BIOLOGY

BOOKS - ICSE MODEL PAPER

SAMPLE PAPER 2022

Part I

1. Give a brief answer for each of the following:

A. What happens if excess fertilizers are added to the soil?

B. Why are the annual rings absent in plants growing along the coastal areas?

C. What is a Punnett-square used for?

D. Malignant tumours are considered dangerous. Why?

Answer:

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2. Gene therapy can be used to correct one of the following:

A. SCID

B. HIV

C. Typhoid

D. Hepatitis

Answer:

3. The dark coloured dead wood present in the central region of old trees is called:

A. Spring wood

B. Sap wood

C. Duramen

D. Alburnum

Answer:

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4. Which of the following statements is correct?

A. Surgical methods of contraception do not prevent gamete formation.

B. In E.T. techniques, embryos are always transferred into the uterus.

C. Oral pills are very popular contraceptives among the rural women.

D. All STDs are not completely curable.

Answer:

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5. The Hardy Weinberg's equilibrium is associated with:

A. Ionic equilibrium.

B. Population genetics.

C. Osmotic balance.

D. None of these.

Answer:

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6. Give a scientific term for each of the following:

A. Development of fruit without fertilization

B. The process of mRNA synthesis on a DNA template.

C. A plant part excised from its original location and used for initiating a culture.

D. The surgical removal of a section of vas deferens.

Answer:

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7. Expand the following abbreviations:

A. PKU

B. GIFT

C. DNA

D. GMO

Answer:

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8. Name the scientists who have contributed to the following:

A. Principle of Limiting Factor.

B. The recapitulation theory.

C. Discovered the fossil of Archaeopteryx

D. Described double fertilisation in plants.

Answer:

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Part Ii Section A

1. Describe different types of natural selection with the help of graphs.

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2. Give two chromosomal similarities between man and apes.

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3. Give two distinguishing features of the Cro-Magnon man.

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4. Describe how the origin of life from abiotic substances was proved experimentally by Miller and Urey.

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5. Give one significant difference between Biogeny and Cognogeny.

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6. What is a vestigial organ? Give one example.

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7. What are the basic postulates of Darwinism?

What is the objection against Darwinism?

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8. Write two distinctive features of Australopithecus.

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9. Define atavism.

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Part Ii Section B

1. Draw a neat labelled diagram of L.S. of anatropous ovule.

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2. Write short notes on the following.

(i) Endosperm

(ii) Amniocentesis

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3. Give four significant differences between active and passive absorption of water in plants.

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4. Briefly describe the mechanism of development of a dicot embryo.

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5. Give two significant differences between each of the following:

(i) Racemose and Cymose inflorescence

(ii) Self-pollination and Cross pollination.

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6. Write a brief note on MTP.

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7. Fertilization in humans is a physio-chemical process. Explain.

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8. Give a graphical representation of the C_4 cycle.

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9. Give the names of foetal membranes in mammals.

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Part Ii Section C

1. Lac-operon

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2. What are green manures? Why are biofertilisers preferred over chemical fertilisers?

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3. Define :

(i) Biopiracy

Pleiotropy.

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4. Define hybridization. Explain the technique of hybridization in plants.

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5. What are the implications of the loss of biodiversity?

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6. Give one significant difference between:

(i) Hydrophytes and Xerophytes

(ii) Inbreeding and Outbreeding

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7. Give four applications of recombinant DNA technology.

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8. Write short notes on:

(i) Haemophilia

(ii) Down's Syndrome

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9. Explain the process of sex determination in humans.

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