19/Sept./2017			Set - A

First Term Examination
SCIENCE
Class – IX

Time Allowed : 3 hours **Maximum Marks : 80**

General Instructions :
1. The question paper comprises of **two Sections, A** and **B**. You are to attempt both the sections.
2. **All** questions are **compulsory**
3. Question numbers **22** to **27** in **Section-B** are questions based on practical skills. Each question is of **two marks.**
4. **Draw well labelled diagram wherever necessary.**

SECTION-A

1	Convert the following temperature to the Kelvin scale (a) 100^0C (b) 293^0C	1
2	Name two cattle breeds which show excellent resistance of diseases.	1
3	Calculate the concentration of a solution which contain 2.5g of salt dissolved in 50g of water.	2
4	What happens to the gravitational force 'f' between two objects when: a) Distance between them is halved b) Mass of both the objects is doubled.	2
5	When a carpet is beaten with a stick, dust comes out of it. Explain.	2
6	Give reasons" (a) Why napthalene balls kept in stored clothes in our homes disappear over a period of time. (b) Which produces more severe burns: boiling water or steam? Why? OR a) Explain why, when a bottle of perfume is opened in a room, we can smell it even from a considerable distance. b) Why does a gas exert pressure?	3
7	a) Write the difference between Plasma membrane & cell wall. b) Write the composition of chromosome.	3
8	Draw the well labelled diagrams of a) Smooth muscle fibre b) What is the shape of cell & where is it located?	3
9	(a) Write the scientific names of Indian bee & Italian bee Variety commonly used for commercial honey production. (b) Name two marine fishes of high economic values, which are found in sea water.	3

10	Write three ways in which insect pests attack the plant. **OR** Define hybridization. Explain its two types.	3
11	How would you arrive at a mathematical formula to measure force using Newton's second law of motion? Define the unit of force using this.	3
12	A stone is thrown in a vertically upward direction with a velocity of 6m/s. If the acceleration of the stone during its motion is 10m/s^2 in the downward direction. What will be the height attained by the stone and how much time will it take to reach there?	3

13	The given velocity time graph represents the motion of an object for 350s.
	
	    a) Calculate the acceleration of the body in time interval between 100s to 200s
	    b) Calculate the displacement of the body in first 100s of the journey.
	    c) What does BC represent?
		3

14	a) Explain why, a solution of salt water is considered a mixture and not a compound. b) Write one difference between a colloid and a suspension.	
15	In the summer vacation the students of IXth standard were given an investigatory project. They were asked to visit a dairy farm & note down the observations. Ramesh took information from the internet & made the project while Seema visited the dairy, saw how & what cattle are fed with, how much milk they give per day. She also learned about diseases they suffer from and how they are cleaned & taken care of (i) To increase the milk production, what kind of feed is given to cattle? (ii) Write down the symptoms of a sick animal. (iii) Write two values which Seema possesses while Ramesh lacks?	3

16	Name the types of elements that together make up the xylem tissue.
	
	State the three point of difference between
	
	    a) Parenchyma and collenchymas
	    b) Collenchymas and sclerenchyma
		5

17	(i) Write one function of each of the following cell organells a) Plastids (b) Mitochondria (c) Vacuole (ii) What happens to the cell if it is placed in hypotonic solution? (iii) What is the composition of cell membrane?	5

18	a) Why uniform circular motion is called an accelerated motion?
	    b) Derive the equation for velocity time relation (v =u+at) graphically.
	    c) Define momentum of a body and write its unit.
		5

19	a) State Newton's third law of motion. b) Explain any two applications of law of conservation of momentum. c) A 10g bullet is shot from a 5kg gun with a velocity of 400m/s. What is the recoil velocity of the gun?	5
20	a) Draw a flow diagram of the processes involved in obtaining gases like nitrogen, oxygen and argon from air. b) Define the following i) Sol (ii) chromatography (iii) Tyndal effect	5
21	a) Classify the following as physical & chemical change (i) melting of ice (ii) rusting of Almirah (iron) b) Define term latent heat of vapourisation c) Name the elements in the following compound: (i) quick lime (ii) hydrogen bromide	5

SECTION - B

22	Sand and naphthalene balls were heated together in a china dish. What substance will be left in the china dish after heating?	2
23	If small amount of iron sulphide in powdered form is taken in a test tube and 5ml of carbon disulphide is added to it. The test tube is vigorously shaken. What is observed?	2
24	What are the characteristics feature to identify the striated muscle.	2
25	If the weight of dry raisins is 20gm & weight of raisins after they absorb water in 25gm. What is the % of water absorbed by raisins? Write formula also.	2
26	Find the value of x	2
27	Which is the incorrect statement (a) Sound travels in straight line (b) Sound travels as waves (c) Sound is a form of energy (d) Sound travel faster in vacuum than in air.	2