Class-11

Holiday Homework

Subject: Physics

- Complete notebook work (all 6 chapters)
- Write all the physics practicals in Lab note book from the pdf shared. (Marks-5)

Project work -I (Marks-10)

- Make a Project report of 10-15 pages (including acknowledgement, index, main body of topic, conclusion, reference etc.) on any topic related to Class 11 physics book

Project work-II (Marks-10)

- Design a working model on any topic related to physics subject in the group of 5-7 Students.

Subject: Chemistry

CHAPTER – 1 : SOME BASIC CONCEPTS OF CHEMISTRY

1. How many moles of NaOH are contained in 27 ml of 0.15 M?
2. Calculate the number of atoms in each of the following:

a - 52 moles of He

b - 52 u of He

3. Calculate the molarity of of 1 L of solution of ethanol in water in which the mole fraction of ethanol is 0.040.
4. If ten volumes of dihydrogen gas react with five volumes of dioxygen gas, how many volumes of water vapour could be produced?
5. Calculate the molarity of NaOH in the solution prepared by dissolving its 4gms in enough water to form 250mL of the solution.
6. The density of 2 molal solution of NaOH is 1.10 g per ml. Calculate the molarity of the solution.
7. How many atoms and molecules of phosphorous are present in 124gms of phosphorous (P4)?
8. A 6.9M solution of KOH in water contains 20% by weight of KOH. Calculate the density of solution.
9. Calculate the molality and molarity of 1 L solution of 93% H_2SO_4(Wt. /Vol). The density of solution is 1.84g/ml.
10. Chlorophyll the green coloring matter of plants responsible for photosynthesis contains 2.68% of magnesium by weight. Calculate the number of magnesium atoms in 2.0 g of chlorophyll.
11. Calculate molality, Molarity and mole fraction of KI if the density of 20% aqueous KI solution is 1.202 g/ml.
12. What volume of O_2 at N.T.P is needed to cause the complete combustion of 200 ml of acetylene? Also calculate the volume of CO_2 formed.
13. Butyric acid contains only C, H and O. A 4.24 mg sample of butyric acid is completely burned. It gives 8.45mg of CO_2 and 3.46 mg of H_2O.The molecular mass of butyric acid was determined by experiment to be 88amu.What is its molecular formula?
14. The density of water at room temperature is 1.0 g/ml. How many molecules are there in a drop of water if its volume is 0.05 ml?
15. Potassium Bromide contains 32.9% by mass of potassium. If 6.40 gm of bromine reacts with 3.60 gm of Potassium. Calculate the no. of moles of potassium which combines with bromine to form KBr.

CHAPTER – 2 : STRUCTURE OF ATOM

1. How can you show using Pauli's exclusion principle that p sub shell can have only 6 electrons?
2. What are the values of 'n' and 'l' for 6g?
3. How many numbers of unpaired electrons are present in Fe^{2+} (Z=26)?
4. What is the ratio of the energy of a photon of λ = 100pm to that of one of λ = 200pm?
5. How many radial nodes are present in 2p and 3s orbital?
6. Out of Fe^{2+}, Fe^{3+}, which is more stable and why?7. Calculate the uncertainty in the position of an electron if uncertainty in its velocity is 0.001%.
The mass of electron = 9.11 X 10-31 kg and velocity of electron = 300m/s.
8. Account for the following.
a. The expected electronic configuration of copper is [Ar] 3d9 4s2 but actually it is [Ar] 3d10 4s1
b. In building up of atoms the filling of 4s orbitals occur before 3d orbitals
c. Spin quantum number can have only 2 values +1/2 and -1/2
9. Write short note on the following
a. Aufbau principle.
b. Heisenberg's uncertainty principle.
c. Hund's rule.
d. Photo electric effect.
e. Black body radiation
10. Derive a relationship between the wavelength associated with a moving particle and its kinetic energy.
11. Write down electronic configuration of Fe^{3+} ion and answer the following questions
a. What is the number of unpaired electrons in it?
b. How many electrons in it have n = 3 and m = 0?
c. How many electrons in it have l = 1?
d. What is the number of electrons in M-shell?
12. A bulb emits light of wavelength 4500 A0. The bulb is rated as 150 watt and 8% of the energy is emitted as light. How many photons are emitted by the bulb per second?
13. Identify and arrange the orbitals represented by the following in decreasing order of energy
a. n = 4, l = 0
b. n = 3, l = 1
c. n = 3, l = 2
d. n = 3, l = 0
14. When a certain metal was irradiated with light of frequency 4.5 x 1016 s-1 , the photo electrons emitted had 3 times the kinetic energy as the kinetic energy of photo electrons emitted when same metal was irradiated with light of frequency 2.5 x 1016 s-1 . Calculate threshold frequency of the metal.

Subject: Mathematics

- Complete all the chapters in your fair copy chapter 3, chapter 4 and chapter 5 and also revise all the exercise and try to solve MCQ part from the end of the chapter.

Subject: Biology

- To complete all the chapters in your fair copy chapter 2,3,14 and also revise all the book exercise and try to solve application-based questions.

Subject: Computer

- Complete Computer Register and assignments given.

Subject: English

English language:

- Do practice papers 5-8

English literature:

- Write short and long question answers of workbook
- Story: 1, 2
- Poem: 1, 2
- Project Work
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Subject: Physical Education

Complete Notebook &

Project - work

Make two Projects report of 20-25 pages (including acknowledgement, index, main body of topic, conclusion, reference etc)

Paste pictures/diagrams.

1. Volleyball

2. Badminton