



# المدرسة الانجليزية الكندية Indian English Academy School

Date: 21<sup>st</sup> Sept. to 25<sup>th</sup> Sept. 2014

**Class: IX**

**Subject: PHYSICS**

## IN SCHOOL TEACHING – SUNDAY TO THURSDAY

REVISION – Motion and Laws of motion.

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## AT HOME PRACTICE – SUNDAY TO THURSDAY

### Revision paper 1

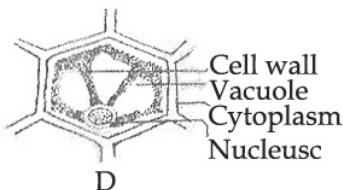
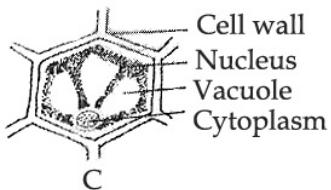
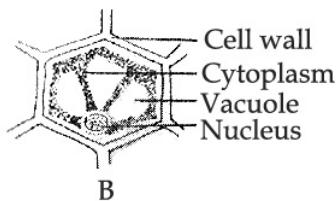
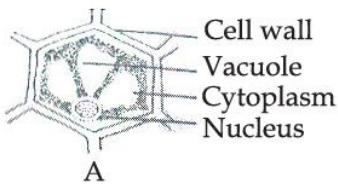
#### SECTION-A

	SECTION-A	
1	The cells of meristematic tissue have a dense cytoplasm. State reason.	1
2	Why does (second) <sup>2</sup> occurs in the unit of acceleration ?	1
3	Mention any two abiotic factors that affect crop production.	1
4	Classify the following into element, compound and mixture. Brass, gold, hydrogen sulphide, air	2
5	Name and define the mechanism responsible for release of water on adding salt to the vegetables.	2
6	Calculate the force of gravitation between two objects of masses 10 kg and 20 kg at a distance of 10 m from each other. [G56.67310 <sup>211</sup> Nm <sup>2</sup> kg <sup>2</sup> ]	2
7	Explain the following:- (a) During change of state of a substance, the temperature remains constant. (b) Steam causes more severe burns than boiling water at the same temperature. (c) A gas exerts pressure on the walls of the container.	3
8	While diluting the aqueous solution of salt, a student by mistake added ethanol (b.pt - 788C). Which technique can be used to recover it' ? Explain.	3
9	Rahul was a good player, but his sports teacher observed that he takes drugs. Rahul denied this. Then the sports teacher asked him to go for blood test. Answer the following questions. (a) Name the technique that can be used to detect the presence of drugs in blood.	3

	(b) Write any other application of this technique. (c) Which values in Rahul's personality are reflected in his behaviour ? How will these values affect his reputation and future prospectus in sports and as an individual ?	
10	(a) State the difference between tendon and ligament. (b) Give the function of adipose tissue.	3
11	Name the tissue found in the following locations : (a) Haversian canal (b) Chondrocyte (c) Eosinophils Give one function of each of these.	3
12	Describe any three effects of force with the help of one example each.	3
13	If you divide the total distance travelled on a car trip by the time for the trip, are you calculating the average speed or the magnitude of the average velocity ? Under what circumstances are these two quantities the same ? Illustrate with the help of an example.	3
14	Suppose a planet exists whose mass and radius both are half that of earth. Calculate the acceleration due to gravity on the surface of this planet.	3
15	Tabulate two differences between balanced and unbalanced forces. Write one example of each.	3
16	(a) A farmer saw long unwanted plants in his cultivated field. What are these plants commonly known as ? Give one example for these. (b) List any four preventive methods to be followed to protect the cultivated field against it.	3
17	Neeta tried to set up a small kitchen garden in her backyard. But the soil was sandy and unsuitable for growing vegetables . But within seven days she solved the problem and started planting seedlings. (a) Why the soil at Neeta's back yard was unsuitable for growing vegetables ? (b) What could be the solution she found ? Mention any two points.	3
18	Define Weeds. List two ways by which they affect the crops. How weeds can be controlled?	3
19	(a) Explain Tyndall effect ? (b) Which of the following will show Tyndall effect ? (i) Salt solution (ii) Milk (iii) Starch solution (iv) Copper sulphate solution (c) Mention three differences between metals and non-metals in a tabular form.	5
20	(a) State one difference and one similarity between boiling and evaporation. (b) What is dry ice ? How is it prepared ? (c) Compare the three states of matter on the basis of (i) Inter particle spaces and (ii) Interparticle forces of attraction	5
21	Identify the following tissues : (i) The epithelial tissue which has pillar like tall cells ? (ii) The cells of this tissue are filled with fat globules (iii) The movement of this tissue pushes the mucus forward to clear respiratory	5

	tract. (iv) It gives buoyancy to lotus to help it afloat. (v) Tissue present in lung alveoli	
22	(a) A car moving with uniform velocity ' $u$ ' and uniform acceleration ' $a$ ' covers a distance ' $s$ ' in time ' $t$ '. Draw its velocity – time graph and derive an expression relating all the given physical quantities. (b) A boy revolves a stone tied to a string 0.7 m long. Find the distance and displacement covered by the stone in completing two revolutions from starting point.	5
23	(a) State Newton's First Law of Motion. (b) Two balls of the same size made of rubber and iron are kept on the smooth floor of a moving train. The brakes are applied suddenly to stop the train. Will the balls start rolling ? If so, will they move with the same speed ? Give reason. (c) What force would be needed to produce an acceleration of $4\text{m s}^{-2}$ on a ball of mass 6 kg ?	5
24	Explain the terms composting and vermicompost. In what way are green manures different from compost ?	5
<b>SECTION - B</b>		
25	Metanil yellow is added to dal so as to : (a) improve the taste (b) increase its weight (c) improve the colour and appearance (d) all of these	1
26	Which one of the following chemical gives a blue black colour with starch (a) fluorine      (b) chlorine      (c) iodine      (d) bromine	1
27	Iron sulphide obtained by heating iron filings and sulphur powder is a : (a) black powder      (b) hard black mass (c) yellow solid      (d) grey solid	1
28	Ankita added carbon disulphide to a mixture of iron filings and sulphur powder taken in a test tube. She observed that :- (a) iron particles dissolve and the solution turns grey. (b) sulphur powder dissolves and the solution turns colourless (c) sulphur powder dissolves and the solution turns yellow (d) iron particles dissolve and the solution turns black.	1
29	When iron nail is put in copper sulphate solution then : (a) no reaction takes place (b) brown layer appears on nail and the solution slowly turns green (c) black precipitate appears and the solution slowly turns green (d) brown precipitate appears and the solution remains blue	1
30	Four students marked on onion epidermal cell seen under a microscope as below.	1

Identify the correctly labelled diagram :



(a) A

(b) B

(c) C

(d) D

31 On viewing under a microscope the material in the permanent slide shows alternating light and dark bands with multi nucleate and unbranched cells. It is :- 1

- (i) nerve cell (ii) parenchyma
- (iii) striated muscle (iv) sclerenchyma

32 What happens to the ice on the walls of the freezer of the refrigerator when freezer undergoes defrost cycle. :- 1

- (a) sublimes
- (b) liquefy
- (c) solidify
- (d) distillate

33 The spring balance which will give the most accurate reading on using it in the experiment to establish relationship between the weight of rectangular wooden block lying on a horizontal table and the force required to just move it should have the least count : 1

- (a) 1.0g wt (b) 2.0g wt
- (c) 5.0g wt (d) 0.5g wt

34 Rima took fine chalk powder, egg albumin, starch powder and alum powder in four test tubes A, B, C and D respectively. After adding water to all the four test tubes, identify the test tubes as true solution, suspension and colloid. 2

35 While doing an experiment to determine the boiling point of water, a student heated water in a beaker and observed that when water starts boiling the temperature remains constant. State reason. Where does the heat energy go? 2

36 5g of raisins were placed in distilled water for 24 hours. The mass of soaked raisins was found to be 7g. Calculate the percentage of water absorbed by raisins. 2

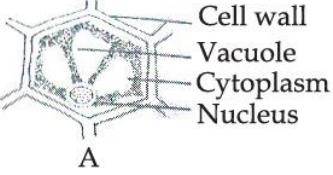
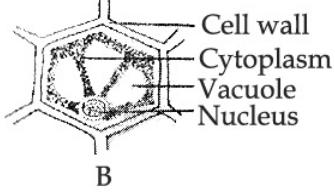
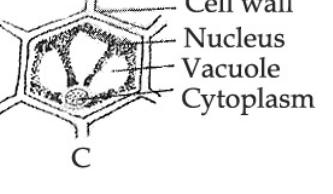
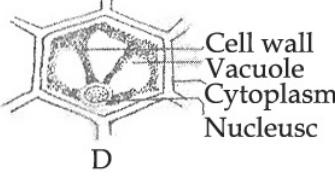
## Revision paper 2

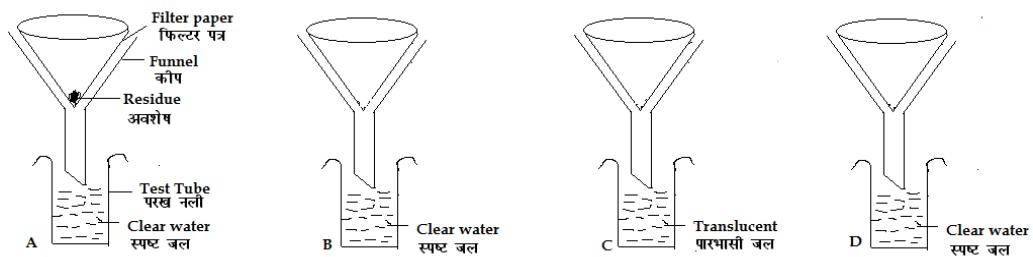
### SECTION-A

1	Name two cell organelles that contain their own genetic material.	1																					
2	Name the physical quantity which is measured by rate of change of momentum.	1																					
3	Identify two crops from the following which provide us carbohydrates for energy requirement : Black gram, Wheat, Lentil, Rice	1																					
	Among solids, liquids and gases, which one has : (a) maximum force of attraction between the particles (b) minimum spaces in between constituent particles. Give reason in support of your answer.	2																					
5	Name the following tissues. (a) The connective tissue found between the skin and muscles. (b) The tissue which connects two bones. (c) The epithelial tissue which forms the lining of the kidney tubules. (d) The tissue which is present in the veins of leaves.	2																					
6	<p>A graph showing velocity (<math>v</math> in m/s) on the vertical axis and time (<math>t</math> in s) on the horizontal axis. The vertical axis ranges from 0 to 70 with major ticks every 10 units. The horizontal axis ranges from 0 to 50 with major ticks every 10 units. Car A is represented by a straight line starting from the origin (0,0) and ending at (50, 70). Car B is represented by a horizontal line starting at (0, 20) and ending at (50, 20).</p> <table border="1"> <caption>Data points from the graph</caption> <thead> <tr> <th>Time (s)</th> <th>Velocity (m/s) - Car A</th> <th>Velocity (m/s) - Car B</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> <td>20</td> </tr> <tr> <td>10</td> <td>10</td> <td>20</td> </tr> <tr> <td>20</td> <td>20</td> <td>20</td> </tr> <tr> <td>30</td> <td>30</td> <td>20</td> </tr> <tr> <td>40</td> <td>40</td> <td>20</td> </tr> <tr> <td>50</td> <td>50</td> <td>20</td> </tr> </tbody> </table>	Time (s)	Velocity (m/s) - Car A	Velocity (m/s) - Car B	0	0	20	10	10	20	20	20	20	30	30	20	40	40	20	50	50	20	2
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0	0	20																					
10	10	20																					
20	20	20																					
30	30	20																					
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50	50	20																					
	<p>(a) Which car has travelled more distance ? (b) Shade the distance covered by the car who has travelled less distance.</p>																						
7	You are provided with solution of substance 'X'. How will you test whether it is saturated or unsaturated with respect to 'X' at a given temperature ? What happens when a hot saturated solution is allowed to cool ?	3																					
8	You are provided a mixture of mustard oil and water. Name the technique to separate it and write the principle involved. Draw diagram of the technique used.	3																					

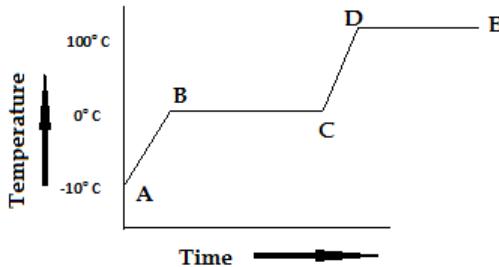
9	Aarushi's mother always squeezes water from wet clothes in the spinner of washing machine and then uses it to clean the floor. (a) Write the principle of the technique used in the above mentioned process. (b) Write one more application of this technique. (c) What do you learn from Aarushi's mother?		3
10	(a) Show diagrammatically the location of meristematic tissues in plant body. Name the tissue which increases the girth of the stem or root. (b) What is 'differentiation of meristematic tissues' ?		3
11	(a) Why is the cell called the structural and functional unit of life ? (b) Why is the plasma membrane called a selective permeable membrane ? (c) Name the factor which decides the movement of water across the plasma membrane.		3
12	A particle weighs 120 N on the surface of the earth. At what height above the earth's surface will its weight be 30 N ? Radius of earth = 6,400 km.		3
13	What is meant by free fall ? An object weighs 20 N on the surface of the earth. What would be its weight when measured on the surface of the moon and also find the mass on earth and moon ? (g on earth is $10 \text{ m s}^{-2}$ and on moon it is $1/6^{\text{th}}$ of this value)		3
14	Use velocity time graph to derive graphically the equation for position time relation for an object travelling a distance 's' under uniform acceleration (a).		3
15	(a) A ball is allowed to roll down from an inclined plane. It reaches the foot of the plane and continues to roll on the ground. It stops after travelling some distance. Is this the violation of the law of inertia ? Give reason for your answer. (b) A player lowers his hand while catching a ball. Explain reason behind this action.		3
16	Differentiate between Compost and Vermi Compost ?		3
17	(a) Name the major nutrient which we get from fish. (b) Mention the two ways of obtaining fish.		3
18	State the difference between "Mixed farming" and "Mixed Cropping".		3
19	(a) Calculate the mass of potassium sulphate required to prepare its 10% solution in 100 g of water. (b) Differentiate between physical and chemical change. Give one example of each. Give one example where both physical and chemical change is taking place.		5
20	(a) Show experimentally that matter is made up of small particles. (b) Give two points of similarity between boiling and evaporation.		5
21	(a) Explain the reason for the following : (i) Mitochondria are known as power house of the cell.		5

		<p>(ii) Lysosomes are called as suicidal bags.</p> <p>(iii) Plasma membrane is known as selectively permeable membrane.</p> <p>(b) Define endocytosis ? Give one example.</p>	
22		<p>(a) A ball thrown upwards reaches a point P of its path at the end 4 seconds and the highest point Q at the end of 12 seconds. After how many seconds from the start will it reach the point P again ?</p> <p>(b) Draw the distance-time graph for the following situations :</p> <ul style="list-style-type: none"> <li>(i) When a body is stationary</li> <li>(ii) When a body is moving with a uniform speed.</li> <li>(iii) When a body is moving with non-uniform speed.</li> </ul>	5
23		<p>(a) Calculate the magnitude of gravitational force between the earth and 2 kg object on its surface. (Given <math>M = 5.63 \times 10^{24}</math> kg, Radius of earth <math>= 6.4 \times 10^6</math> m)</p> <p>(b) How does the gravitational force change if :</p> <ul style="list-style-type: none"> <li>(i) the distance is halved</li> <li>(ii) Mass of one object is halved</li> </ul>	5
24		Mention the different kinds of irrigation systems adopted in India to supply water in agricultural lands depending on kinds of water resources available ? Discuss how these systems are useful to farmers. State the importance of building check dams.	5
<b>SECTION - B</b>			
25		Which one of the following chemical gives a blue black colour with starch	1
		(a) fluorine      (b) chlorine      (c) iodine      (d) bromine	
26		Sunil tested for the presence of metanil yellow in the given sample of dal. He took 5g dal in 5mL of water in a test tube and added 2 drops of conc. Hydrochloric acid to the test tube. He reached to the conclusion that dal is adulterated with metanil yellow because the colour of solution became :	1
		(a) pink    (b) green      (c) blue      (d) black	
27		The components of a mixture of iron filings and sulphur powder can be separated by :	1
		(a) Sublimation      (b) Distillation (c) Filtration      (d) Using a magnet	
28		A student by mistake mixed iron filing and sulphur powder. He wanted to separate them from each other. The method you would advise him to use is to dissolve the mixture in :	1
		(a) boiling water      (b) cold water (c) carbon disulphide      (d) kerosene	

29	On adding zinc to sulphuric acid, hydrogen gas and zinc sulphate solution is formed. The colour of zinc sulphate solution formed is : (a) light blue (c) light green (b) light yellow (d) colourless	1		
30	Four students marked on onion epidermal cell seen under a microscope as below. Identify the correctly labelled diagram :	1		
	 <b>A</b>	 <b>B</b>		
	 <b>C</b>	 <b>D</b>		
	(a) A	(b) B	(c) C	(d) D
31	A student is given two slides of plant tissues – parenchyma and sclerenchyma. He is able to identify sclerenchyma by the (a) location of nucleus (b) thickness of cell wall (c) size of cells (d) position of vacuoles	1		
32	During the process of Sublimation the pure substance which collects on the inner side of the funnel is called : (a) Mixture (c) Sublimate (b) Sodium (d) Colloid .	1		
33	The spring balance which will give the most accurate reading on using it in the experiment to establish relationship between the weight of rectangular wooden block lying on a horizontal table and the force required to just move it should have the least count : (a) 1.0g wt (c) 5.0g wt (b) 2.0g wt (d) 0.5g wt	1		
34	Four students A, B, C and D were given funnels, filter paper, test tubes, test tube stands, common salt, chalk powder, starch and glucose powder. They prepared the true solution, suspension and colloidal solutions. Test tubes were arranged as shown in the figure. Observe the filtrate obtained in the test tubes and residue on filter paper. Conclude about filtrate, residue and type of solution.	2		



- 35 Study the temperature-time graph given below. This graph shows heating of ice from  $-10^{\circ}\text{C}$  to water at  $100^{\circ}\text{C}$ . Represent the change of state on heating. During change of state where does the heat energy go? What is this heat called? 2



- 36 A student recorded the mass of dry raisins as 6.0g and mass of raisins after soaking them in water for about four hours as 10.5g. Calculate the percentage of water absorbed by raisins. 2