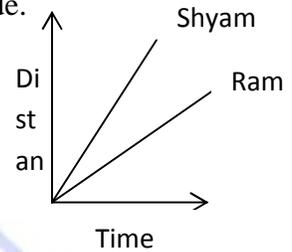


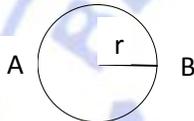
CLASS 9
PHYSICS HOLIDAY HOMEWORK

SECTION A

1. What is motion? State the types of motion. Write the unit of acceleration.
2. The distance-time graph for motion of Ram and Shyam is shown alongside.
Which of them has greater acceleration?



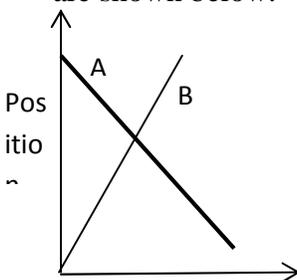
3. Why is the motion of a circulating fan non-uniform?
4. Velocity of a train changes from 20 m/s to 25 m/s, when it accelerates at a rate 2 m/s^2 . Find the distance covered by the train?
5. Does speedometer of a car measure its average speed?
6. A particle is moving in a circular path of radius r . What will be the displacement after half a circle?



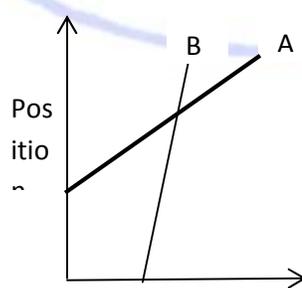
7. When is the acceleration taken as negative?
8. A moving train is brought to rest within 20s by applying brakes. If the retardation due to brakes is 2 m/s^2 , find the initial velocity of the train.
9. A physical quantity measured is -10 m/s . Is it a speed or a velocity?
10. How do we measure magnitude of displacement from a $v-t$ curve?

SECTION B:

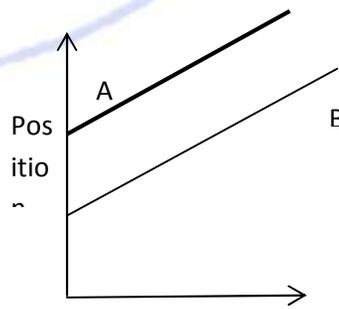
1. Express average velocity when the velocity of a body changes at a non-uniform rate and a uniform rate.
2. The position-time graphs of two objects A and B in three different situations for a particular duration are shown below.



(i)



(ii)



(iii)

- a) In which situation the distance between them will remain same?
 - b) In which situation they are moving in opposite directions?
 - c) Is the velocity of object A positive or negative in situation (ii)?
 - d) Are they crossing each other in any situation(s)? If so, Why?
3. Can the average speed of a moving body ever be zero?
 4. A boy runs for 10 min at a uniform speed of 9km/h. At what speed should he run for the next 20 min so that the average speed comes to 12km/h?
 5. What is the numerical ratio of average velocity to average speed of an object when it is moving along a straight path?

HOLIDAY HOMEWORK, YR 2018 - 19
CLASS IX
CHEMISTRY

GENERAL INSTRUCTIONS:

- The assignment should be done in the Chemistry register.
- The assignment should be submitted on 1st July 2018.

SECTION A

- 1) Convert the following to °C:-
a) 343 K b) 589 K c) 273 K d) 98.4°F e) 108°F
- 2) Convert the following to °F and K:-
a) 35°C b) 50°C c) 100°C
- 3) Explain how the following factors affect the rate of evaporation of a liquid:-
a) Temperature of the liquid c) Area of the exposed surface
b) Windspeed d) Moisture content in the air
- 4) Arrange in the order indicated for solid, liquid and gas.
a) Effect of pressure
b) Empty spaces in the particles
c) Tendency to flow
d) Thermal expansion/expansion due to heat
- 5) Which of the following diffuses faster: Honey, Sugar, Nitrogen gas
- 6) What is the physical state of water at:
a) 0°C b) 25°C c) 100°C d) 250°C
- 7) Explain how the following factors affect the rate of diffusion:-
a) Temperature b) Kinetic Energy of particles c) Density of the substance
- 8) When sugar is added to water, there is no increase in the volume. Which characteristic property of matter is illustrated by this observation?
- 9) A piece of chalk can be broken into small particles by hammering it but a piece of iron cannot be broken into small particles by hammering. Which characteristic property of matter is illustrated by this observation?
- 10) Name the process by which a drop of ink spreads in a beaker of water.

SECTION B

- 11) Why solid carbon dioxide is called dry ice?
- 12) Ice at 0°C is more effective at cooling than water at 0°C. Explain.
- 13) Give reasons for the following:-
a) Naphthalene balls kept in stored clothes in our homes disappear over a period of time.
b) Perspiration or sweating keep our bodies cool on a hot day.
c) A desert cooler, cools better on hot and dry day than on a rainy day.
d) The back of our palm feels cool when it is moistened with alcohol.
e) Gases highly compressible whereas solids are incompressible.
f) Water kept in an earthen pot becomes cool during summers.
g) Sponge is a solid but can be compressed.

- h) Doctors advise to put strips of wet cloth on the forehead of a person having a high fever.
- 14) If the back of your hand is moistened with alcohol, you will find it rapidly becomes dry. Why is it that while it is drying, your hand feels cool?
 - 15) When a crystal of copper sulphate is placed at the bottom of a beaker containing water, the water slowly turns blue. Why?
 - 16) Jar A contains a red-brown gas and Jar B contains a colourless gas. The two gas jars are separated by a glass plate placed between them. What will happen when the glass plate between the two jars is pulled away? What name is given to the phenomenon which takes place?
 - 17) The process of evaporation and boiling involve the change of state from liquid to gas but still they are different from each other. Justify.
 - 18) Why does the temperature of a substance remain constant while it is melting or boiling?
 - 19) What property of butane is utilized when it is supplied as L.P.G.?
 - 20) Why does ice float on water?
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HOLIDAY ASSIGNMENT

CLASS IX (BIOLOGY)

CELL THE BASIC UNIT OF LIFE

- Q.1 What are the advantages of multi cellularity?
- Q.2 What is the function of chromatin material?
- Q. 3 What do you mean by Nucleoid ?
- Q.4 What are the factors which restrict the size of the cell?
- Q.5 Define Osmosis. In what ways it is different from diffusion?
- Q.6 Write one function each of Ribosome, vacuole, plasma membrane.
- Q.7 What is ER? Name two types of ER. Write its main functions.
- Q.8 What is cellulose and its functions?
- Q.9 Name a cell that lacks membrane, where is it prepared ?
- Q. 10 What is plasmolysis? What happens to a plasmolysed cell when placed in water?

TISSUES

- Q. 1 Which tissues are called covering or protective tissues ?
- Q. 2 Based on layer and shape of cells, now epithelial tissues can be classified?
- Q.3 What is the common characteristic in different connective Tissues? Name different types of connective tissues.
- Q. 4 What are the constituents of Blood tissue ?
- Q.5 List the type of intercellular matrix present in following connective tissues-
(a) Blood (b) Lymph (c) Bone (d) Cartilage
(e) Tendons (f) Ligaments (g) Aerolar Tissue (h) Adipose Tissue
- Q.6 Which type of inter cellular matrix is found in bone tissue? What are its constituents?
- Q. 7 Name the fat storing tissues? Where are they located? How do these tissues help?
- Q. 8 Why are striated muscles called skeletal muscles?
- Q.9 Which muscle tissues show characteristic of both striated and unstraited muscles ?
- Q.10 How long a nerve cell can be? How are muscles tissues related to nerve cells?