V. & C. Patel English School

Annual Examination

Date : 12-3-18 **Std. – 9** **Marks-80**

Time : 3 hour **Sub.: Science**

General Instructions :

There are 27 questions. All questions are compulsory

Questions 1-2 (1 mark), 3-5(2 marks), 6-15 (3 marks), 16-21 (5 marks), 22-27 (practice based each of 2 marks.

Q-1 What is the purpose of cattle husbandry ?

Q-2 Describe the phenomenon of membrane biogenesis.

Q-3 Why are antibiotics not effective for viral diseases ?

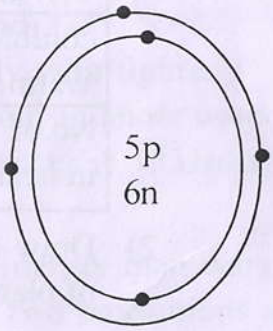
Q-4 Write significance of the symbol of an element.

Q-5 Explain why some of the leaves may got detached from a tree if we vigorously shake its branch ?

Q-6 (i) Calculate the molecular mass of nitric acid (HNO_3)
(ii) Calculate the molecular mass of glucose ($C_6H_{12}O_6$)

Q-7 With the help of activity, show that gases are highly compressible than liquids and solids.

Q-8 Aryan could not solve the following questions in the group; his groupmate explained hin. and solved his difficulty. The questions was as follows:
What information do you get from the given figure about the atomic number, mass number and valency of the given atom "X".



1. What is the answer for the above question ?
2. Name the element "X"
3. What value of Aryan's friend is reflected in his behaviour ?

Q-9 The solubility of potassiumchloride in water at 20°c is 34.7 g in 100 g of water. The density of the solution is 1.3g/ml. Calculate the concentration of potassium chloride in the solution in %. (m/m)

Q-10 1) State Newton's second law.
2) Force is applied on the object of 2kg. on a frictionless surface. It produce an acceleration of 3 m/s^2. What will be the force applied.

Q-11 State and Explain two applications of Archimedes Principle.

Q-12 A powerful motor cycle can accelerate from rest to 20 m/s is only 4 seconds.

1) What is the average accelerations ?
2) How for does it travel in that time ?

Q-13 1) Mention four characteristic features of the meristematic tissue.
2) Water hyacinath plants floats on water surface. Why ?

Q-14 State reason for the following.

1) Mention the use of deep floding in the inner membrane of mitochondria.
2) Plastids are able to make their own protein.
3) Plant cells shrink when kept in hypertonic solution.

Q-15 A farmer found that Xanthium and parthenium are also growing along with paddy in the field. What are such plants called ? How does the presence of these plants affect the crop yield ? List any 4 methods for controlling them.

OR

Describe in brief the role of nitrogen fixing bacteria and lightning in fixing nitrogen.

Q-16 1) Complete the given table.

Features	**Pisces**	**Amphibian**	**Mammals**
Exoskeleton	Scales	(a)	(b)
Oviparous/ Viviparous	(C)	Oviparous	Viviparous
coldblooded / Warm blooded	cold blooded	cold blooded	(d)
No.of chambers in heart	(e)	three	(f)

2) Draw a neat and labelled diargarm of Spirogyra. To which division of plant kingdom does it belogns ? Mention two features of that division.

Q-17 1) List any three human activities that you think would lead to air pollution.
2) If a child is suffering from loose motion. What are the immediate cause and contributory causes of the disease.

Q-18 1) The composition of two atomic particles is given below.

	X	**Y**
Protons	8	8
Neutrons	8	9
Electrons	8	8

i) What is the mass number of X ?
ii) What is the mass number of Y ?

iii) What is the relation between X and Y ?
iv) Which element / elements do they represent ?
v) Give its valency / valencies.

2) i) Define valency of an element. What valency will be shown by an element having atimic number 14 ?

ii) What is the relation between the valency of an element and the number of valence electrons in its atoms ? Explain with examples.

Q-19 An element 'E' has a valency of 4,

1. What will be the formula of its chloride ?
2. What will be the formula of its sulphide ?
3. What is meant by atomicity ?
4. Explain the difference between 2N and N_2.

OR

You are given a sample of impure coppersulphate crystals. How will you obtain pure Copper sulphate crystals from it ? Explain with the help of diagram.

Q-20 1. Derive an expression for kinetic energy of a body of mass "m' moving with a velocity 'v'.

2. A person carrying 10 bricks each of mass 2.5 kg on his head moves to a height of 20 m in 50 seconds. Calculate the power spent in carrying the bricks by the person. ($g=10\ m/s^2$).

Q-21 1. Which instrument measures the intensity of sound ?
2. Why are ceilings of concert halls curved ? Justify with figure.
3. A submarine emits a sonar pulse, which returns from an under water cliff ion 1.02 seconds. If the speed of sound in salt water is 1531m/s. how far away is the cliff.

Q-22 In the experiment, to determine the density of solid (denser than water) by using a spring balance and measuring cylinder, give two precautions while taking reading of the measuring cylinder.

Q-23 On what factors deos presure is exerted by solid depends ?

Q-24 What is the principle of centrifugation ?

Q-25 Which of the two contains more heat energy, water at 100°C or steam at 100°C ?

Q-26 In what way does the leaf of monocot differ from that of dicots ? Give example.

Q-27 After observing an earthworm, Rohan decided to place it in phylum - Annelida,. which two features did he observe that helped him to do so ?