 10^{-3} to 10^{-1} mol L⁻¹, as a solution in this range of concentrations can be easily prepared. The molar conductivity (Λ_m)

of strong electrolyte solutions can be nicely fit by the Kohlrausch equation.

$$\Lambda_m = \Lambda_m^\circ - K \sqrt{C} \dots(i)$$

Where Λ_m° is the molar conductivity at infinite dilution and C is the concentration of the solution. K is an empirical proportionality constant to be obtained from the experiment. The molar conductivity of weak electrolytes, on the other hand, is dependent on the degree of dissociation of the electrolyte. At the limit of a very dilute solution, the Ostwald dilution law is expected to be followed,

$$\frac{1}{\Lambda_m} = \frac{1}{\Lambda_m^\circ} + \frac{\Lambda_m}{(\Lambda_m^\circ)^2} \frac{C_A}{K_d} \dots(ii)$$

where C_A is the analytical concentration of the electrolyte and K_d is the dissociation constant. The molar conductivity at infinite dilution can be decomposed into the contributions of each ion.

$$\Lambda_m^\circ = \nu_+ \lambda_+^\circ + \nu_- \lambda_-^\circ \dots(iii)$$

Where, λ_+ and λ_- are the ionic conductivities of positive and negative ions, respectively and ν_+ and ν_- are their stoichiometric coefficients in the salt molecular formula.

Ques.1 Which statement about the term infinite dilution is correct?

- (a) Infinite dilution refers to a hypothetical situation when the ions are infinitely far apart.
(b) The molar conductivity at infinite dilution of NaCl can be measured directly in solution.
(c) Infinite dilution is applicable only to strong electrolytes.
(d) Infinite dilution refers to a real situation when the ions are infinitely far apart.

Ques.2 Which of the following is a strong electrolyte in aqueous solution?

- (a) HNO₂ (b) HCN
(c) NH₃ (d) HCl

Ques.3 Which of the following is a weak electrolyte in aqueous solution?

- (a) K₂SO₄ (b) Na₃PO₄
(c) NaOH (d) H₂SO₃

Ques.4 If the molar conductivities at infinite dilution for NaI, CH₃COONa and (CH₃COO)₂Mg are 12.69, 9.10 and 18.78 S cm² mol⁻¹ respectively at 25°C, then the molar conductivity of MgI₂ at infinite dilution is
(a) 25.96 S cm² mol⁻¹ (b) 390.5 S cm² mol⁻¹
(c) 189.0 S cm² mol⁻¹ (d) 3.89 × 10⁻² S cm² mol⁻¹

Ques.5 Which of the following is the correct order of molar ionic conductivities of the following ions in aqueous solutions?

- (a) Li⁺ < Na⁺ < K⁺ < Rb⁺
(b) Li⁺ > Na⁺ > K⁺ > Rb⁺
(c) Rb⁺ < Na⁺ < Li⁺ < K⁺
(d) Li⁺ < Rb⁺ < Na⁺ < K⁺

Ques.3 Discover how electricity can cause a chemical change or the other way around. Investigate chemicals that can conduct electricity or how electricity changes pH. Create your own power source like a battery from saltwater or even vegetables, or improve fuel cells powered by mud and bacteria.

Ques.4 . (i) On mixing liquid X and liquid Y, the volume of the resulting solution increases. What type of deviation from Raoult's law is shown by the resulting solution? What change in temperature would you observe after mixing liquids X and Y?

(ii) How can the direction of osmosis be reversed? Write one use of reverse osmosis.

Ques.5 Prepare the given Chemistry project as per the CBSE guidelines (Students are supposed to make an investigatory project of one of the given topics min. 15 to 20 pages along with 1. Acknowledgement 2. Index 3. Cover page 4. Project synopsis 5. Data/Statistical analysis 6. Analysis/Explanation and Interpretation 7. Conclusion 8. Bibliography) on any one of the topics given below-

few suggested Projects.

- Study of the presence of oxalate ions in guava fruit at different stages of ripening.
- Study of quantity of casein present in different samples of milk.
- Preparation of soybean milk and its comparison with the natural milk with respect to curd formation, effect of temperature, etc.
- Study of the effect of Potassium Bisulphate as food preservative under various conditions (temperature, concentration, time, etc.)
- Study of digestion of starch by salivary amylase and effect of pH and temperature on it.
- Comparative study of the rate of fermentation of following materials: wheat flour, gram flour, potato juice, carrot juice, etc.
- Extraction of essential oils present in Saunf (aniseed), Ajwain (carum), Illaichi (cardamom).
- Study of common food adulterants in fat, oil, butter, sugar, turmeric powder, chilli powder and pepper.

Political Science

Q 1. Make any one Project Which recommended by CBSE. as 1. UNO & their Organs 2 . ASEAN structure 3.E.U. Structure 4 SAARC etc.

Q 2. Write time line chart of disintegration of the Soviet Union on chart paper.

Q 4. Write short Summarize Essay on each.

- (a). ASEAN
(b). E. U.

Q 5. Write task of State reorganization Commission.

Sociology

Prepare the given sociology project as per the CBSE guidelines. Prepare a rough draft on any one of the following topics. The Rough draft should have complete and detailed information along with the critical analysis of the topics. Some suggested topics for project work are:

1. Child labour /women empowerment
2. Social Mobility and its modern development
3. Dowry System
4. Role of social media
5. Globalization
6. Child marriage
7. Politics and Multi-Dimensional poverty
8. Caste system
9. Social inequality
10. Caste Movement in India
11. Family and marriage
12. Role of mass media
13. Female infanticide
14. Culture and socialization

Students should prepare the Sociology project under the following headings

1. Acknowledgement
2. Index
3. Cover page
4. Project synopsis
5. Data/Statistical analysis
6. Analysis/Explanation and Interpretation
7. Conclusion
8. Bibliography

B. Prepare a project on A3 sheet on tribal traits, classify them according to their inhabitant and living. Elaborate their issues and problems that they have been facing after independence. Describe about any two largest tribe of India.

History

Prepare the given History Project on A3 sheet. (Any one of the following topics)

1. Meluhha: the Indus Civilization and Its Contacts with Mesopotamia

2.Revolt of 1857

3.Understanding the Bhakti-Sufi Movement in India

4. . A History of Buddhism: Sanchi Stupa

5.The Making of the Constitution

Computer Science

Q1. Mr. Lalit Srivastav provides the side measurement of a triangle. He asks the students to check whether it is a Scalene triangle, Isosceles triangle or Equilateral triangle. Develop an application using suitable Python commands to solve the above problem.

- Scalene Triangle: no equal sides
- Isosceles Triangle: two equal sides
- Equilateral Triangle: All sides are equal

Q2. Write a menu driven program to input a number and check and display whether the number is a Special Number or Armstrong number or Prime number or Automorphic number or not.

Note:

- A number is said to be a Special number if the sum of the factorial of the digits of the number is same as the original number e.g., 145 is a special number because $1! + 4! + 5! = 1 + 24 + 120 = 145$.
- A number is said to be an Armstrong number if the sum of the cubes of the digits of the number is the same as the original number e.g., 153 is an Armstrong number, because $1^3 + 5^3 + 3^3 = 1 + 125 + 27 = 153$.
- A number is said to be a prime number if it is divisible only by 1 and itself.
- A number is said to be an Automorphic number if the number contains last digit(s) of its square e.g., 25 is an Automorphic number as its square is 625 and 25 is present in the last two digits.

Q3. Write a program to enter a string and perform the following operations on the string:

- Total numbers of characters.
- Total number of alphabets.
- Total number of digits.
- Total number of vowels.
- Total number of spaces.

Q4. Write a program for word jumble game where computer will randomly pick a word from a sequence (Tuple). The user would guess a word from the tuple, if it is correct, and then print an appropriate message.

The tuple is given as follows:

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t1=("Python", "C++", "Java", "COBOL", "BASIC", "VISUAL STUDIO", "MYSQL", "FORTRAN")
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Q5. Write a program to input your friend's names and their phone numbers and store them in the dictionary as the key-value pair. Perform the following operations on the dictionary:

- a) Display the names and phone numbers of all your friends.

- b) Add a new key-value pair in this dictionary and display the modified dictionary.
- c) Delete a particular friend from the dictionary.
- d) Modify the phone number of an existing friend.
- e) Check if a friend is present in the dictionary or not
- f) Display the dictionary in sorted order of names.

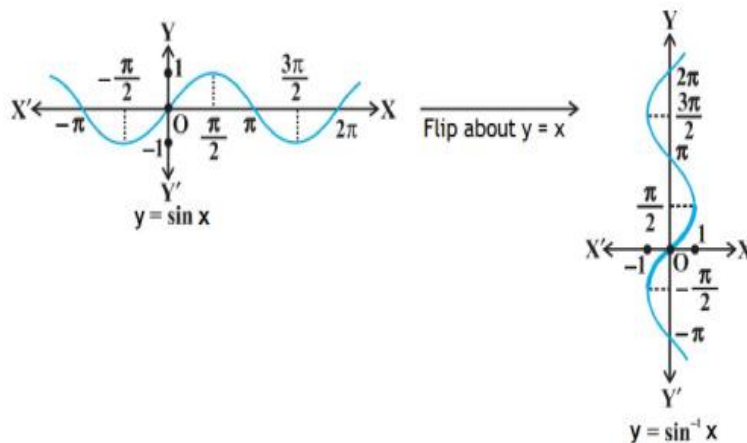
Economics

Make a file and write a detailed note on the following on the punch paper or A4 sheet.

1. Indian Economy was trapped in the net of poverty, stagnation and backwardness. Comment.
2. British policies were discriminatory and was a curse on Indian Economy. Comment.

Mathematics

Q.1 Two brothers are plying their bicycles over two curved pathways. Their teacher tells them that one of the brothers is following the path of curve $y = \sin x$ while, the other one follows the path of curve $y = \sin^{-1}x$. Refer the graphs of sine function and its inverse function, given below.



Q.2 On her birthday Seema decided to donate some money to children of an orphanage home. If there were 8 children less, everyone would have got Rs. 10 more. However, if there were 16 children more, everyone would have got Rs. 10 less.

Based on the information given above, answer the following questions:

- (i) Express the above situation mathematically.
- (ii) Represent the above information in matrix equation.
- (iii) Find the number of children got the help by Seema.
- (iv) How much amount is given to each child by Seema?
- (v) How much amount Seema must spend in distributing the money to all the students of orphanage home?
- (vi) What value is depicted by Seema?

Q.3 A coaching institute of English (subject) conducts classes in two batches I and II and fees for rich and poor children are different. In batch I, it has 20 poor, and 5 rich children and total monthly collection is Rs. 9000, whereas in batch II, it has 5 poor, and 25 rich children and total monthly collection is Rs. 26,000.

Based on the information given above, answer the following questions:

- (i) Express the above situation mathematically.
- (ii) Represent the above information in matrix equation.
- (iii) Find the fees paid by poor student per month.
- (iv) Find the fees paid by rich student per month.
- (v) Which values are shown by coaching institute?

Q.4 Two schools P and Q want to award their selected students on the values of Tolerance, Kindness, and Leadership.

The school P wants to award Rs x each, Rs y each and Rs z each for the three respective values to 3, 2 and 1 students respectively with total award money of Rs. 2200.

School Q wants to spend Rs 3100 to award its 4, 1 and 3 students on the respective values (by giving the same award money to the three values as school P). If the total amount of award for one prize on each value is Rs1200, using matrices, find the following:



- (i) What is award money for Tolerance?
- (ii) What is the award money for Leadership?
- (iii) What is the award money for Kindness?
- (iv) If a matrix A is both symmetric and skew-symmetric, then
 - a. A is diagonal Matrix.
 - b. A is Zero Matrix
 - c. A is Scalar Matrix
 - d. A is Square Matrix.
- (v) If A and B are two matrices such that $AB = B$ and $BA = A$ then B^2 is equal to
 - a. B
 - b. A
 - c. 0
 - d. 1

Q.5 Draw the graphs of all Trigonometric Function and Inverse Trigonometric Functions and also write their domain and range.

Q.6 The following number system are discussed in the history of Mathematics:

The Egyptian number system

The Greek number system

The Babylonian Number system

Fraction of Ancient Egypt

Research and write an article on any two of the above-mentioned number systems. Use suitable images and pictures to support your research work.

Business studies

Prepare a collage on any one on a chart paper:-

1. Indian MNC's and their CEO's with their Brand Name and Brand Mark
2. Non- Indian MNC's and their CEO's with their Brand Name and Brand Mark.

Accounts

1. Collect the data of any partnership firm of any financial year and write your observations of change in Gross and Net profit in your notebook.

Physical Education

PROJECT FILE.

ATHLETICS

COPY HOMEWORK

1. DRAW A KNOCK OUT FIXTURE OF 24 TEAMS IN WHICH TWO ARE SPECIAL SEEDDED.
2. WRITE THE PHYSIOLOGICAL CHANGES IN WOMEN DURING MENARCHE AND MENSTRUAL DYSFUNCTION.

Entrepreneurship

Collect detailed information about Dhirubhai Ambani and write a short note of his journey to become a famous industrialist and one of the prominent chief and managing director of Reliance Industries.

Legal Studies

Q1. Give examples for movable and immovable property.

Q2. 'A' transfers two different properties through the same Instrument. Is it valid ?

Q3. X leases his property to Y. Y having the property in his possession makes some alterations. After the lease period, the property goes back to X. What are the remedies available to; as well as Y?

Q4. Mr. Saurabh professes to gift his property at Nainital worth ' 10000/- to Ms.

Monika and by the same instrument another property at Coimbatore for 5000/-. As Ms. Monika can stay only at one place among the two, wants to retain the property at Nainital and reject the transfer of property at Coimbatore. Can she do it ?

Q5. The property belonging to 'X' is in litigation. 'X' is expecting to get a judgment in favour. Can he sell the property to 'Y' or any other person before the judgment is given ?

Note: students will complete the above mentioned Questions in fair Notebook.