Holiday home work Class 11

Q1 - Express the results of following calculations to appropriate number of significant digits

816 + 0.02456 + 215.36

(2 Marks)

Q2 - Calculate the molar volume of water at 273 K (density of water = 1.00 g/cm3).

(1 Mark)

Q3 -How many moles of methane are required to produce 22 g CO?

(5 Marks)

Q4 - A solution is prepared by dissolving 5.85g of NaCl in 90g of H2O. Find mole fraction of NaCl and H_2O.

(3 Marks)

Q5 - Find the molarity of solution prepared by dissolving 7.1g of Na_2SO_4 in 100ml of aqueous solution.

(3 Marks)

Q6 - What is one atomic mass unit (amu) or Unified mass (U)?

(1 Mark)

Q7 - Find the number of significant figures in 3.248×10^{-3}.

(1 Mark)

Q8 - Write the S.I. unit of molality.

(1 Mark)

Q9 - What is the value of Avogadro constant?

(1 Mark)

Q10 - Empirical formula of an organic compound is $C_3H_3O_3$. Its molecular weight is 118. Write its molecular formula.

(2 Marks)

Holiday home work Class 11

Q1 - What is the mass of 3 gram atoms of calcium?

(1 Mark)

Q2 -Calculate the mass of $CaCO_3$ which is required to react with 25 ml of 0.75 M HCl.

(5 Marks)

Q3 - During preparation of ammonia by Haber's process 30 L of H2 and 30 L of N2 are mixed. The yield of NH3was 50%. Find the composition of gaseous mixtures.

(3 Marks)

Q4 -Potassium bromide (KBr) contains 32.9% potassium by mass. If 6.40 g of Br_2 is made to react with 3.60 g of potassium, find the actual mass of potassium which reacts with bromine.

(2 Marks)

Q5 - One atom of an element weighs 1.8×10^{-22} g . What is the atomic mass of element?

(1 Mark)

Q6 -Chlorophyll contains 2.7% of Magnesium by mass.The number of magnesium atoms present in 4.00g of chlorophyll is

(3 Marks)

Q7 - How much water is required to dilute 10 ml of 10 N hydrochloric acid to make it exactly decinormal?

(2 Marks)

Q8 - Find the molarity of solution prepared by dissolving 4g of NaOH in 3L of solution.

(2 Marks)

Q9 - How many molecules are present in 1 kg mole?

(1 Mark)

CLASS 11 /PHYSICS/HOLIDAY ASSIGNMENT

Q.1 . The parallactic angle subtended by a distant star is 0.76 on the earth orbital diameter ($1.5X10^{11}$m). Calculate the distance of star from the earth.

Q.2 . The length, breadth and thickness of a rectangular shhet of metal are 4.234m, 1.005m,2.01cm respectively. Calculate the surface area and volume of the sheet to correct significant figures.

Q.3. Deduce bythe method of dimensions, an expression for the energy of a body executing S.H.M. assuming that the energy of the body depends upon the mass (m), the frequency (f) and the amplitude of vibration (a).

Q.4 . Experiments shows that the frequency (n) of a tuning fork depends upon the length (l) of the prong, thr density (d) and the Young,s modulus (Y) of its material. From dimensional considerations, find a possible relation for frequency of the tuning fork.

Q.5. If the velocity of light (c) , the constant of gravitation (G) and Planck,s constant (h) be chosen as the fundamental units , find the dimensions of mass , length and time in the new system.

Q.6 . A bullet fired into a fixed target loses half of its velocity after penetrating 3 cm . How much length will it penetrate before coming to rest assuming that it faces constant resistance to motion ?

Q.7 . Four persons K,L,M and N start from the vertices of a square of side a, simultaneously and move towards the neighbour in order always with the same speed of v. When and where do they meet.

Q.8 . A car travelling at aspeed of 10m/s duenorth , turns to its left and travels with same speed.Find the change in velocity associated.

Q.9 . A car travels first half of a length S with velocity v_1. The second half is covered with velocities v_2 and v_3 for equaltime intervals. Find the average velocity of themotion.

Q.10 . A stone loses $1/10^{th}$ of its velocity on passing through a sand bag of length x. For its velocity to be made zero , how many more similar bags are to be placed on its path ?

Q.11 . A hundred metre sprinter increases hisspeed from rest uniformly at the rate of 1 m/s^2 forthree quarters of the length and covers the last quarter with a uniform speed.How long does he take to cover the first half and second half of the run ?

Q.12 . A body starts from rest , accelerates uniformly . Find the ratio of the displacement in, (i)one,two and three seconds , (ii) First ,second and third second.

Q.13 A stone is dropped into awell of depth h . The speed of sound is vm/s . Estimate the time after which the sound of splash is heard by the person dropping the stone.

Q.14 . A boy throws a ball vertically upwards with a velocity of 9.8 m/s from the roof of a building20 m high. How long will the ball take to reach the ground? What will be its velocity when it strikes the ground ?

Q.15. A stone dropped from a certain height travels $2/5^{th}$ of its length in the last second of its motion. Find the time taken to reach the ground and the height from where it is dropped?

Holiday home work Class 11

Q.16. A motor boat covers the distance between two spoys on the river in time of 8 hrs. and 12 hrs. downstream and upstream respectively. What is the time required for the boat to cover this distance in still water?

Q.17 . A body covers 12 m in 2^{nd} second and 20 m in 4^{th} second. Find what distance the will cover in 4 second after 5^{th} second.

Q.18 Water drops fall freely from a tap at a height of 4.9m . If time interval between successive drops is equal and the 4^{th} drop is released when the first lands on the ground, Find the seperation between the second and third drops ?

Q.19 . a ball is dropped from a height of 90 m on floor. At each collision with the floor , the ball loses one tenth of its speed. Plot the speed time graph of its motion between t=0 to 12 s.

Q.20 . Two bodies of different masses m_1 and m_2 are dropped from two different heights a and b . What is the ratio of time taken by the two to drop through these distances?

Class 11/Mathematics/Holiday Homework/2017-18

Q1.In a class 18 students took Physics ,23 students took Chemistry and 24 students took Mathematics . Out of these 13 took both Chemistry and Mathematics,12 took both Physics and Chemistry and 11 took both Physics and Mathematics .If 6 students offered all the three subjects ,find

a)Total number of students in the class

b)How many took Mathematics but not Chemistry

c)How many took exactly one of the three subjects

Q2.Write the power set and proper subsets of A={ $0, \phi, \{\phi\}$ }

Q3. Define signum function and modulus function. Draw the graphs. Write their domain and range

Q4.If A,B are two sets and U is the universal set such that n(U)=800 ,n(A)=200,n(B)=300 and

$n(A \cap B)=100$ .Find $n(A' \cap B')$

Q5. Prove Demorgan's law by taking arbitrary element and by venn diagram.

Q6. Given set A = {honest, violence} Set B ={peace, prosperity , destruction, hatred }

Write the set AXB choose one element of AXB which you would like to have your values in your life

also write the number of subset and proper subset of AXB

Q7.In the university out of 100 teachers 15 like reading newspaper only ,12 like learning computer only

and 8 like watching movies only in the spare time .40 like reading newspaper and watching movies,20 like learning computer and watching movies,10 like reading newspaper and learning computer ,65 like watching movies .Draw the venn diagram show the number of various portion .Hence or otherwise evaluate

the number of teachers who

1)Like reading newspaper

2)Like learning computer

3)Do not like to do any activity mentioned above

Q.8In a survey of 100 persons it was found that 28 read magazine A, 30 read magazine B,

42 read magazine C, 8 read magazine

A and B, 10 read magazines A and C, 5 read magazines B and C, 3 read all three magazines. Find :

(1) How many read none of the three magazines ?

(2)How many read magazines C only ?

(3)How many read magazine A only ?

(4)How many read magazine B and C but not A ?

Q9.Find the domain of

a)f(x)= $\frac{1}{\sqrt{x^2-1}}$. b)f(x)= $\frac{1}{\sqrt{x-[x]}}$ c)f(x)= $\frac{1}{\sqrt{x-|x|}}$ d)f(x)= $\frac{1}{\sqrt{1-\cos x}}$ e)f(x)= $\frac{1}{2-\sin 3x}$

Q.10Find n [P(A)] where A = {x : x is vowel of English Alphabet}

Q.11Convert $(-3)^C$ into degree measures.

Q.12Let A and B be two finite sets such that n(A) = m and n(B) = n if the ratio of cardinal

number of power set of A and B is 64 and n(A) + n(B) = 32. Find the value of m and n.

Q13.If A and B are the sets. If $A \cap X = B \cap X = \phi$ and $A \cup X = B \cup X$ for some set X prove that A = B.

Q.14.Find the range and domain of:

a) f(x) = $\sqrt{9-x^2}$ b)f(x)= $\frac{x^2-16}{x-4}$ c)f(x)= $\frac{|x-4|}{x-4}$ d)f(x)= $\frac{x^2}{1+x^2}$

d)f(x)= 1-|x-2| e)f(x)= $\sqrt{x-1}$ f)f(x)= $\sqrt{x-[x]}$

Q.15Let A ={-3, -2, -1, 0, 1, 2}; B = {-2, -1, 0, 1, 2, 3} and R be a relation defined by (x,y) $\in$ R if x is greater than y

where x $\in$ A, y $\in$ B. Express R and R^{-1} as a set of ordered pairs. Find the domain and range of R and R^{-1}.

Q16.Define greatest integer function. Draw its graphs and write its domain and range.

Q17. Given relation R on Z as R={(a,b) $\in$ ZXZ:$a^2+b^2 \leq 4$}.Write the domain of R.

Q18. A survey shows that 63% of the American like cheese where as 76% like apples .If x% of the American like both cheese and apples ,find the value of x.

Q19. Convert $29^0 46'55''$ into radian measure.

Q20.If $2f(x)-3f(1/x)=x^2$ then find f(2).

Q21. If $a \in N$ such that $aN=\{ax:x \in N\}$ describe the set $3N \cap 7N$

Q22.For any set A and B prove that P(A)=P(B) then A=B.

Q23.A and B are two sets having 3 elements in common .If n(A)=5 and n(B)=6 find n(AXB) and $n\{(AXB) \cap (BXA)\}$.

Q24.If f is the identity function and g is the modulus function. find the following function

1)f+g 2)f-g 3)fg 4)f/g

Q25Is f={(1,0),(2,3),(3,6),(4,9)} a function ? If this is described by the formula f(x)=ax+b .

Find the value of a and b.

Q26.If $f(x)=(a-x^n)^{1/n}$ then find f(f(x)).

Q27If f(x)= $x+\frac{1}{x}$ then prove that $[f(x)]^3=f(x^3)+3f(1/x)$

Q28 If f(x)= $\frac{x-1}{x+1}$ then prove that f(2x)= $\frac{3f(x)+1}{f(x)+3}$

Holiday home work Class 11

Class 11 (Assignment Questions) BIOLOGY

1. Differentiate the artificial system of classification from Natural system of classification.

2. Define the following. Numerical taxonomy, Cytotaxonomy, Chemotaxonomy, Phylogenetic classification.

3. Differentiate the following. (i) Isogamy, anisogamy and oogamy. (ii) Chlorophyceae, Phaeophyceae and Rhodophyceae.

4. Write the economic importance of Algae.

5. How the reserve food materials are stored in green alga, brown alga and red alga?

6. Name the following; a. The photosynthetic pigments present in green alga. b. The photosynthetic pigments present in red and brown alga. c. The alga from which Agar is extracted. d. Name any two Hydrocolloid substances extracted from red & brown algae. e. Name the root like, stem like & leaf like structures seen in algae.

7. What is alternation of generation? Explain it with reference to the life cycle of Moss plant.

8. What are Gemmae?

9. Write the economic importance of Bryophytes.

10. Explain the life history of Fern plant.

11. Differentiate Homosporous and Heterosporous condition.

12. Name the four classes of Pteridophyta.

13. Explain the life history of Gymnosperm plant.

14. Differentiate the male cone from female cone in gymnosperms.

15. Explain the life history of flowering plant with a neat sketch.

16. Name the smallest and tallest flowering plant.

17. What is double fertilization? What are the products of double fertilization?

18. What is triple fusion & syngamy?

19. Explain the Haplontic, Diplontic and Haplo-diplontic life cycles with the help of neat sketches.

20. How can you differentiate the Dicots from Monocots by studying external features?

21. Both Gymnosperms and Angiosperms bear seeds, then why are they classified separately?

1. Name the phyla that show following features.

Holiday home work Class 11

a. The multicellular animals with only cellular level of organization. b. with only tissue level of organization. c. with only organ level of organization. d. with organ system grade of organization.

2. Differentiate the following. a. Asymmetry, Radial and Bilateral symmetry. b. Diploblastic and Triploblastic organisms. c. Open and Closed circulatory system d. Acoelomata, Pseudocoelomata and Coelomata.

3. What is Metamerism? In which animals it is seen?

4. Write the general features of phylum Porifera.

5. What is the significance of canal system in sponges?

6. Write the general features of Cnidaria and Ctenophora.

7. What is Metagenesis? Explain with reference to the example you have studied.

8. Differentiate polyp from medusa.

9. What is Bioluminescence?

10. Write the general features of phylum Platyhelmenthes and Aschelmenthes.

11. With which organism the following organelles are associated? Mention their functions. a. Flame cells b. Nephridia c. Parapodia d. Malphigbian tubules e. Trachea f. Foot g. Tube feet h. Cnidoblasts i. Radula

12. Write the general features of phylum Annelida and Arthropoda.

13. Differentiate the following i. Monoecious and Dioecious ii. Direct and Indirect development. iii. Oviparous and Viviparous.

14. Write the general features of Echinodermata and Hemichordata.

15. What are the three fundamental features of all chordates?

16. Write the differences between Chordates and Nonchordates.

17. Write the general features of Cyclostomes.

18. Differentiate the following (i) Cartilaginous fishes and Bony fishes. (ii) Poikilothermy and Homiothermy

19. Write the general features of class Amphibia and Reptilia.

20. Write the general features of class Aves and Mammalia.

Holiday home work Class 11

- **Business Studies**-

  Application Based Questions & HOTS given from chapter-1,2

- **Accountancy**-

  1. Collection of Source Document
  2. Preparation of Accounting Voucher for Questions of Chapter-7