

ARMY PUBLIC SCHOOL SHANKAR VIHAR
HALF YEARLY PAPER 2017-18 SET A

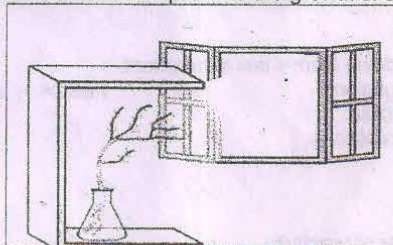
Harsh X B

CLASS -X SUBJECT: SCIENCE MAX MARKS :80 TIME: 3HR

- Instructions: The question paper comprises of two sections , A and B. you are to attempt both the sections.
- i) All questions are compulsory
 - ii) All questions of section A and all questions of section B are to be attempted separately.
 - iii) Question number 1 to 2 in section A are one mark questions . These are to be answered in one word or one sentence.
 - iv) Question number 3 to 5 are two marks questions to be answered in about 30 words.
 - v) Question number 6 to 15 are three marks questions ,to be answered in about 50 words.
 - vi) Question number 16 to 21 are five marks questions to be answered in about 70 words.
 - vii) Question number 22 to 27 in section B are based on practical skills.

SECTION A.

- ✓ Q1p What is short circuiting? 1
- Q2 b Where does the breakdown of the food material takes place in fungi, like bread mould, yeast and mushrooms? 1
- ✓ Q3bc Complete, balance and identify the type of reaction: $\text{Cr}_2\text{O}_3 + \text{Al} \rightarrow$ 2
- Q4b "Variation is beneficial to the species but not necessary for the individual." Justify the statement 2
- ✓ Q5c Identify the process used to concentrate carbonate ores. Give an equation to illustrate it.. 2
- Q6 b You were standing on the roadside, when you saw a family travelling in the car. An ambulance carrying a patient for dialysis was travelling behind the car. The driver of the car brought his car to one side of the road and allowed the ambulance to overtake. 3
 - a) What was the value shown by the driver?
 - b) What is dialysis?
 - c) What are the vehicles that we should give pass while driving?
- ✓ Q7p Write any two properties of magnetic field lines. Name and state the rule used to determine the direction of magnetic field lines around a current carrying straight conductor. 3
- ✓ Q8p Write an expression for joule's law of heat. Explain one practical application of this law. What would happen to heat produced if the current passing through an electric heater is halved? 3
- Q9c Write a chemical equation in which each of the following reactions has taken place: 3
 - a) change in colour
 - v) change in temperature
 - c) formation of precipitate.
- Q10b Name the process by which *Plasmodium* and *Leishmania* reproduce? Write one difference in their mode of reproduction. 3
- Q11b a. Name the plant hormone responsible for the following: i. Promotion of cell division ii. Falling of leaves 3
B. How do auxin promote the growth of shoot towards light ?



OR

With the help of a schematic diagram trace the events which occur when you suddenly touch a hot pan. What is the path followed by reflex action known as?

- Q12p What is an electromagnet? Draw the magnetic field lines around an electromagnet. How can one magnetise a piece of iron using electromagnet? 3
 - Q13c i) Which metal oxide can be reduced by carbon monoxide among the metals: Ca, Fe, Mg, K? 3
ii) What is rust chemically?
i) What is meant by galvanisation?
- OR
- i) Differentiate between mineral and ore.
 - ii) Explain the method used to purify impure Cu, with diagram.
- Q14c A calcium compound on strong heating forms white solid Y and gas Z. X also reacts with 3

X *X*

dilute acid white acid to form which turns lime water milky. Y is solid dissolves in H₂O to form colourless solution R,

which turns universal indicator blue
 (i) name X, Y, Z and R

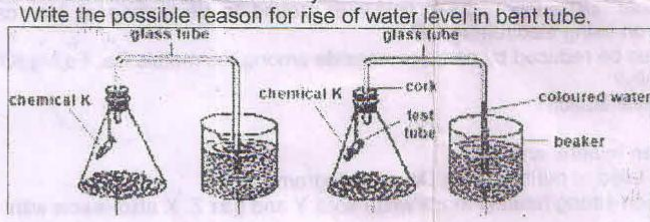
(Handwritten mark)

- Q15p State Ohm's law. When a resistor of $R \Omega$ is connected in a circuit, the current through the circuit is 0.2 A. When a resistor of 2Ω is connected in parallel, the current in the circuit is 1.2 A. Calculate the value of R. 3
 - Q16b a. Compare the functioning of alveoli in the lungs and nephrons in the kidney with respect to their structure and functioning. Give one point each. 2+
 b. Draw diagram of human excretory system and label and state the function (any two) of following: i. kidney ii. ureters iii. Renal artery iv. urinary bladder. 3=
5
 - Q17c An element A burns with a golden flame in air. It reacts with another element B, atomic number 17, to give product C. An aqueous solution of product C on electrolysis gives compound D and liberates hydrogen. Identify A, B and C. Also write the equations for the reactions involved. 5
 - Q18p Write the principle of working of a d.c electric motor. Explain its construction and working with help of a well labelled diagram. What is the role of split rings? Where is electric motor used? 5
- OR
- Write the principle of working of an a.c generator: Explain its construction and working with help of a well labelled diagram. What is the role of slip rings? What is the advantage of using a.c over d.c?
- Q19c Assign appropriate reasons for the following: 5
 - i) Hydrogen is not evolved when a metal reacts with nitric acid.
 - ii) Metals can be given different shapes according to our needs
 - iii) Aluminium is a highly reactive metal, yet it is used to make utensils for cooking.
 - iv) Aluminium oxide is considered to be an amphoteric oxide.
 - v) Carbon cannot be used as a reducing agent to obtain Mg from MgO .
 - Q20 b a. Draw a well labelled diagram of neuromuscular junction. 5
 b. How is the amount of hormone secreted by a gland regulated? Explain the mechanism with the help of an example.
 - Q21p a) Establish a relationship between the SI unit and commercial unit of electric energy. 5
 b) Two identical resistors each of resistance 10Ω are connected first in series and then in parallel in turn to a 6V battery. Calculate the ratio of power consumed in the combination of resistors in the two cases.

SECTION B

PRACTICAL BASED QUESTIONS:

- Q22p Draw a circuit diagram to verify parallel combination of resistors showing two resistors R_1 and R_2 connected in parallel. 2
- Q23 P Write two precautions that you would take while doing Ohm's law experiment. 2
- Q24c Al is dropped in i) $CuSO_4$ solution iii) $FeSO_4$ solution. 2
 Write your observations. Give equations in each case.
- Q25c A student performed the following displacement reactions: 2
 $Fe + CuSO_4 \rightarrow FeSO_4 + Cu$
 $Zn + FeSO_4 \rightarrow ZnSO_4 + Fe$
 $2Al + 3ZnSO_4 \rightarrow Al_2(SO_4)_3 + 3Zn$
 Arrange Fe, Zn, Al and Cu in the decreasing order of reactivity.
 Give the reason for the order given by you.
- Q 26b Name the stain used for temporary mount of leaf peel. How will you remove extra stain? 2
- Q 27 In an experimental setup given below in picture, Geeta saw the water level rising in the bent glass tube. State the aim of the activity. 2



P
S
C
M
A
Z
I
L
C
M
S
G
P