



BIOLOGY

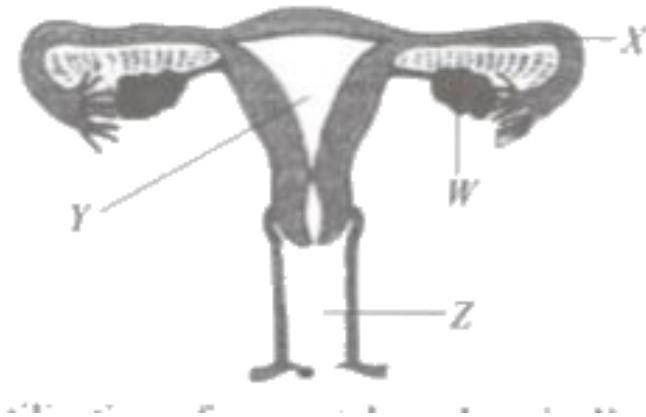
BOOKS - HT Olympiad Previous Year Paper

NSO QUESTION PAPER 2019-20 SET B

Science

1. Refer to the given figure of female reproductive system and select the correct

statement regarding W, X, Y and Z.



- A. Fertilisation of ovum takes place in Y
- B. Development of fetus takes place in Z.
- C. X is the site of implantation of embryo.
- D. W controls secondary sexual characters in females.

Answer: D



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2. Take a beaker and fill half of it with water. Put some wheat seeds in it, stir it and wait for some time. Which of the following holds true regarding the observation and inference of this experiment?

A. Healthy seeds being lighter float on the surface of water.

B. Damaged seeds being lighter float on the surface of water.

C. Some healthy seeds and some damaged seeds float on the surface of water.

D. Damaged seeds being heavier settle down at the bottom.

Answer: B



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3. Read the given paragraph.

Organism P has leathery lips and a big hump on its back, organism Q has thick layer of subcutaneous fat and a dense fur covering on its body whereas organism R is brightly coloured and has long, large and colourful beak.

Which of the following does not hold true for organisms P, Q and R?

A. Organism P excretes very little water in the form of urine.

B. Organism Q undergoes hibernation in extreme conditions.

C. Organism R has poison glands in its skin.

D. Both A and B

Answer: C



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

(i) Thyroxine hormone is released in the body at the time of stress.

(ii) Hermaphrodite animals have separate male and female individuals.

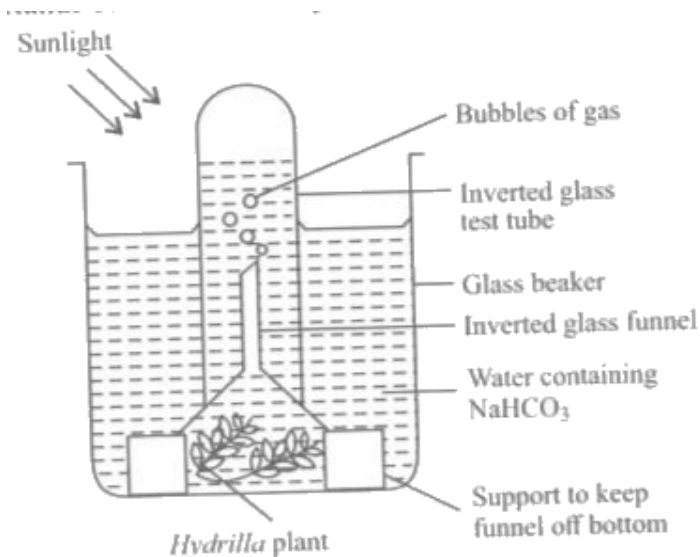
(iii) The animals which lay eggs are called viviparous animals.

(iv) Parathyroid hormone regulates the calcium and phosphate balance in the body.

	(i)	(ii)	(iii)	(iv)
A.	F	F	F	T
B.	F	T	F	T
C.	T	T	F	F
D.	F	F	T	T



5. Rahul conducted an experiment as shown here.



Which of the following statements is incorrect regarding this?

A. Hydrilla plant cannot photosynthesis as

CO_2 is not available to the plant.

B. $NaHCO_3$ present in the water provides

CO_2 to the plant.

C. Sunlight can reach the plant properly

and hence the plant can

photosynthesise.

D. The bubbles produced in water within

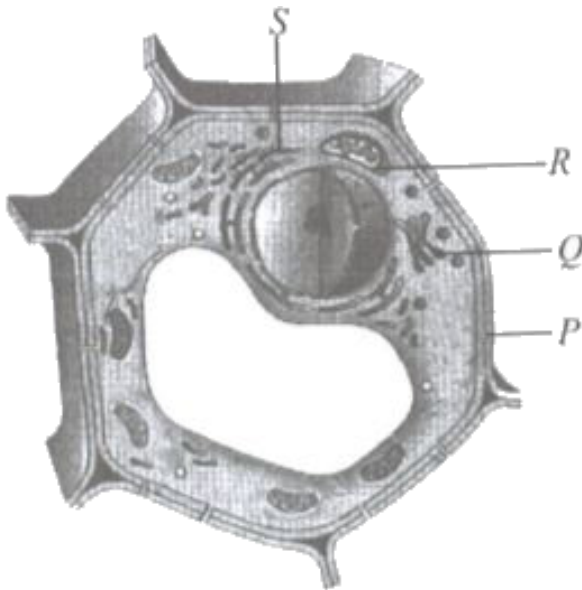
the test-tube are mainly of oxygen gas.

Answer: A



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6. Refer to the given ultrastructure of a plant cell.



Identify the labelled parts P-S and select the incorrect statement regarding them.

(i) P provides strength and support to the plant.

(ii) S is known as the secretory organelle of the cell.

(iii) Q synthesises proteins and lipids and serves as transport channel for materials to pass.

(iv) R is absent in animal cell.

A. (i) and (ii) only

B. (ii) and (iii) only

C. (i) and (iii) only

D. (ii) and (iv) only

Answer: B



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7. Refer to the given table and identify L, M, N and O.

Wildlife Conservation Sites	Organism for which they are known
Kaziranga National Park	<i>L</i>
<i>M</i>	Kashmir stag
Sundarban National Park	<i>N</i>
<i>O</i>	Asiatic lion

- | | <i>L</i> | <i>M</i> | <i>N</i> | <i>O</i> |
|----|-----------------------|------------------------|--------------------|-------------------------|
| A. | Neelgai | Dachigam National Park | Desert fox | Rann of Kutch Sanctuary |
| B. | One horned rhinoceros | Dachigam National Park | Royal Bengal tiger | Gir National Park |
| C. | Flamingo | Gir National Park | Siberian crane | Rann of Kutch Sanctuary |
| D. | One horned rhinoceros | Mudumalai Sanctuary | African elephant | Gir National Park |



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8. Refer to the given figures showing seeds/fruits of three different plants.



Select the option which contains name of plants that can correctly replace (i), (ii) and (iii) respectively, based on the mode of dispersal of their seeds.

(i)	(ii)	(iii)
A. <i>Hiptage</i>	Pea	<i>Calotropis</i>
B. Madar	Balsam	Cotton
C. <i>Acer</i>	Lotus	Castor
D. Lotus	<i>Calotropis</i>	<i>Urena</i>

9. Read the given statements and select the option that correctly fills the blanks in any two of these statements.

(a) _____ is the only naturally occurring mineral fibre.

(b) Mohair is obtained from _____ .

(c) The process of unwinding the silk filaments from the cocoon and combining them to make a thread of raw silk is called _____ .

A. (a)-Asbestos, (b)-Angora rabbit

B. (b)-Angora goat, (c)-Scouring

C. (a)-Asbestos, (c)-Recling

D. (b)-Angora goat, (c)-Carding

Answer: C



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10. Select the incorrect statement.

A. Anthrax is a bacterial disease that affects both humans and cattle.

B. Rust of wheat is a fungal disease that spreads by air.

C. Citrus canker is a viral disease that affects citrus fruits.

D. Yellow vein mosaic is a viral disease that affects ladyfinger.

Answer: C



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11. Which of the following will help in controlling air pollution?

I. Use of bicycles instead of cars for covering short distances.

II. Spraying pesticides in agricultural fields to control pests.

III. Use of unleaded petrol and smokeless fuels like CNG, LPG, etc.

IV. Use of CFCs in refrigeration and air conditioning.

A. I and III only

B. II and III only

C. I and IV only

D. II and IV only

Answer: A



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12. Refer to the given figures of bacteria P, Q, R and S and read the given statements regarding them.



P



Q



R



S

(i) Bacterium P can be the causal organism of tuberculosis.

(ii) Bacterium Q can cause pneumonia.

(iii) Bacterium S can convert lactose sugar of milk into lactic acid.

(iv) Bacterium R can be the causal organism of syphilis.

Which of these statements is/are correct?

A. (i) and (ii) only

B. (iii) and (iv) only

C. (i), (iii) and (iv) only

D. (ii) and (iii) only

Answer: B



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Achievers Section

1. Read the given paragraph where few words have been italicised.

Preparation of soil in a field, before sowing of

seeds involves two steps : broadcasting and levelling. Soil in the crop field is enriched with nutrients by adding manures and fertilisers to it. Crop fields need to be irrigated, from time to time. In sprinkler system of irrigation water is allowed to fall drop by drop from a pipe just near the plant roots whereas in drip irrigation water escapes from a revolving nozzle. Weeding in crop fields can be done using combine. After the crop is harvested, the grain is separated from cut crop using a machine called thresher.

Select the incorrect option regarding these.

A. Broadcasting should be replaced by tilling.

B. Positions of sprinkler system and drip irrigation should be interchanged.

C. Thresher should not be replaced as it is correctly mentioned.

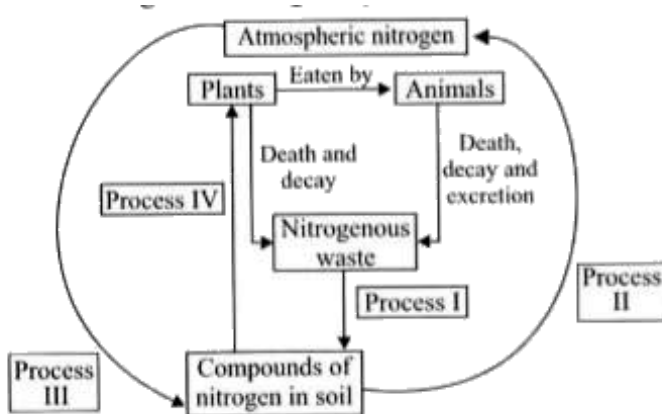
D. Combine should be replaced by harvester.

Answer: D



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2. Refer to the given nitrogen cycle occurring in nature.



Identify processes I-IV and select the correct statement regarding them.

A. Process II represents the conversion of ammonia into nitrates and is

accomplished in two steps.

B. In process IV, plants absorb inorganic nitrogen compounds from the soil and convert them into organic compounds.

C. Process I represents the conversion of nitrates to free molecular nitrogen.

D. Process III represents nitrogen fixation by Nitrosomonas.

Answer: B



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