ST. THOMAS' SCHOOL, *GoyalaVihar, Near Sec-19, Dwarka* Session 2017-18

HALF-YEARLY EXAMINATION
SUBJECT: SCIENCE

Name : Tanisha

Class : IX

Date : 15/09/2017

Roll Number : _____

Max. Marks : 80

Time : 3 hrs

General Instructions:

1. All questions are compulsory. Read the questions carefully.
2. There is no overall choice.

SECTION-A

Q1. Does evaporation cause a physical change or a chemical change ? (1)

Q2. In a high jump athletic event, athletes are made to fall on a cushioned bed. Give reason. (1)

Q3. Distinguish between speed and velocity.(any two) (2)

Q4. (a) Represent the velocity time graph for a car moving with:
(i) Uniform velocity of 60km/h
(ii) Non Uniformly Accelerated motion.
(b) What can you say about the motion of an object if the distance time graph is a straight line sloping upwards? (2)

Q5. Write any two differences between layers and broilers. (2)

Q6. Give reasons for the following: (3)
(a) A liquid generally flows easily.
(b) Ice at 0^0C appears colder to the mouth than water at 0^0C.
(c) Doctors advise to put strips of wet cloth on the forehead of a person having high temperature.

Q7. (a) Define melting point of a solid.
(b) At what temperature in the Kelvin scale does ice melt ?
(c) To make a saturated solution 36 g of sodium chloride is dissolved in 100 g of water at 293 K. Find its concentration at this temperature.

OR

(a) What is matter?
(b) Write one property of solids and one property of liquids.
(c) Ramesh took two beakers A and B containing hot water and cold water respectively. In each beaker he dropped a crystal of copper sulphate. He kept the beakers undisturbed. After some time what did he observe? Why? (3)

Q8. (a) State the Universal Law Of Gravitation.
(b) What is the cause of ocean tides?
(c) How is G different from g? (3)

Q9. (a) Which requires a greater force – accelerating a 3kg mass at $4ms^{-2}$ or a 3 kg mass at $2ms^{-2}$?
(b) A bird hits the windscreen of a fast moving car and falls on the bonnet. Which of the two car or bird suffers greater change in momentum?
(c) Road accidents at high speeds are very much worse than road accidents at low speeds. Give reason. (3)

Q10. (a) At equator a bag of sugar weighs W. Will it weigh same or more or less when taken to the poles?

(b) A stone and earth attract each other with equal and opposite force. Why then we see the stone falling towards the earth but not the earth rising towards the stone?

(c) A coin and a feather are dropped from the same height in vacuum. Which one will fall on the ground earlier? Give reason. (3)

Q11. A man weighs 600 N on the earth. What is his mass on earth? (take g=10m/s²). *60 Kg* If he were taken to the moon, his weight would be 100N. What is his mass on the moon? *10 Kg*
What is the acceleration due to gravity on the moon? *10 m/s²* (3)

Q12. What are biofertilizers? In what sense are they better than chemical fertilizers? (3)

Q13. (a) Which kind of plastid is more common in flowers and fruits? *chromatic*

(b) Why are lysosomes known as suicidal bags? (3)

Q14. Raghu had a poor yield due to failure of the crop. His father Rajan suggested that he should grow two or more crops simultaneously in his field as this would reduce risk of loss. He suggested two crops that can be grown together. (3)

(a) Write the name of the cropping pattern which his father suggested. *Inter cropping*

(b) Write the names of the examples of crops given by his father. *Wheat + gram*

(c) Mention any two values that are worth appreciation.

Q15. In brief state what happen when (3)

(a) A plant cell is kept in concentrated salt solution. *Swell.*

(b) Golgi apparatus is removed from the cell. *mo pa. too*

(c) Dry apricot are left for some time in pure water. *Hypotonic.*

OR

(a) Name the species of honey bee, which is used for commercial production of honey.

(b) Write any two desirable characters of bee varieties suitable for honey production.

Q16. (a) How will you separate the mixture of petrol and water? Write it with the help of labelled diagram with four labels.

(b) Give any two point of difference between a mixture and a compound. (3+2=5)

Q17. (a) 2.8 g of Nitrogen gas was allowed to react with 0.6 g of Hydrogen gas to produce 3.4g of Ammonia. Show that these observations are in agreement with the law of conservation of mass. State the law of conservation of mass.

(b) Who proposed Law of Definite Proportions (or Law of Constant Composition)?

(c) Who proposed the chemical notation based on first two letters of the name of the element? (3+1+1)

Q18. (a) State Newton's Third Law of Motion.

(b) Using Newtons Third Law prove the conservation of momentum for the collision of two balls travelling in the same direction along a straight line.

(c) A bullet of mass 10 g moving with a velocity of 400 m/s gets embedded in a freely suspended wooden block of mass 900 g. What is the velocity acquired by the block? *4.44 m/s*
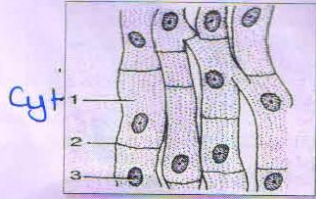
OR

(a) State Law of Inertia.

(b) Define Inertia.

(c) Give reasons for the following:

(i) If you jerk a piece of paper under a book quick enough, the book does not move.

(ii) It is dangerous to jump out of a moving bus.

(d) On what factor does inertia of a body depend? Which has more inertia, a cricket ball or a rubber ball of the same size? (5)

(a) Derive $s = ut + \frac{1}{2}at^2$ and $v^2 - u^2 = 2as$ using graphical method where the symbols have their usual meaning.

(b) A car is travelling at 20m/s along a road. A child runs out into the road 50m ahead, and the car driver steps on the brake pedal. What must the car's deceleration be if the car is to stop just before it reaches the child? *−4 m/s2* (3+2=5)

Q20. (a) Name and draw a cell which does not have a well defined nuclear region. label any three parts. *Pro.*

(b) Mention two ways by which a photosynthesising cell belonging to this group differs from a cell of your body. *Euo/Pro.* (5)

Q21 Name a connective tissue which is hardest. What makes it so hard? List any three important functions of this tissue. *Bone* (5)

SECTION-B(PRACTICAL BASED QUESTIONS)

Q22. (a) Identify the tissue. (2)

(b) Labels the parts marked 1,2 and 3

Cyt

Q23. Iron filings and sulphur were mixed together and divided into two parts, 'A' and 'B'. Part 'A' was heated strongly while Part 'B' was not heated. Dilute hydrochloric acid was added to both the parts and evolution of gas was seen in both the cases. (2)

(a) Name the gas evolved. *H.*

(b) How will you identify the gases evolved? *pop.sound.*

Q24. (a) Name the stain which is commonly used to study plant cells.

(b) Why is coverslip put on the mounted material on a slide very gently? (2)

Q25. In the experiment to determine the melting point of ice, why does the temperature not rise till all the ice melts even though heat is continuously supplied? What is this heat energy called? *latent heat.* (2)

Q26. Turgidity represents a condition in the cell when it is fully stretched. Why does a plant cell not burst after attaining turgidity. *cell wall.* (2)

Q27. (a) While determining the boiling point of water pumice stone pieces is added to the flask. Give reason for your answer. *Splater*

(b) What is the colour of ammonium chloride in sublimation process? *Yellow.* (2)