

Class : 12

Register

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SECOND REVISION EXAMINATION - 2025

Time Allowed : 3.00 Hours]

BIOLOGY

[Max. Marks : 70

PART - I (Bio-Botany) (Marks : 35)

SECTION - I

Note. (i) Answer All the questions.

8×1=8

(ii) Choose the most appropriate answer from the given four alternatives and write the option code and corresponding answer.

- Which one of the following is an example of polygenic inheritance?
 - Flower colour in mirabilis jalapa
 - Production of male honey bee
 - Pod shape in garden pea
 - Skin colour in humans
- In which techniques ethidium bromide is used?
 - Southern blotting techniques
 - Western blotting techniques
 - Polymerase chain Reaction
 - Agarose Gel Electrophoresis
- Find out the correctly matched pair.
 - Rubber - shorea robusta
 - Dye - Lawsonia inermis
 - Timber - Cyperus papyrus
 - Pulp - Hevea brasiliensis
- Assertion:** Sporopollenin preserves pollen in fossil deposits
Reason : Sporopollenin is resistant to physical & biological decomposition.
 - Assertion is true; reason is false
 - Assertion is false; reason is true
 - Both assertion & reason are not true
 - Both assertion & reason are true
- Solar energy used by green plants for photosynthesis is only.
 - 2 - 8%
 - 2 - 10%
 - 3 - 10%
 - 2 - 9%
- In flavrsavr Tomato, the ripening process is delayed by the enzyme -----
 - Barnase
 - Polygalacturnase
 - Endotoxin
 - Transferase
- An example for comutagens
 - Mustard gas
 - Nitrous acid
 - Ascorbic acid
 - Magnous salt
- Palynology is the study of -----
 - Stamens
 - Pollengrains
 - Bee pollen
 - Anther cavity

SECTION - II

Note : Answer any four questions.

4x2=8

- What are psychoactive drugs? Give one example.
- Define food chain? Give an example?
- What is seed ball?
- Mention the different types of culture medium used in plant tissue culture?
- How are microbial inoculants used to increase the soil fertility?
- 'Endothecium is associated with dehiscence of anther'. Justify the statement?

SECTION - III

Note : Answer any three questions. Question No. 19 is compulsory.

3x3=9

- Explain Atavism.
- Write the significance of crossing over.
- What do you know about the word P_{322}^{BR} ?
- What is thermal stratification? Explain its types?
- Explain about "Queen of spices" & Write their uses.

SECTION - IV

Note : Answer all the questions.

2x5=10

- (a) Explain the Mechanism of crossing over. (OR)
(b) Shape of pyramid in a particular ecosystem is always different in shape. Explain with the example.
- (a) Explain the steps involved in Recombinant DNA technology. (OR)
(b) Which is called as the "King of Bitters"? Mention their medicinal importance.

PART - II (BIO-ZOOLOGY) (Max. Marks: 35)

SECTION - I

Note: (i) Answer all the questions

(ii) Choose the most appropriate answer from the given four Alternatives and write the option code and the corresponding answer. 8 x 1 = 8

1. The mode of sexual reproduction in bacteria is by
 - a) formation of gametes
 - b) endospore formation
 - c) conjugation
 - d) zoospore formation
2. Assertion:(A) The human ovum is surrounded by primary, secondary and tertiary membranes
Reason (R) The human ovum is surrounded by vitelline membrane, zona pellucida, corona radiata, theca externa, theca interna and graafian follicle.
 - a) Both (A) and (R) are true and (R) explains (A)
 - b) Both (A) and (R) are true and (R) does not explain (A)
 - c) Both (A) and (R) are false
 - d) (A) is true but (R) is false
3. Which one of the following is true regarding human embryo?
 - a) Testes are the derivative of endoderm
 - b) Liver develops from mesoderm
 - c) Brain is the derivative of ectoderm
 - d) parathyroid glands are the derivative of mesoderm.
4. Which one of the following is correctly matched?
 - a) Copper T - disturbs ovulation
 - b) Saheli - suppresses sperm mobility
 - c) Tubectomy - prevents ejaculation
 - d) Lippes loop - disturbs endometrium growth
5. Find out true and false statements from the following:
 - i) A nitrogen base linked with a hexose sugar at carbon number one forms nucleotide.
 - ii) Adenine combines with thymine and cytosine combines with guanine. It is known as Chargaff's law
 - iii) The discontinuous method of synthesis of DNA fragments in the leading strand is called Okazaki fragment.
 - iv) Polycistronic structural gene is seen in prokaryotes.
 - a) (i) and (ii) are true; (iii) and (iv) are false
 - b) (i) and (iv) are false; (ii) and (iii) are true
 - c) (ii) and (iv) are true; (i) and (iii) are false
 - d) (i), (iii) and (iv) are true; (ii) is false
6. Match the following and find the correct answer:

i. malaria	-	A. Epidermophyton	a) i.(D), ii.(C), iii.(A), iv.(B)
ii. Pneumonia	-	B. Rhino virus	b) i.(D), ii.(B), iii.(C), iv.(A)
iii. Ringworm	-	C. Streptococcus	c) i.(B), ii.(C), iii.(D), iv.(A)
iv. Common cold	-	D. Plasmodium	d) i.(B), ii.(A), iii.(D), iv.(C)
7. ELISA is mainly used for
 - a) Detection of mutations
 - b) Detection of pathogens
 - c) Selecting animals having desired traits
 - d) Selecting plants having desired traits.
8. As per 2017 statistics, the higher per capita emitter of carbon dioxide in the world is
 - a) USA
 - b) China
 - c) Qatar
 - d) Saudi Arabia

SECTION - II

Note : Answer any four of the following questions.

4x2=8

9. What is colostrum? Write its role in protecting the infants against infection.
10. Write note on *Ideonella sakaiensis*.
11. Define Agrochemicals.
12. What are called endangered species? Give example.
13. What are interferons? mention their role.
14. Write any two applications of PCR?

SECTION - III

Note : Answer any three of the following questions. Q.No.19 is compulsory.

3x3=9

15. Write the process of budding in hydra.
16. Differentiate between somatic cell therapy and germline cell therapy.
17. PCR technique is a useful tool in early diagnosis of COVID - 19. How?
18. Give any three reasons for the loss of biodiversity.
19. How will you help your friend (who is a drug addict) to come out of drug addiction.

SECTION - IV

Note : Answer all the questions.

2x5=10

20. (a) Discuss about detection of foetal disorders during early pregnancy. (OR)
- (b) Mention the main objections to darwinism.
21. (a) Mention the advantages & disadvantages of cloning? (OR)
- (b) Write about population dispersion.