

Sample Question Paper

10+2 Biology

Note:

1. Question paper has four parts A, B, C, D with total 17 questions.
2. Section-A has question number 1 having 28 parts of 1 mark each. 16 questions are MCQ type, 6 fill in the blanks and 6 are True/false.
3. Section-B has questions number 2 to 11-total 10 short answer type questions of 2 marks each. Question 4,6,9,10 have internal choice.
4. Section-C has questions number 12 to 15 – total 4 questions of 3 marks each. Question 14 and 15 have internal choice.
5. Section-D has question 16 and question 17 -total 2 questions of 5 marks each. Both questions have 100% internal choice.

Section A

Q1)

Each question carries one mark

Multiple Choice Questions

- I. Asexual reproduction in *Penicillium* occurs through the formation of
 - A. Conidia
 - B. Gemmules
 - C. Rhizome
 - D. Offset
- II. The female gametophyte of a typical dicot at the time of fertilisation is
 - A. 8 – celled
 - B. 7 – celled
 - C. 6 – celled
 - D. 5 – celled
- III. Double fertilization is fusion of
 - A. Two eggs
 - B. Two eggs and polar nuclei
 - C. One male gamete with egg and other with synergid
 - D. One male gamete with egg and other with secondary nucleus
- IV. Oral contraceptives are used by females to check
 - A. Implantation
 - B. Fertilization

- C. Ovulation
 - D. Entry of sperm
- V. Sickle Cell anaemia is caused due to
- A. Protozoa
 - B. Virus
 - C. Bacteria
 - D. is a genetic disorder
- VI. Which blood group is universal donor
- A. A
 - B. AB
 - C. B
 - D. O
- VII. In E. coli the Lac Operon get switched on when
- A. Lactose is present and it binds to repressor
 - B. Repressor binds to operator
 - C. RNA polymerase binds to operator
 - D. Lactose is absent
- VIII. The bones of forelimbs of whale, bat, cheeah and man are similar in structure, because
- A. One organism has given rise to another
 - B. they share a common ancestor
 - C. they perform the same function.
 - D. they have biochemical similarities.
- IX. Which of the following is hallucinogen?
- A. LSD
 - B. Heroin
 - C. Cocaine
 - D. Morphine
- X. The technique of obtaining large number of plantlets by tissue culture method is called :
- A. Organ culture
 - B. Micro-propagation
 - C. Macro-propagation
 - D. Plantlet culture
- XI. If BOD of sample water is very high, the sample is
- A. highly polluted
 - B. less polluted
 - C. not polluted
 - D. Potable
- XII. Which of the following drug was first produced by sacrificing animals but is now produced by rDNA technology?
- A. Pencillin
 - B. Insulin
 - C. Paracetamol
 - D. Bt toxin
- XIII. The principle of competitive exclusion was stated by
- A. G.F. Gause

- B. G.J. Mendel
 - C. Charles Darwin
 - D. Watson and Crick
- XIV. Which of the following is ex-situ mode of conservation of biodiversity?
- A. National Park
 - B. Sacred grooves
 - C. Cryopreservation
 - D. Biosphere reserve
- XV. Chlorofluoro carbon are responsible for:
- A. Acid rain
 - B. Ozone layer depletion
 - C. Global warming
 - D. Thermal inversion
- XVI. Which one of the following is not a greenhouse gas?
- A. Methane
 - B. CO₂
 - C. Chlorofluoro carbon
 - D. Hydrogen

Write True or False

- XVII. Androgens are produced by Leydig cells.
- XVIII. AIDS spread due to infected blood, needles and syringes.
- XIX. Insulin consists of 4 short polypeptide chains named as chain A, chain B, Chain C and chain D
- XX. Rearing and breeding of fishes for food is called pisciculture.
- XXI. The historical convention on biological diversity (The Earth Summit) was held in Rio de Janeiro in 1992.
- XXII. Plants are called producers because they fix atmospheric carbon dioxide.

Fill in the blanks

- XXIII. Haemophilia and Colour blindness arelinked disorders.
- XXIV. A sequence of three nitrogen bases that code for an amino acid is called... ..
- XXV. When host is exposed to antigens, antibodies are produced in the host body. This type of immunity is called... ..Immunity
- XXVI. The Residue left after Methane production from cattle dung is used as
- XXVII. Large scale production of biotechnological products involves use of... ..
- XXVIII. Dead plant parts and animal remains are called

Section B

Each question carries 2 marks.

- Q2) Draw a labelled diagram for structure of ovum.
- Q3) Write a note on tubectomy.

OR

Expand
GIFT
IVF

- Q4) What is codominance? Give an example.

OR

Define and design a test cross

- Q5) Enlist two essential roles of ribosome during translation
Q6) What are homologous organs? Give an example.
Q7) What measures would you take to prevent water borne diseases.
Q8) What are methanogens? Give one example.
Q9) What are ' molecular scissors' ? Give an example.

OR

Discuss the ethical issues related to biodiversity.

- Q10) What are cry proteins? Name the organism that produces it.
Q11) Define parasitism. Give an example.

OR

Name three important levels of biodiversity.

Section C

Each question carries 3 marks

- Q12) Discuss the nature of genetic code.
Q13) " Convergent evolution leads to analogous organs" Explain with example.
Q14) Name the causing agent of pneumonia. Also write down its symptoms and modes of transmission.

OR

Expand MOET. How is it carried out?

- Q15) In recombinant DNA technology, vectors are used to transfer a gene of interest in the host cells. Mention any three features of vectors that are most suitable for this purpose.

OR

What is gene therapy? Illustrate using the example of adenosine deaminase deficiency.

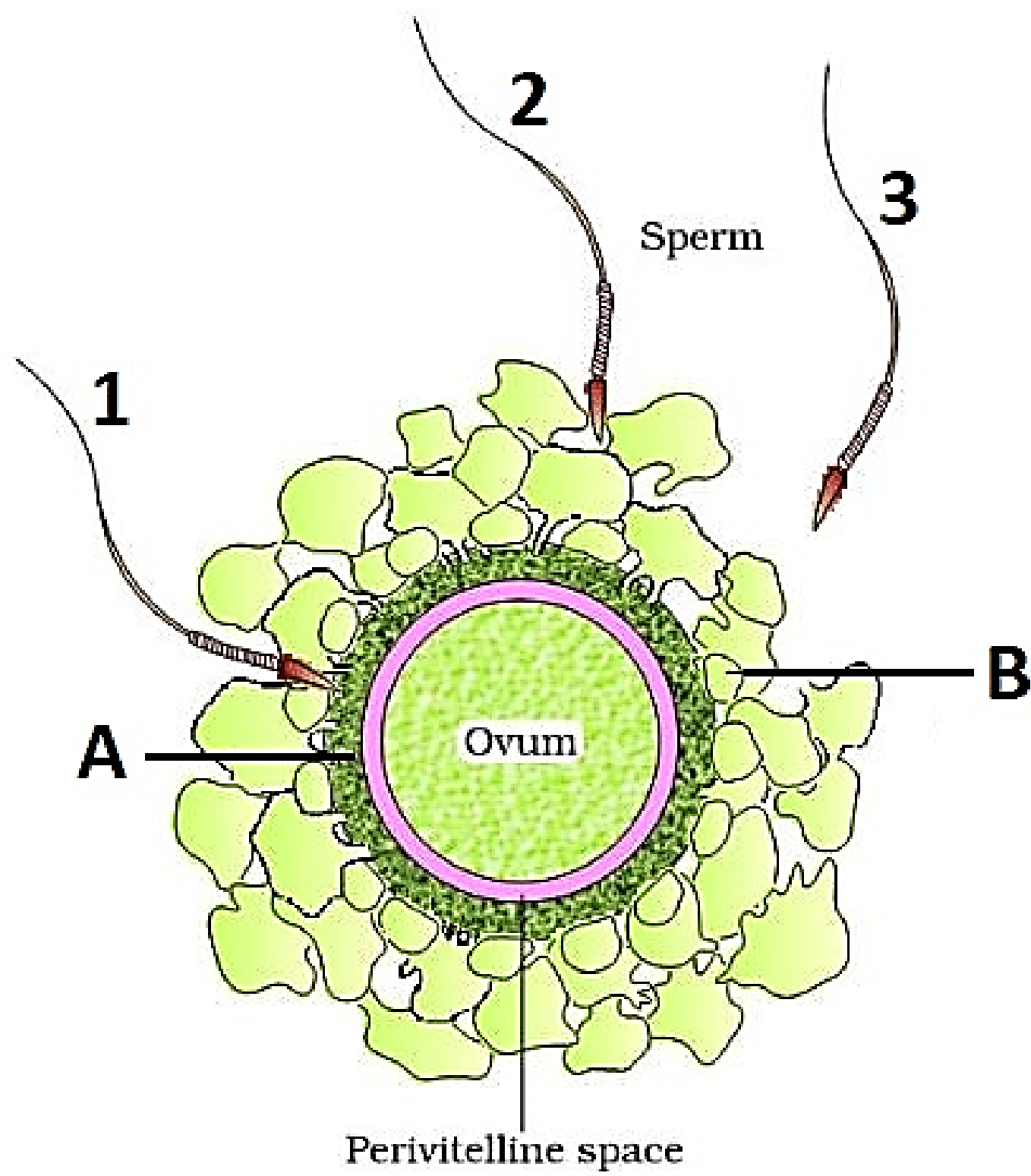
Section D

Each question carries 5 marks

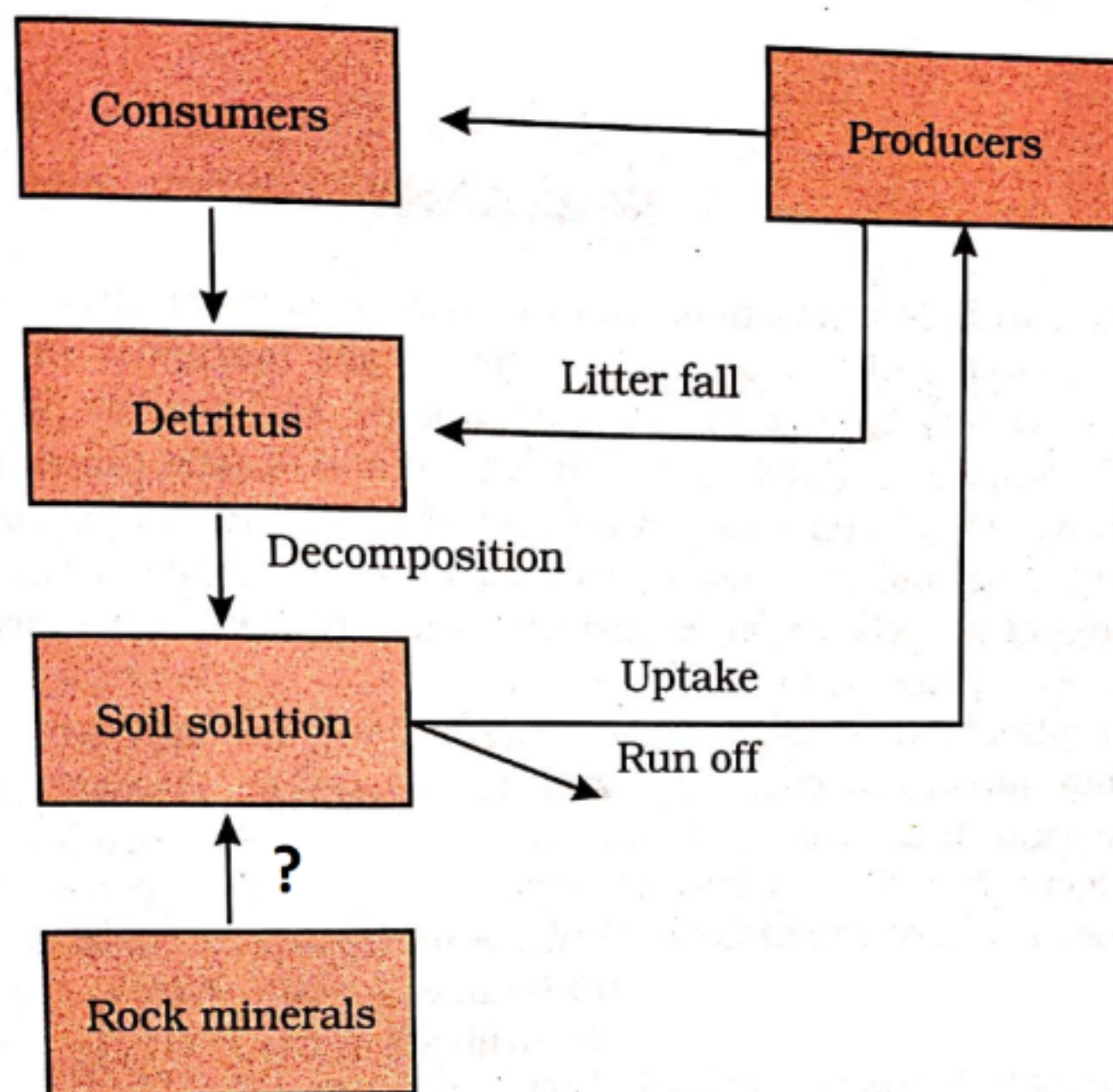
- Q16) Define pollination. Write any three characteristics of wind pollinated flowers.

OR

Observe the given diagram and answer the following questions.



- A. What does this diagram depict? 1
- B. Label the parts A and B. 1X2=2
- C. Which one of the sperms would reach the ovum earlier? 1
- D. Name the specific region in the female reproductive system where the event represented in the diagram takes place. 1
- Q17) Observe the phosphorous cycle given below and answer the following questions



Fill in the blanks

The natural reservoir of phosphorous is... .., which contain phosphorous in the form of phosphates. 2

The phosphorous from rocks is dissolved from rocks in soil solution by the process of ?

2

Whether the following statement is true or false?

The phosphorous is returned to atmosphere by the respiratory activities of consumers.

1

OR

Why does ozone hole form over Antarctica? How will enhanced ultraviolet radiation affect us?