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NORTHWEST ACCREDITATION COMMISSION, USA HIGH SCHOOL DIPLOMA (Secondary/10TH) 2018-2019

Subject- SCIENCE

Subject Code : SC1005

Question Paper No. :

S	C	3	4
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Question Paper Code:

S	T	7	2
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Total Time: 03.00 Hours.

Total Marks: 70

GENERAL INSTRUCTIONS

1. OPENING AND CHECKING OF THE QUESTION-BOOKLET

Break open the seal of the Question-Booklet only when the announcement is made by the Invigilator. After breaking the seal and before attempting the questions, student should immediately check for:

- a) The number of the printed page in the Question-Booklet is the same as mentioned on the cover page of the Booklet and
- b) Any printing error in the Booklet pages, if any.

Any discrepancy or error should be brought to the notice of the Invigilator who will then replace the Booklet. No additional time will be given for this.

2. No student, without the permission of the Superintendent or the Invigilator concerned, is to leave his/her seat or the Examination Room.

3. FILLING UP THE REQUIRED INFORMATION ON QUESTION-BOOKLET AND ANSWER SHEET

After breaking open the seal and checking the Booklet, student should:

- a) Fill up the **Question Paper No.** and **Question Paper Code** (mentioned on the cover of Question-Booklet) in the space provided on the First Answer Sheet.
- b) Fill up his/her Roll Number on the First Answer Sheet and on each Supplementary Answer Sheet, if taken.
- c) Student should mention the total number of **Supplementary Answer Sheet**, if taken, in the space provided on the First Answer Sheet and also fill up the Serial Number mentioned on each **Supplementary Answer Sheet** along with his/her Roll Number in the register maintained by the Invigilator. Student must tie all the Answer Sheets with the thread provided by the Invigilator.

4. INSTRUCTIONS ABOUT QUESTION PAPER

This Question Paper is divided into three Sections – A, B and C. All Sections are compulsory. Attempt all Sections as per instructions.

- a) Section A contains 4 questions which are very short carrying 3 marks each in approximately 20-30 words.
 - b) Section B contains 7 questions which are short carrying 4 marks each in approximately 30-50 words.
 - c) Section C contains 5 questions which are long carrying 6 marks each in approximately 80-120 words.
5. Student found in possession of Cellular Phone / Mobile Phone / Pager or any other Communication Device and/or any Book/Note whether using or not, will be liable to be debarred for taking examination(s) either permanently or for specified period or/and dealt with as per law or/and ordinance of the School/SERI according to the nature of offence, or/and he/she may be proceeded against and shall be liable for prosecution under the relevant provision of the Statutory Law.

THE ANSWER SHEET IS TO BE RETURNED ON COMPLETION OF THE TEST

SECTION A

Total number of questions: 4

Marks allocated to each question: 3

Total marks: 12

Question 1. What are oxidizing agents? Give one example.

Question 2. A green plant receives 50,000 J of energy from the sun in the form of sunlight. How much energy will it capture and convert to food energy?

Question 3. During summer season, a milkman usually adds a very small amount of baking soda to fresh milk. Give one reason.

Question 4. State two advantages of vegetative propagation.

SECTION B

Total number of questions: 7

Marks allocated to each question: 4

Total marks: 28

Question 5. Give an example of a metal which:

- (a) Is a liquid at room temperature.
- (b) Can be easily cut with a knife
- (c) Is a poor conductor of heat

Question 6. Explain the process of breakdown of glucose in a cell

- (a) In the presence of oxygen
- (b) In the absence of oxygen

Question 7. Describe double circulation in human being. Why is it necessary?

OR

Name the stimulus in the following movements

- (a) Phototropism
- (b) Geotropism
- (c) Chemotropism

Question 8. List the raw materials needed for the manufacture of baking soda. Write the balanced chemical equation for this. What happens when baking soda is heated? Write chemical equation.

Question 9. You are given samples of three metals – sodium, magnesium and copper. Suggest any two activities to arrange them in order of their decreasing reactivity.

- Question 10.** (a) State two functions of bile juice.
(b) Differentiate between the functions of enzymes pepsin and trypsin.

OR

Write four points of difference between photosynthesis and respiration.

Question 11. Give reason to explain why endocrine glands release their secretions into the blood directly.

SECTION C

Total number of questions: 5

Marks allocated to each question: 6

Total marks: 30

- Question 12.** (a) Explain the mechanisms of the cleansing action of soaps.
(b) Detergents are effective in hard water but soaps are not. Why?

OR

- (a) Draw the ray diagrams for the image formation by a concave mirror when the object is at
(i) infinity (ii) between F and C (iii) between P and F
(b) Explain why we prefer to use a convex mirror as a rear view mirror in vehicles?
(c) Write any two uses of a concave mirror.

Question 13. In a household electric circuit different appliances are connected in parallel to one another. Give two reasons. An electrician puts a fuse of rating 5A in that part of domestic electrical circuit in which an electrical heater of rating 1.5kW, 220V is operating. What is likely to happen in this case and why? What change, if any, needs to be made?

OR

- (a) Light enters from air to diamond having refractive index 2.42. Calculate the speed of light in diamond.
(b) Draw the ray diagrams to show formation of virtual images in concave mirror and convex mirror.

Question 14. With the help of a labelled diagram explain the general scheme to illustrate how nervous impulses travel in the body.

OR

With the help of a circuit diagram prove that when a number of resistors are connected in series, the equivalent resistance of the combination of resistors is equal to the sum of the individual resistances of the resistors.

Calculate the equivalent resistance of the combination of three resistors of 5Ω , 10Ω and 30Ω joined in parallel.

Question 15. (a) What is a magnetic field? How is the direction of magnetic field at a place determined?

(b) State the rule for the direction of magnetic field produced around a current carrying straight conductor. Draw the pattern of this field.

OR

(a) Name the effect of electric current which is utilized in the working of an electrical fuse.

(b) How is a fuse connected in a domestic circuit?

(c) Draw a schematic labelled diagram of domestic circuit which has a provision of a main fuse, meter, one light bulb and a switch/socket.

Question 16. Explain with the help of suitable example, explain how ionic compounds are formed. State any three general properties of ionic compounds.

OR

What are fossils? How are they formed? Describe in brief two methods of determining the age of fossils. State any one role of fossils in the study of the process of evolution?

END OF THE QUESTION PAPER