SANSKRITI

Academic Session: 2014 -15
First Term Examination
Subject: Science
M/7/1

Time:3 hrs **Max marks:90**

General Instructions:

The paper has 8 printed sides.

1. The question paper comprises of 2 sections A and B. You are to attempt both the sections.
2. All questions are compulsory.
3. There is no overall choice. However internal choice has been provided in all the three questions of the five marks category. Only one option in such questions is to be attempted.
4. All questions in Section A and Section B are to be attempted separately.
5. Q1 to 3 are one mark questions to be answered in one word or one sentence.
6. Q 4-6are two mark questions to be answered in about 30 words.
7. Q 7- 18are three mark questions to be answered in about 50 words.
8. Q 19-24 is five mark questions to be answered in about 70 words.
9. Q 25-36 in Section B is multiple Choice questions based on Practical skills. Q24 to 33question is a one mark question while Q 34- 36 carry two marks each.. You are to choose one most appropriate response out of the four provided to you, number the question correctly and write down only the correct option with the answer in your answer sheet.

Q1	Define peristalsis.	1
Q2	Which pancreatic enzyme is effective in digesting proteins?	1
Q3	What are amphoteric oxides? Give an example.	1
Q4	Name the element- a) Lustrous non metal b) A soft metal c) A non metal that conducts electricity d) A liquid metal	2
Q5	If 15 electrons each carrying a charge of $1.6X\ 10^{-19}C$ are flowing across a metallic wire in 6 s from east to west, calculate the electric current and give the direction of the flow of current?	2
Q6	The use of nuclear energy is prohibitive. Justify the statement with four relevant reasons.	2
Q7	a) Mention an important difference between alternating current and direct current? b) Write one advantage of A.C. over D.C. c) Explain giving 2 relevant scientific reasons, why a series arrangement is	3

notdesirable for domestic appliances.

Q8 A metallic conductor is suspended perpendicular to the magnetic field of a horse shoe magnet. The conductor gets displaced towards the right when a current is passed through it. 3

What will happen if-

a) The horse shoe magnet is replaced by a stronger magnet, maintaining the same polarity?
b) The direction of current is reversed?
c) Name the rule and write the statement of the rule to determine the direction of the force experienced by the live conductor placed in a magnetic field?

Q9 Two electric bulbs of ratings 60W,220V and 40W,220V are connected in parallel to an electric supply and a key. 3

a) Draw a closed electric circuit to show the above connection.

b) Calculate the total current drawn from the electric supply.

c) Total energy consumed by the two lamps if operated for 1 hour?

Q10 Write an activity to show that metals conduct heat. 3

Q11 a) Show the bond formation in Na_2O. 3
b) Why does this compound have a high melting point?

Q12 Salt A commonly used in bakery products on heating gets converted into another salt B which itself is used for removal of hardness of water and a gas C is evolved which when passed through lime water, turns it milky. 3

a) Identify A and B.
b) Write a balanced chemical equation showing the above reaction.

Q13 Give three methods used by plants to get rid of their waste products. 3

Q14 Draw a neat diagram of excretory system of human beings and label the following: a) kidney b) ureter c) urinary bladder d) urethra. 3

Q15 Define hormones. Name the hormone secreted by thyroid gland and give its function. 3

Q16 a) What is the difference between roasting and calcination? 3
b) How is sodium metal obtained from molten sodium chloride? Explain the process giving the relevant equations.

Q17 Mohit is very fond of soft drinks and even though his mother stops him from doing so every day, he needs at least a glass of soft drink each day. 3

a) List two diseases Mohit might suffer from.
b) How can he treat his problems?
c) What values must Mohit cultivate in order to overcome his problems?

Q18 Draw a neat labeled figure to show a long cylindrical coil made up of many turns of insulated copper wire connected to a galvanometer. State your observations when- 3

a) A bar magnet is pushed into or pulled out of the coil?

b) Name the phenomenon involved and define the same.

Q19 Balance the following chemical reactions and classify them as types of reactions. 5

a) $Na + O_2 \rightarrow Na_2O$

b) $Ca(OH)_2 + HCl \rightarrow CaCl_2 + H_2O$

c) $Al + HCl \xrightarrow{\Delta} AlCl_3 + H_2$

d) $CaCl_2(aq) + K_3PO_4(aq) \rightarrow Ca_3(PO_4)_2(s) + KCl(aq)$

e) $Fe_2O_3 + CO \rightarrow Fe + CO_2$

OR

a) Explain electrolytic refining of copper with a diagram.

b) Blue colour of copper sulphate fades away on heating and is regained after sometime when it is allowed to cool. Explain with the help of a balanced chemical equation.

Q20 Give reasons for the following- 5

a) Plaster of Paris must be stored in air tight containers.

b) Copper can displace silver from silver nitrate solution but silver cannot displace copper from copper sulphate solution.

c) HCl does not show acidic behavior when dissolved in benzene.

d) Tartaric acid is added to make baking powder.

e) Stainless steel utensils are preferred over iron utensils even though both contain iron.

OR

You have five solutions A, B, C ,D and E. The pH of A is 6, B is 9, C is 12, D is 1 and E is 7.

a) Identify the most acidic and most basic solutions.

b) Arrange the solutions in decreasing order of their hydrogen ion concentration.

c) Which of them is most likely to be a mineral acid?

d) What precautions must you take while diluting a mineral acid?

e) Which of these would not show any indicator test and why?

Q21 a) Show the symbols for a – variable resistor, wire joint ? 5

b) Draw a circuit diagram consisting of a nichrome wire XY, an ammeter, 4 cells of 1.5V each, a closed plug key, a voltmeter and a rheostat to study the relationship between current and potential difference?

c) Show the nature of the V-I graph obtained if the values are plotted?

d) Give the statement of the law that gives the relationship between potential

difference and current.

e) How will the resistance and resistivity be affected ,if the length of the resistance wire used in the above circuit is doubled?

Q22 a) Define magnetic field of a magnet. Represent a uniform magnetic field with a neat figure. 5

b) List two important properties of the magnetic lines of force.

c) Draw the magnetic field lines in and around a bar magnet.

d) Why don't two magnetic field lines intersect each other?

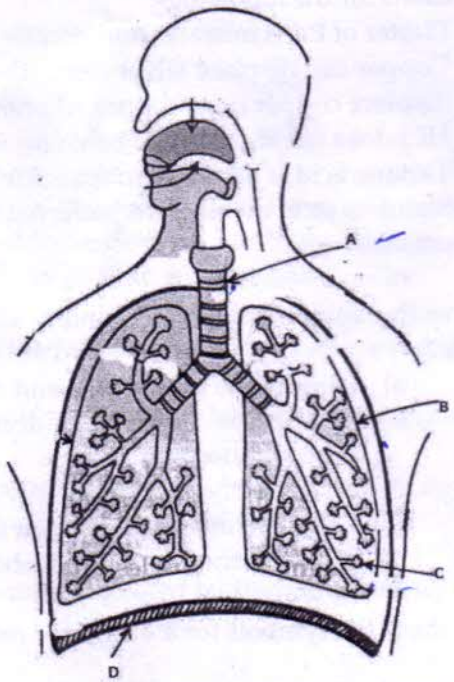
Q23 a) Define phototropism. 5

b) Diagrammatically explain positive and negative phototropism in a plant.

c) Define synapse.

OR

a) Observe the diagram and label the parts marked.



b) Why do aquatic animals have a higher rate of respiration than terrestrial animals?

c) Give two differences between aerobic and anaerobic respiration.

Q24 a) Mrs. Kohli visited her friend's newly constructed home and observed a huge solar geyser installed on the roof. She was unable to understand, why her friend did not spend money to install a geyser in each bath room. Her friend, 2+3

however, convinced MrsKohli to install the same on her roof top too.

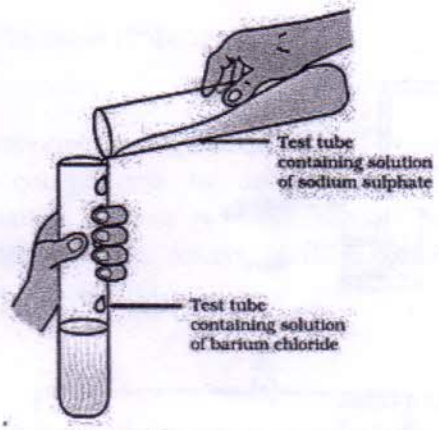
- Mention two values exhibited by Mrs. Kohli's friend?
- List two advantages of solar powered devices?

b) i. Why is CNG preferred over petrol?

ii. Mention two advantages and disadvantages each of harnessing wind energy.

SECTION B

Q25 1



The above picture shows-

a) Displacement reaction
b) Precipitation reaction
c) Combination reaction
d) Neutralization reaction

Q26 A few drops of liquid X were added to distilled water. The pH increased. The solution X is most likely to be- 1

a) Lemon juice
b) Sodium carbonate
c) Oxalic acid
d) Hydrochloric acid

Q27 Which one of the following substances would you need to identify the gas evolved when dil. HCl reacts with zinc metal- 1

a) Lime water
b) Carbon disulphide
c) Burning splinter
d) Litmus paper

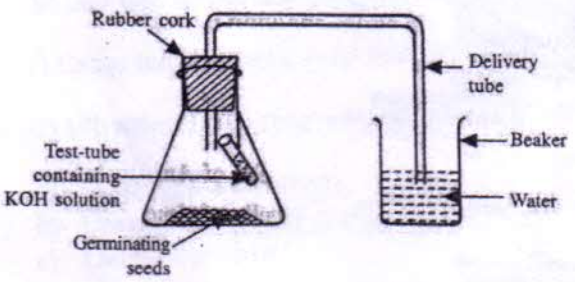
Q28 The most appropriate part of leaf epidermis in a dicot plant to observe stomata and guard cells would be: 1

a) upper epidermis
b) lower epidermis on mid rib
c) Veins
d) Any part on the lower epidermis but not on midrib.

Q29 Before testing the leaf for starch at the end of the experiment, "light is necessary for photosynthesis", the experimental leaf should be boiled in: 1

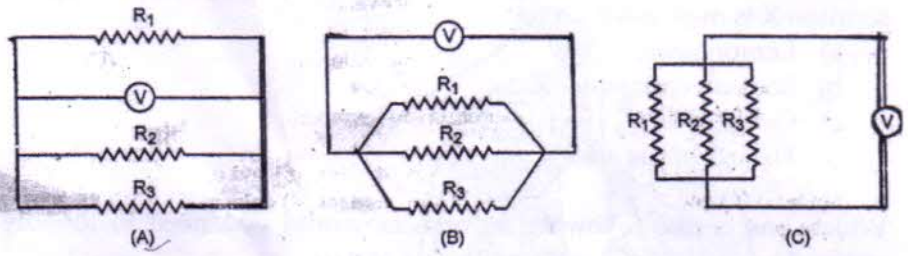
a) Water
b) Alcohol
c) KOH solution
d) Hydrochloric acid.

Q30 A student has set up an apparatus as shown in the figure. After 8 hours he will find: 1



a) Water has not risen in the tube.
b) Water will rise initially while the seeds are germinating, but fall later.
c) Water will rise continuously in the tube.
d) Water will become more and more turbid as time passes.

Q31 Three students A,B and C were asked to connect three resistors in parallel with a voltmeter and they made a circuit each, as shown below. The students who joined them correctly are- 1



a) A and B
b) B and C
c) A and C
d) A,B and C

Q32 If a student , while studying the dependence of current on the potential difference leaves the circuit closed for a long time to record the readings of the ammeter and voltmeter,then- 1

a) The ammeter's zero error will change.
b) The ammeter reading will be higher.
c) The resistor will get heated up, changing the value of the resistance.

d) None of the above.

Q33 A student was measuring the effective resistance of two equal resistances joined in parallel. His teacher joined one more resistor of the same value in the parallel combination. Now the net resistance will- 1

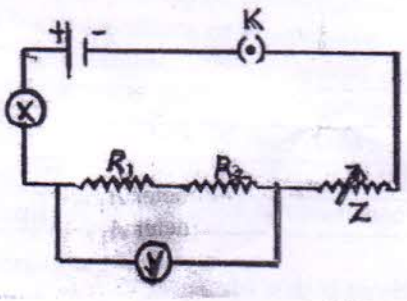
a) increase

b) decrease

c) remain the same

d) may increase or decrease.

Q34 The given circuit diagram shows the experimental arrangement of the different circuit components to determine the equivalent resistance of a series combination of two resistors having resistances of 2 ohms and 3 ohms, connected across a source of 10V. Which of the following is correct for the reading of X and Y? 2



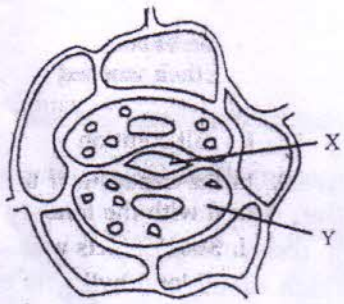
a) Current and Potential difference of 5A and 12Vrespectively.
b) Potential difference and current of 10V and 20A respectively.
c) Current and Potential difference of 2A and 10V respectively.
d) Potential difference and current of 10V and 4A respectively.

Q35 Which of the following chemical properties are shown by dilute sulphuric acid? 2

i. It turns blue litmus red
ii. It turns red litmus blue
iii. It reacts with iron to form hydrogen gas
iv. It reacts with solid sodium carbonate to give brisk effervescence.

a) i and ii
b) i and iii
c) i, iii and iv
d) ii, iii and iv

Q36 Four students A, B, C and D make the records given below, for the parts marked X and Y in this diagram. 2



STUDENT	X	Y
A	Stoma	Guard cell
B	Guard cell	Stoma
C	Epidermal cell	Stoma
D	Stoma	Epidermal cell

The co rect record, out of these is that of student:

a) A
b) B
c) C
d) D