



BIOLOGY

BOOKS - HT Olympiad Previous Year Paper

NSO QUESTION PAPER 2019-20 SET A

Science

1. A few materials are sorted into groups as shown in the given flow chart.



Fill in the blanks by selecting an appropriate option.

A. (i)-Cheese, (ii)-Vinegar, (iii)-Sugar, (iv)-

Glass marble, (v)-Diesel, (vi)-Wooden cork

B. (i)-Sugar, (ii)-Vinegar, (ii)-Cheese, (iv)-

Wooden cork, (v)-Diesel, (vi)-Glass marble

C. (i)-Sugar, (ii)-Cheese, (iii)-Vinegar, (iv)-

Glass marble, (v)-Wooden cork, (vi)-Diesel

D. (i)-Glass marble, (ii)-Vinegar, (iii)-Cheese,
(iv)-Sugar, (v)-Diesel, (vi)-Wooden cork

Answer: B



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2. Identify X, Y and Z in the given flow chart
and select the correct option regarding them.



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3. Read the given statements.

(i) Paramecium has stiff hair-like structures called ___ all over its body, which are used for

(ii) Hydra has a number of ___ around its mouth, that entangle small aquatic animals and kill them with their ___ cells. (iii) Frog uses

its long, sticky_____ to catch insects. (IV)

Mosquito sucks up the blood of animals with its _____.

Select the option which correctly fills the blanks in any two of these statements.

A. (ii) - Cilia, Absorptive, (iii) - Forelimbs

B. (i) - Tentacles, Ingestion, (iv) - Feeding
tube

C. (i) - Cilia, Ingestion, (ii) - Tentacles,
Stinging

D. (iii) - Tongue, (iv) - Pseudopodia

Answer: C



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4. Refer to the given diagram of stomach of ruminant mammal with its parts labelled as W, X, Y and Z and select the incorrect statement regarding them.



A. The parts labelled W, X, Y and Z are called rumen, abomasum, reticulum and omasum respectively.

B. The part labelled X is true stomach.

C. Food is completely digested in chambers

W and Y.

D. None of these

Answer: C



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5. Read the given statements and select the incorrect one.

A. Pelvic girdle is the body region where legs are attached to the hips.

B. The number of vertebrae in the vertebral column is 33.

C. Snail moves with the help of pseudopodia.

D. None of these

Answer: C



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6. Saurashtra, a land with history of severe water scarcity, hostile climate, and rocky land is now self sufficient in water availability due to the efforts of ____who taught the local people the importance of rainwater in harvesting

A. Rajendra Singh

B. Shamjibhai J. Antala

C. Amla Ruia

D. Aabid Surti

Answer: B



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7. Consider the following statements and select the option which correctly identifies true (T) and false (F) ones.

(i) In earthworm, air enters the body through spiracles. (ii) During heavy exercise, we get cramps in the legs due to accumulation of lactic acid. (iii) At rest, the normal breathing rate in an average adult person is 12-18 times

per minute. (iv) During exhalation, the ribs move downwards.



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8. Given below are the four food components (P-S) and their corresponding sources.

P - Meat, Pulses, Eggs Q - Butter, Ghee, Margarine R- Bread, Biscuits, Potatoes S - Amla, Tomato, Orange

Select the correct statement regarding them.

- A. Deficiency of P causes goitre in children.
- B. Amongst P, Q, R and S, 1 gram of R produces the maximum energy.
- C. Excess of S gets stored in body cells and is used for production of energy, whenever required.
- D. Deficiency of S leads to a disease, in which gums swell up and bleed

Answer: D



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9. Select the incorrect match.



A. (i) and (ii) only

B. (ii) and (iii) only

C. (iii) only

D. (i), (ii) and (iii)

Answer: A



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10. Refer to the given diagram showing a natural cyclic process.



Which of the following statements is incorrect regarding the processes I-V?

- A. Deforestation will decelerate process V.
- B. Process I occurs at a high rate in a rainforest and is absent in deserts whereas process III is involved in melting of ice.

C. The physical state of water at X is gaseous and that at Y is liquid.

D. Process II is involved in drying of wet clothes and sometimes, increase in process IV causes floods.

Answer: B



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11. Various technical terms related to respiratory system of different organisms are hidden in the given word grid. Which of the following are present in the given word grid?

- (i) The air tubes of insects.
- (ii) Skeletal structure which protects the lungs.
- (iii) The opening through which humans inhale air.
- (iv) Small opening on the sides of the body of an insect.
- (v) A flap-like structure that covers the glottis at the time of swallowing in humans.
- (vi) Respiratory organ of fish.



A. (i) and (vi) only

B. (ii), (v) and (vi) only

C. (iii) and (iv) only

D. (iv) and (v) only

Answer: A



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12. The given table shows some observations of food test experiments.



Which of the following correctly identifies W, X, Y and Z?

A. W - Sugar, X - Meat, Y - Potato, Z - Cheese

B. W - Pulses, X - Cabbage, Y- Butter, Z - Jam

C. W - Milk, X - Orange, Y - Peanuts, Z- Paneer

D. W - Cheese, X - Potato, Y - Honey, Z - Meat

Answer: A



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13. Read the given statements and select the correct option.

Statement I: Animal fibres are mainly made up of cellulose, the complex component of an animal's body. Statement II : Sheep and goat are the only wool yielding animals of the world.

A. Both statement I and statement II are true and statement II is the correct explanation of statement I.

B. Both statement I and statement II are true but statement II is not the correct explanation of statement I.

C. Statement I is true but statement II is false.

D. Both statement I and statement II are false.

Answer: D



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14. Rohit bought three different types of soil samples, P, Q and R from the market and then set up an experiment as shown, to test the suitability of these soils for making statue. He put 60 gms of dry powdered soil of each sample separately in three different funnels (each fitted with a filter paper) placed over three different beakers and then slowly poured water on the soil samples till the water just started dripping from the funnel. He then weighed the three soil samples separately. The results are shown in the given table.



Which soil sample(s) he should use for making statue?

A. P

B. Q

C. both P and Q

D. both P and R

Answer: B



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Achievers Section

1. Refer to the given graph and identify X, Y, and Z. Now, select the option that incorrectly matches the habitat with the type of adaptation shown by organisms inhabiting them.



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2. Study the given setup. The rubber tube at the middle is to breathe in and out through the mouth. While sucking in air through the rubber tube, clip X is opened and clip Y is closed. The inhaled air passes through lime water in test tube A. While exhaling through the rubber tube, clip Y is opened and clip X is closed. The exhaled air passes through lime water in test tube B.



Which of the following can be observed at the end of the given experiment?

A. Lime water turns more milky in test tube

A.

B. Lime water turns more milky in test tube

B.

C. Lime water turns milky equally in test tubes A and B.

D. Lime water does not turn milky at all in both the test tubes A and B.

Answer: B



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3. Refer to the given paragraph where few words have been italicised.

Wool is obtained from fleece of certain animals. Angora wool is obtained from Angora rabbit. It is much warmer and lighter than other wools. Mohair wool is obtained from Angora goat. Cashmere is obtained from yak and is common in Kashmir. Llama, Alpaca and

Vicuna are members of camel family that yield extremely fine and expensive wool. Select the correct option regarding this

A. Lighter should be replaced with heavier whereas Vicuna should be replaced with Nali.

B. The positions of goat and rabbit should not be interchanged.

C. Yak should not be replaced as it is correctly mentioned whereas Kashmir

should be replaced with Himachal Pradesh.

D. Camel should be replaced with goat whereas Llama should not be replaced as it is correctly mentioned.

Answer: B



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