



BIOLOGY

BOOKS - FULL MARKS BIOLOGY (TAMIL ENGLISH)

SAMPLE PAPER - 14

Bio Botany Part I

1. Pollen tube was discovered by

A. J.G. Kolreuter

B. G.B. Amici

C. E. Strasburger

D. E. Hanning

Answer: B



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2. Assertion (A) : Pleiotropic gene affects multiple traits

Reason (R) : ABO blood group is an example for Pleiotropism

A. A and R are correct R explains A

B. A and R are incorrect

C. A is correct R is incorrect

D. A is incorrect R is correct

Answer: C



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3. Number of chromosomes ($2n$) in Ophioglossum is.....

A. a) 1226

B. b) 1262

C. c) 1622

D. d) 2126

Answer: B



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4. Identify the incorrect statement.

A. Ti plasmid causes the bunched top disease

B. Multiple cloning site is called Polylinker

C. Non-viral method of transfection of Nucleic acid in cell

D. Polylactic acid is a kind of biodegradable and bioactive thermoplastic

Answer: A



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5. Ecosystem consists of

A. decomposers

B. producers

C. consumers

D. all the above

Answer: D



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6. Deforestation does not lead to

A. Quick nutrient cycling

B. Soil erosion

C. alternation of local weather conditions

D. Destruction of natural habitat

Answer: A



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7. Progeny obtained as a result of repeat self pollination of a cross pollinated crop is called

- A. pure line
- B. pedigree line
- C. inbreed line
- D. heterosis

Answer: A



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8. The only cereal that has originated and domesticated from the New world.

- A. *Oryza sativa*
- B. *Triticum aestivum*
- C. *Triticum durum*
- D. *Zea mays*

Answer: C



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1. Differentiate Apomixis and Amphimixis.



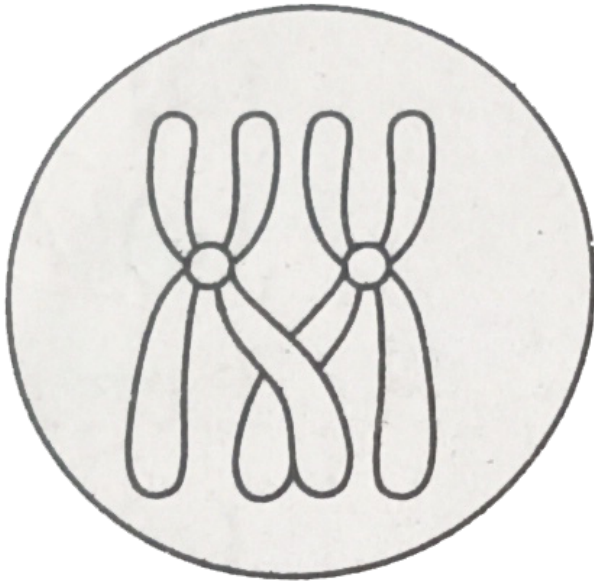
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2. Observe the diagram and answer the questions given

(a) Name the process occurring in the given diagram.

(b) At which stage does this process occur

during cell division.



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3. Given below is a portion of DNA sequence.

What is the special feature that you notice in this sequence?

5' - CATTATATAATG - 3'

3' - GTAATATATTAC - 5'



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4. Sterilization refers to the wide range of methods done to overcome microbes. Considering this statement, how the laminar air flow chamber is sterilized to carry out inoculation process in plant tissue culture technique.



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5. Define ecology.



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6. What is meant by Eluviation?



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1. Write a short note on Atavism.



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2. What do you mean by the term 'plant sex'?



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3. Write the effects of global warming.



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4. Define green manuring.



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5. Write the binomials and the family of the given plants.

(a) Henna (b) Lady's finger (c) Holy basil



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1. What are the effects of deforestation and benefits of agroforestry?



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2. Give a detailed account on Golden rice.



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3. Generally human activities are against to the ecosystem, where as you a student how

will you help to protect ecosystem?



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4. Explain the development process of male gametophyte.



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Bio Zoology Part I

1. Identify the mismatched pair.

(i) Paedogenesis - Liver fluke

(ii) Strobilation - Aurelia

(iii) Amphitoky - Honey bee

(iv) Encystment - Amoeba

A. I and ii

B. ii and iii

C. ii only

D. iii only

Answer:



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2. A -Head of the sperm consists of acrosome and mitochondria.

R -Acrosome contains spiral rows of mitochondria.

- A. A and R are false
- B. A is true, R is false
- C. A is false, R is true
- D. R explains A

Answer:



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3. Legalized marriageable age of female in India is.....

A. a) 19 years

B. b) 20 years

C. c) 18 years

D. d) 21 years

Answer:



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4. Which period was called "Age of fishes" ?

A. Permian

B. Triassic

C. Devonian

D. Ordovician

Answer:



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5. A memory disorder caused by misuse of alcohol ____

A. Klinefelters' syndrome

B. Patau's syndrome

C. Korsakoff syndrome

D. Turner's syndrome

Answer:



6. Which of the following pair is correctly matched for the product produced by them ?

- A. *Acetobacter acetii* - Antibiotics
- B. *Methanobacterium* - Lactic acid
- C. *Penicillium notatum* - Acetic acid
- D. *Saccharomyces cerevisiae* - Ethanol

Answer:



7. The organization which published the red list of species is

A. WWF

B. IUCN

C. ZSI

D. UNEF

Answer:



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8. As per 2017 statistics, the highest per capita emitter of carbon dioxide in the world is

A. USA

B. China

C. Qatar

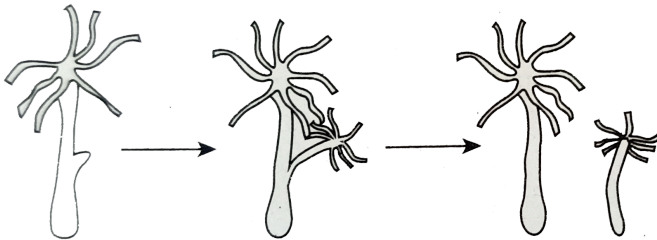
D. Saudi Arabia

Answer:



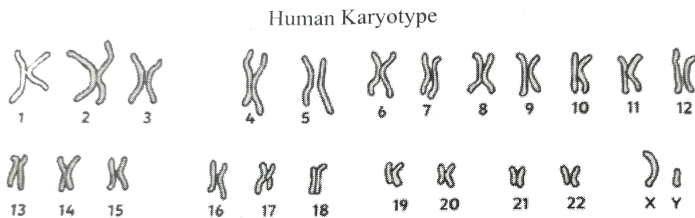
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1. Observe the following diagram, identify the organism and name the biological phenomenon taking place in the organism.



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2. Given below represents the human karyotype of male. Notify the abnormality and mention any two symptoms of the respective abnormality.



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3. Structural gene of eukaryotes differ from prokaryotes. How?



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4. How RT-PCR technique is performed?



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5. Compare Alpha diversity with Beta diversity.



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6. Discuss the role of an individual to reduce environmental pollution.



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Bio Zoology Part Iii

1. How can menstrual hygiene be maintained during menstrual days?



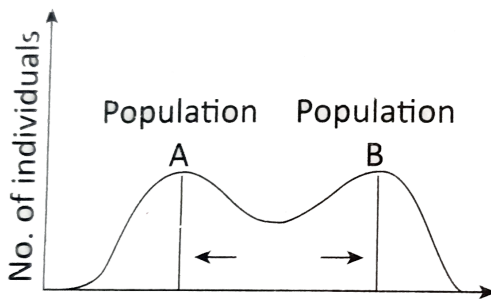
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2. Observe the given graph and answer the following question.

(a) Which type of natural selection is represented by the graph?

(b) Under which condition does this type of selection operates.

(c) Give an example for this type of natural selection.



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3. (i) Write the scientific name of the filarial worm that causes filariasis.

(ii) Write the symptoms of filariasis

(iii) How is this disease transmitted?



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4. In north eastern states, the jhum culture is a major threat to biodiversity - substantiate



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5. The image given below indicates a particular medical technique done for a pregnant woman.

(a) Name the medical technique carried out in the image.

(b) At which period of gestation does this procedure is generally performed?

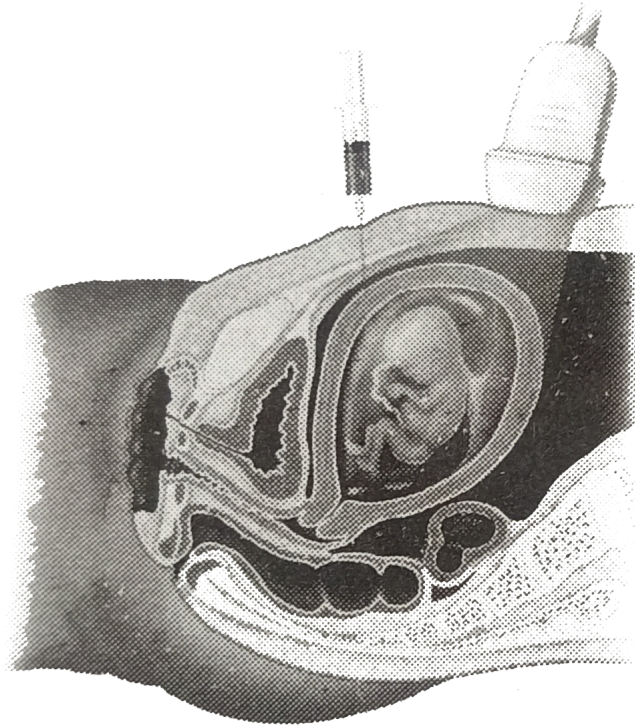
(c) What is the objective of performing this procedure?

(d) How this procedure was misused by certain

people in society?

11

7



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Bio Zoology Part Iv

1. Give a schematic representation of spermatogenesis and oogenesis in humans.



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2. How radioactive waste are managed?
Suggest few methods of disposal of radioactive.



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3. It is established that RNA is the first genetic material. Justify by giving reasons.



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4. Write a note on (i) Protected areas.



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