

10. If the coefficients of three consecutive terms in the expansion of $(1 + x)^n$ be 76, 95 and 76, find n .
11. If the 6th, 7th and 8th terms in the expansion of $(x + a)^n$ are respectively 112, 7 and $\frac{1}{4}$, find x, a, n .
12. If p is a real number and if the middle term in the expansion of $\left(\frac{p}{2} + 2\right)^8$ is 1120, find p .
13. Find n in the binomial $\left(\sqrt[3]{2} + \frac{1}{\sqrt[3]{3}}\right)^n$, if the ratio of 7th term from the beginning to the 7th term from the end is $\frac{1}{6}$.

PHYSICS

Solve minimum 80 question from NCERT book , class notes and other book chapters including (straight line motion, vector, projectile motion ,Newton's law of motion And circular motion) submission date 22 OCT.

CHEMISTRY

1. Write the real gas equation. Write the unit of constants used in it.
2. Find energy of the outermost electron of Hydrogen atom.
3. Find minimum wavelength of the wave emitted in balmer series for Hydrogen atom.
4. Find the mole fraction of a 2m aqueous solution of NaOH.
5. Draw molecular orbital diagram of O_2^+ , O_2^- , & O_2^{2-}
6. (a) What is ideal gas?
(b) State the conditions under which a gas shows the ideal behavior:
7. Calculate the total number of electrons present in 1 drop of water has mass 0.0018 gm.
8. How many litres of oxygen at 57°C and 2 bar is required to burn completely 2.5 gm of butane (C_4H_{10})?

BIOLOGY

Very short answer questions :

1. Why do oils generally remain liquid state even in winters?
2. What is the difference between DNA & RNA in terms of nitrogenous base?

Short answer questions :

3. Explain peptide bond, glycoside bond, and phosphodiester bond.
4. What is an enzyme? Give an example of co-enzyme. Distinguish between apoenzyme & co-enzyme.

Long answer questions :

5. Describe the structure of prokaryotic cell.
6. Explain the fluid mosaic model of plasma membrane with the help of neat labeled diagram.
7. What is the composition of triglyceride molecule?
8. How substrate concentration affect the velocity of enzyme action?

COMPUTER SCIENCE

1. Write a Program to find the sum and average of n natural numbers, odd numbers and even numbers.

2. Write a Program to calculate the Square of a number up to n starting from 1.
3. What is the difference between the selection and the repetition?
4. Why go to is called a jumping statement?
5. Write a program to find Armstrong number.
6. Write a Program to find sum of even and odd number up to 20.
7. Write a program to accept number from user and find factorial of number.

INFORMATICS PRACTICES

1. Design a GUI application in Java netbeans and write a suitable coding to input three numbers and display the maximum, minimum and equal numbers.
2. Design a GUI application in Java netbeans and write a suitable coding to input the market price of an article and calculate the discount and hence display the selling price in a an appropriate swing control. (the rate of discount can be consider as per your choice).
3. Design a GUI application in Java netbeans and write a suitable coding to display a menu as follows :
 - (a) Circle
 - (b) Cone
 - (c) Cylinder
 - (d) CuboidFrom the above list of choices, user needs to input a particular choice and hence display the area, perimeter and the length of diagonal (wherever applicable). If user inputs a wrong choice display and appropriate message to the user.
4. Design a GUI application in Java netbeans and write a suitable coding to input a digit from 1 to 7 and display the corresponding day of the week using a menu driven structure.
5. Design a GUI application in Java netbeans and write a suitable coding to input a number and display whether it's a prime or non-prime number.

PHYSICAL EDUCATION

1. Draw a labelled diagram of 400 mtrs. track and field with proper computation.
2. Computation of BMI from family or neighbourhood and graphical representation of the data.
3. Labelled diagram of field and equipment of any one game of your choice out of the following list : badminton, swimming, table-tennis, taekwondo.
4. Pictorial presentation of any five Asanas for improving concentration.
5. Write a short note on physical education and sports of differently abled.

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