

FOUNDATION COURSE

CLASS IX

PAPER : 03

Date : 08.06.2014

Time : 2 hrs.

Max. Marks. : 100

P_S C_H M_S B_K

TOPICS COVERED:

PHYSICS : Motion

CHEMISTRY : Matter in our Surroundings

MATHS : Lines and Angles

BIOLOGY : Mitochondria, Plastids, Vacuoles

GENERAL INSTRUCTIONS :

1. Paper consist of **4 Sections** each for **Physics, Chemistry, Maths** and **Biology**. Answers for each question should be given in the space provided in the question paper itself.
2. Each section contains 13 questions, all questions are compulsory.
3. Question 1 - 5 are **objective type question** of 1 Mark each.
4. Question 6 - 7 consist of 1 Marks each.
5. Question 8 - 9 consist of 2 Marks each.
6. Question 10 - 12 consist of 3 Marks.
7. Question 13 consists of 5 Marks.

	Physics	Chemistry	Maths	Biology
Marks				
Total				

Name of the Student : _____

Centre : _____

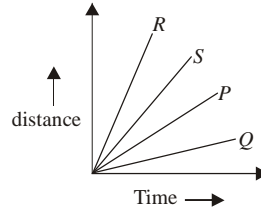
Invigilator's Signature : _____

PHYSICS

1. A body is moving in a circular path of radius r . The displacement after one fourth of the circle is
- (a) 0 (b) $\frac{1}{2}\pi r$ (c) $2r$ (d) $\sqrt{2}r$ [1]

2. The velocity-time graph of a body is a straight line parallel to time axis, we can say that the body is
- (a) at rest (b) in uniform motion
(c) in non-uniform motion (d) moving with uniform acceleration [1]

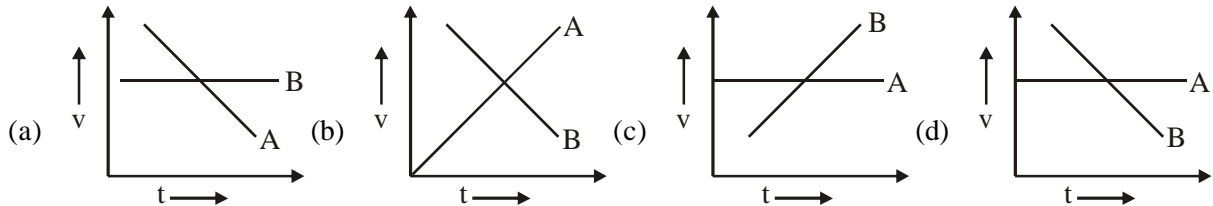
3. Four cars P, Q, R and S are moving on a straight levelled road. Their distance-time graph is shown in the figure. Choose the correct statement



- (a) Car R is the slowest
(b) Car Q is the slowest
(c) Car P is faster than car S
(d) Car S is the faster than car R [1]

4. In which case, distance = magnitude of displacement ?
- (a) The earth revolving around the sun (b) The pendulum moving to and fro
(c) The car moving in a circular path (d) The car moving on a straight path [1]

5. A body A moves with uniform velocity and another body B moves with uniform retardation. choose the correct velocity time graph



- (a) (b) (c) (d) [1]

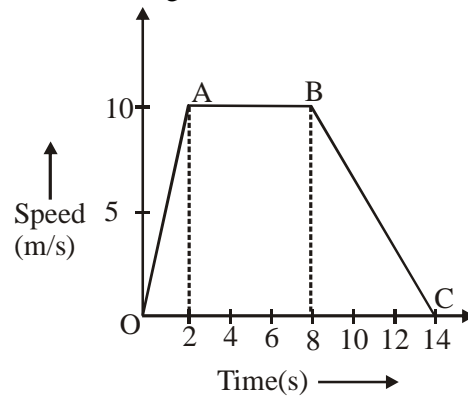
6. A body is moving uniformly along a circle. Is its velocity uniform ? [1]

7. Can displacement of a body in motion be zero or negative ? [1]

8. A boy goes once round a circular track of diameter 105 m in 5 minutes. Calculate his speed. [2]
9. Calculate the speed of the tip of seconds hand of a watch of length 1.5 cm. [2]
10. State velocity-time relation in uniformly accelerated motion. Use graphical method to obtain this relation. [3]
11. Explain what is meant by uniform circular motion. Give at least three examples. [3]
12. Derive the equation for position-time relation using velocity time graph. [3]

13. The speed time graph of a body is shown in figure.

[1.5 + 1 + 1 + 1.5 = 5]



- (i) What kind of motion is represented by OA, AB and BC ?
- (ii) What is the acceleration in 0 – 2s ?
- (iii) What is the retardation in 8 – 14s ?
- (iv) Find the total distance covered in 0 – 14s ?

1. Which of the following statements is not correct ?
(a) Matter is continuous in nature
(b) The space between the particles of a gas is the maximum
(c) The particles of matter move in a zig-zag manner
(d) The solid state is the most compact state of matter [1]
2. Maximum number of states of matter is
(a) Three (b) Two (c) Four (d) Five [1]
3. The forces of attraction between the particles of matter is maximum in
(a) Iron rod (b) Kerosene oil (c) Glycerine (d) Dry air [1]
4. A gas can be best liquefied by
(a) Lowering the temperature
(b) Increasing the temperature
(c) Increasing the pressure
(d) Increasing the pressure and lowering the temperature [1]
5. What is the correct term for phase change from gas directly to solid ?
(a) Sublimation (b) Liquefaction (c) Fusion (d) Vaporisation [1]
6. Define latent heat of vaporization. [1]
7. Name the process which describes the mixing of copper sulphate crystals and water kept in a beaker on its own ? [1]
8. How are freeze-dried foods prepared ? How do they remain preserved for long periods ? [2]

9. Explain why steam at 100°C is more effective for heating purposes than boiling water at 100° C. [2]

10. What is diffusion ? Discuss two applications of diffusion of gases. [3]

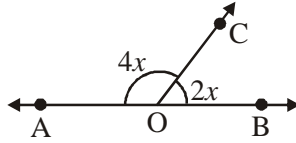
11. What happens when ? [3]

- (i) You exercise vigorously
- (ii) Carbon dioxide gas is compressed at room temperature and the pressure is suddenly released.
- (iii) Sodium chloride is added to water with constant stirring.

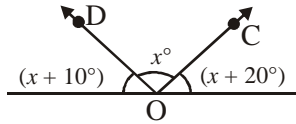
- 12.** With proper explanation, explain whether the following statements are true or false ? **[3]**
- (i) Sublimation occurs only when the solid is heated.
 - (ii) A lighter gas can move downwards and a heavier gas can move upwards.
 - (iii) Interconversion of matter is a constant pressure and temperature process.

- 13.** (i) Explain briefly interconversion of states matter with the help of flow chart.
- (ii) The smell of a hot sizzling food reaches you several meters away, but to get smell from the cold food you have to go close. Explain why **[5]**

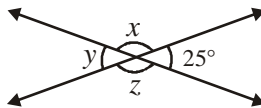
1. Two supplement angles are in the ratio 2 : 3. What is the angle
 (a) 45° (b) 60° (c) 30° (d) None [1]
2. An angle is equal to five times its complement. What is measeres ?
 (a) 75° (b) 60° (c) 30° (d) 45° [1]
3. In figure $\angle AOC$ and $\angle BOC$ form a linear pair. What is the value of x



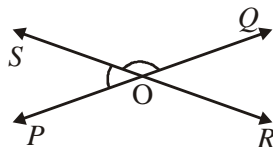
- (a) 30° (b) 20° (c) 45° (d) None [1]
4. How many pairs of adjacent angles are formed when two liner intersect in a paint ?
 (a) 4 (b) 2 (c) 6 (d) None [1]
5. If a transversal intersects a pair of linear in such a way that a pair of alternate angles are equal, the liner are
 (a) parallel (b) suppliment (c) equal (d) None [1]
6. Find x in the given figure. [1]



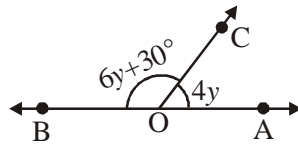
7. Find the value of x , y and z . [1]



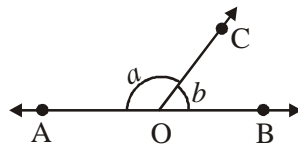
8. In the figure lines PQ and RS in tersed each other at point O if $\angle POR : \angle ROQ = 5 : 7$. Find all the angles. [2]



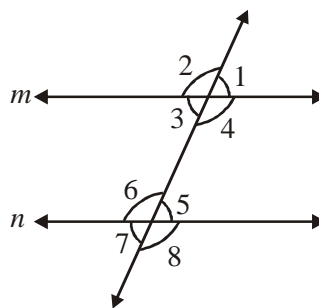
9. What value of y would make AOB a line. If $\angle AOC = 4y$ and $\angle BOC = 4y + 30$. [2]



10. $\angle AOC$ and $\angle BOC$ form a linear pair if $a - 2b = 30^\circ$, find a and b . [3]

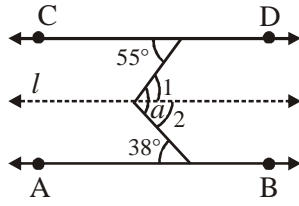


11. If $\angle 2 = 120^\circ$ and $\angle 5 = 60^\circ$. Show that $m \parallel n$. [3]



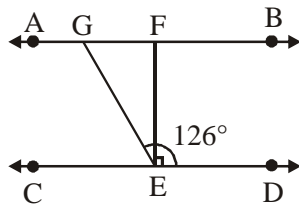
12. If $AB \parallel CD$. Determine $\angle 1$.

[3]



13. If $AB \parallel CD$, $EF \perp CD$. and $\angle GED = 126^\circ$. Find $\angle AGE$, $\angle GEF$, $\angle FGE$.

[5]



BIOLOGY

1. Which of the following organelles is/are semi-autonomous organelles [1]
(a) Mitochondria (b) Chloroplast (c) Both of the above (d) None of the above

2. Colourless plastids are called as. [1]
(a) Leucoplasts (b) Leucocytes (c) Chloroplasts (d) Chlorocytes

3. Which is the energy currency of a cell ? [1]
(a) ADP (b) ATP (c) NADPH (d) GTP

4. Fat storing plastids are called as [1]
(a) Elaioplast (b) Aleuroplast (c) Elaioplast (d) Lipidoplast

5. Enzymes in lysosomes are manufactured by [1]
(a) RER (b) SER (c) Golgi apparatus (d) Lysosome itself

6. What is the full form of ATP ? [1]

7. What type of ribosomes do mitochondria have ? [1]

8. What is osmosis ? [2]

9. Which organelle is known as the powerhouse of the cell? Why ? [2]
10. Write about different types of plastids. [3]
11. Why are some organelles called as semi-autonomous organelles ? [3]
12. Write a short note on vacuole. [3]

13. Draw a well labeled diagram of mitochondria and chloroplast.

[5]