SUMMATIVE ASSESSMENT – I, 2014
SCIENCE
Class – IX

Time Allowed : 3 hours **Maximum Marks : 90**

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. **All** questions of **Section-A** and **all** questions of **Section-B** are to be attempted separately.
4. Question numbers **1** to **3** in **Section-A** are **one mark** questions. These are to be answered in **one word** or in **one sentence**
5. Question numbers **4** to 6 in **Sections-A** are **two marks** questions. These are to be answered in about **30 words** each.
6. Question numbers **7** to **18** in **Section-A** are **three marks** questions. These are to be answered in about **50 words** each
7. Question numbers **19** to **24** in **Section-A** are **five marks** questions. These are to be answered in about **70 words** each.
8. Question numbers **25** to **33** in **Section-B** are multiple choice questions based on practical skills. Each question is a **one mark** question. You are to select one most appropriate response out of the four provided to you.
9. Question numbers **34** to **36** in **Section-B** are questions based on practical skills are two **marks** questions.

SECTION-A

1	Name the muscular tissue which is attached to bones and helps in body movement.	1
2	A train starting from railway station attains a velocity of 21 m/s in one minute. Find its acceleration.	1
3	State the name and type of force which is responsible for holding the solar system together.	1
4	How will you separate a mixture of naphthalene balls powder and common salt ? Draw a neat and labelled diagram to show that process.	2
5	Name the muscles which are also called skeletal muscles. Mention any three features of the cells of this tissue.	2
6	Explain the following by giving suitable reason : (i) In a high jump athletic event, the athletes are made to fall either on a cushioned bed or on a sand bed. (ii) A karate player breaks the slab of ice with a single blow.	2

7	Give reasons for the following : (a) Camphor disappears if kept in air for a few days. (b) Wet clothes do not dry easily on a rainy day. (c) We sweat more on a humid day.	3
8	Anita tested the solubility of four salts A, B, C and D at different temperatures and collected the following data (solubility means amount of solute grams dissolved in 100g of water to give a saturated solution).	3

Salt dissolved	Solubility at different temperatures				
	15°C	40°C	50°C	60°C	70°C
A	23	35	40	92	105
B	44	44	46	50	50
C	25	30	34	37	40
D	24	38	40	54	65

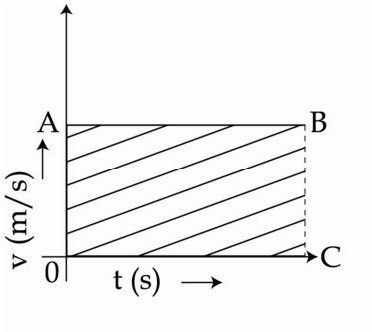
Study the data and answer the following questions :

(i) Which salt has the highest solubility and lowest solubility at 50°C ?

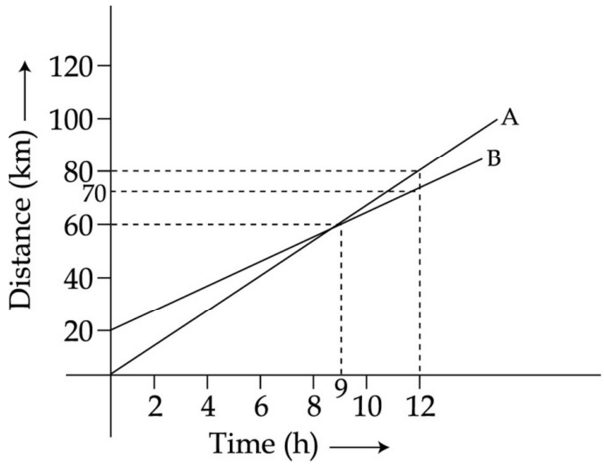
(ii) The solubility of which salt is least affected by an increase in temperature ?

(iii) Which salt shows considerable increase in solubility with increasing temperature ?

9	List three characteristics of particulate nature of matter.	3
10	Give reason : (a) Meristematic cells have a prominent nucleus and dense cytoplasm but lack a vacuole. (b) Intercellular spaces are absent in cells of sclerenchyma tissue. (c) Epidermis in desert plants has a thick layer of cutin.	3
11	Why are 'simple permanent tissues' called so ? Name the different types of simple permanent tissues ?	3
12	A girl while riding a bicycle moves with the speed of 10 km/h for 2 h and with the speed of 15 km/h for the next 3 h. Find the total distance moved by her and her average speed.	3
13	At the end of a race, a runner decelerates from a velocity of 9.00 m/s at a rate of 2.00 m/s^2 (a) How far does he travel in the next 5 s ? (b) What is his final velocity? (c) How much time will it take to finally stop ?	3
14	The gravitational force between two objects is 100 N. How should the distance between these objects be changed so that the force between them becomes 50 N.	3

15	Identity the type of inertia experienced by the brain, when, a) The head is hit suddenly with a stick. b) A car is suddenly made to stop using brakes. c) A boxer punches another boxer in the face.	3
16	(a) Which type of motion is represented by the velocity-time graph shown below ?  (b) Name the physical quantity which can be calculated by the area of rectangle OABC. (c) What does the straight line AB represents ?	3
17	As we need food for development, plants also require nutrients, which it gets from air, water and soil. Deficiency of these nutrients affects growth and susceptibility to diseases. (i) Name the nutrients supplied by air and water to the plant. (ii) What are macro nutrients and why are they called so ? (iii) "Nature provides all the essentials for the plant growth and each component plays an important role". Learning from nature mention two values that everyone in a family should imbibe.	3
18	(a) In what way broilers' feed is different from layers' ? (b) Which one of these mature earlier ? (c) What type of shelter is provided to them '?	3
19	State one point of difference between solids, liquids and gases with respect to : (a) Shape (b) Fluidity (c) Kinetic energy (d) Forces of attraction (e) density	5
20	Write your observations when the following processes take place (a) an aqueous solution of sugar is heated to dryness. (b) a saturated solution of potassium chloride prepared at 60^0C is allowed to cool at room temperature.	5

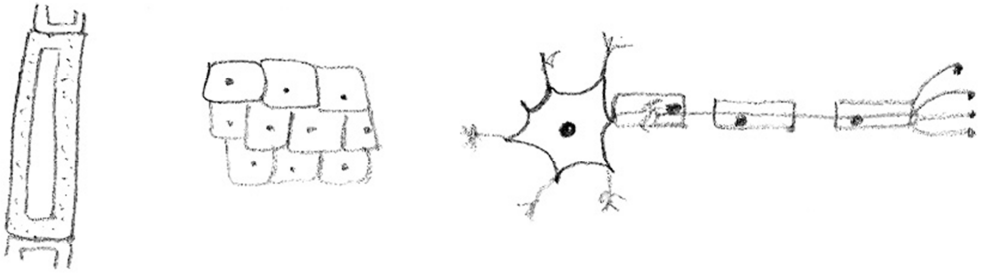
	(c)	a mixture of iron filings and sulphur powder is heated strongly.	
	(d)	A beam of light is passed through a colloidal solution.	
	(e)	dil – HCl is added to the mixture of iron and sulphur.	
21	(a)	Draw a diagram of prokaryotic cell and label the following parts on it : cell wall, ribosome, nucleoid, plasma membrane.	5
	(b)	Write two differences between prokaryotic cell and eukaryotic cell.	
22	(a)	Ball is thrown upward with a velocity of 20 ms^{-1}. Calculate the maximum height attained, net displacement and total distance covered by the ball ($g=10\ ms^{-2}$)	5
	(b)	Differentiate between universal gravitational constant and acceleration due to gravity.	
23	Distance-time graph below represents the motion of two buses A and B :		5

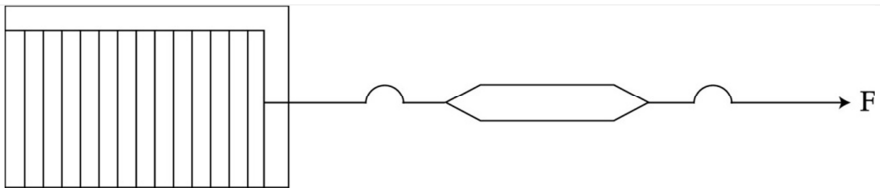


	(a)	Distance by which bus B was ahead of bus A initially.
	(b)	Do they ever meet each other ? If so when.
	(c)	Distance travelled by bus A when it overtakes bus B.
	(d)	Distance by which bus A was ahead of bus B at t = 12 h.
	(e)	Which one of them is moving faster ? Give reason.
24	Explain how biotic and abiotic factors influence storage of agricultural produce ? Mention the preventive and control measures used before storing food grains for future use ?	5

SECTION - B

25	The food groups whose food stuffs will turn blue black when treated with iodine solution is : (a) bread, wheat, corn flour (b) dal, fish, meat (c) salt, sugar, baking soda (d) orange, lemon, apple	1
26	A student wants to test for the presence of metanil yellow adulterant in the given food material. What should he use from the following to obtain a positive result ? (a) channadal and Iodine solution (b) potato and conc hydrochloric acid (c) arhar dal and conc hydrochloric acid (d) potato and iodine solution	1

	27	When a mixture of iron and sulphur powder is heated in a china dish then after some time it glows with : (a) yellowish colour (b) bluish colour (c) greenish colour (d) reddish colour	1
	28	Which among the following statement is **in correct** for sulphur powder ? (a) It is a yellow powder with low melting point. (b) It is soluble in water. (c) It is soluble in carbon disulphide. (d) It is insoluble in water.	1
	29	When crystals of copper sulphate are heated in test tube the change which takes place is : (a) chemical change (b) physical change (c) chemical and physical both (d) chemical displacement	1
	30	While observing human cheek cells under the compound microscope, Reena observed some characteristics. Which of the following characteristics that she observed is incorrect ? (a) Presence of a single nucleus in each cell (b) Absence of intercellular spaces (c) Presence of a cell wall (d) Dense cytoplasm	1
	31	Identify the following slides in the correct order based on the features.  A B C (a) Nerve Cell, Parenchyma, Sclerenchyma (b) Sclerenchyma, Nerve cell, Parenchyma (c) Sclerenchyma, parenchyma, Nerve cell (d) Parenchyma, Sclerenchyma, Nerve cell	1
	32	The process used to separate salt , sand and iron fillings is : (a) dissolving in water and filtration (b) use of magnet, dissolving in water and filtration (c) use of magnet, dissolving in water, filtration and evaporation (d) use of magnet, filtration, dissolving in water and distillation.	1
	33	A student applied force on a wooden block placed on a horizontal surface as shown in the figure. He gradually increased the force on the block till it just starts sliding gently on the surface. He then measured the force as F_1. The same process was repeated with the same set of apparatus by his two classmates but they applied force in some other directions to slide the block and recorded the applied force as F_2 and F_3. On analysing these forces it was found that	1



(a) $F_1 \square F_2 \square F_3$

(b) $F_1 > F_2 > F_3$

(c) $F_1 < F_2 < F_3$

(d) $F_2 < F_1 > F_3$

34	A mixture of sand, powdered glass and common salt is dissolved in water and then filtered. Name the substance left on filter paper. Name the substance in the filtrate.	2
35	Mention the position of bulb of thermometer in the following experiments:- (i) in an experiment to determine the melting point of ice. (ii) in an experiment to determine the boiling point of water.	2
36	Prakash soaked 6g raisins in water and after 10 hours found that their mass has become 9g. Determine the percentage of water absorbed by raisins.	2