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# 12th Standard

# BIOLOGY

## SECOND REVISION TEST-2023

### Various District Question Paper Collection

# MAYILADUTHURAI DISTRICT
## SECOND REVISION TEST, FEBRUARY - 2023
**Standard - XII** **BIOLOGY**

**BIO-BOTANY**

**TIME: 1:30 hrs** **Marks: 35**

**I. Answer all the questions:** **PART-A** **8X1=8**

1. . Phenotypic ration of dominant epistasis -----
   a) 9:3:4 b) 12:3:1 c) 9:7 d) 9:6:1
2. Changing the codon AGC and AGA represents -----
   a) Frameshift mutation b) Nonsense mutation c) Missense mutation d) Deletion mutation
3. First cell of male gametophyte in Angiosperm is…
   a) Microspore b) Megaspore c) Nucleus d) Primary Endosperm Nucleus
4. Golden rice contain
   a) Vitamin - D b) Vitamin - C c) Vitamin - B d) Vitamin - A
5. Virus free plants are developed from ------
   a) Meristem culture b) Organ culture c) Nucleus culture d) Cell culture
6. Solar energy used by green plants for photosynthesis is only
   a) 2-8 % b) 3-10 % c) 2-10 % d) 2-9 %
7. $SO_2$ Pollution indicator -------
   a) Lotus b) Lily c) Jasmine d) Rose
8. Example for Mimicry -----
   a) Butterflies b) Phyllium frondosum c) Moth d) Habenaria

**II. Answer any four questions:** **PART-B** **4X2=8**

9. What is Mellitophily?
10. Define - Lethal allele.
11. What are Ecological equivalents?
12. What is Phytoremediation?
13. What is the difference between missense and nonsense mutation?
14. Productivity of profundal zone will be low. Why?

**III. Answer any three questions:** **PART-C** **3X3=9**
**(Question no: 17 is compulsory)**

15. List out the functions of Tapetum.
16. What are the reasons for Mendel's successes in his breeding experiment?
17. What do you know about the word pBR 322?
18. Give an account on Cryopreservation.
19. What is Albedo effect or Green House effect and write their effects?

**IV. Answer any two questions:** **PART-D** **2X5=10**

20. a) Discuss the steps involved in Microsporogenesis.
    b) Explain dihybrid cross.
21. a) What is soil profile? Explain the characters of different soil horizons.

**(or)**

b) Various stages of succession are given bellow. From that rearrange them accordingly. Find out the type of succession and explain in detail. Reed-swamp stage, phytoplankton stage, shrub stage, submerged plant stage, forest stage, submerged free floating stage, marsh medow stage.

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# Standard 12

## BIOLOGY

Time: 3.00 Hrs. Marks: 70

### PART - I [BIO-BOTANY] Marks: 35

### Section - I

**Note: i) Answer all the questions.** **8×1=8**

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

1) Consider the following statements.
   i) In protoandrons flowers pistil matures earlier.
   ii) In protogynous flowers pistil matures earlier.
   iii) Herkogamy is noticed in unisexual flower.
   iv) Distyly is present in primula.
   a) i and ii are correct b) ii and iv are correct
   c) ii and iii are correct d) i and iv are correct

2) Which of the molecule have the ability to convert a precursor in the cell of pea plant?
   a) Le; le b) GAI c) Le d) le

3) Changing the codon AGC to AGA represents
   a) missense mutation b) non sense mutation
   c) frame shift mutation d) deletion mutation

4) The process of recombinant DNA technology has the following steps.
   I. Amplification of the gene.
   II. Insertion of recombinant DNA into the host cells.
   III. Cutting of DNA at specific location using restriction enzyme.
   IV. Isolation of genetic material DNA.
   **Pick out the correct sequence of step for recombinant DNA technology.**
   a) II, III, IV, I b) IV, II, III, I c) I, II, III, IV d) IV, III, I, II

5) **Match:**

| **Column - I** | | **Column - II** |
|---|---|---|
| I. 0.2 to 2.00 mm | - | Silt soil |
| II. Less than 0.002 mm | - | Clayey soil |
| III. 0.002 to 0.02 mm | - | Sandy soil |
| IV. 0.002 to 0.2 mm | - | Loamy soil |

| | I | II | III | IV |
|---|---|---|---|---|
| a) | ii | iii | iv | i |
| b) | iv | i | iii | ii |
| c) | iii | ii | i | iv |
| d) | None of the above | | | |

6) The quantity of energy present in the universe is constant.
   a) Third law of Thermodynamics b) Second law of Thermodynamics
   c) First law of Thermodynamics d) Community productivity

7) **Assertion (A)** : A variety formed by pureline selection method shows more homozygosity with respect to all genes.
**Reason (R)** : The pure line plants are produced by asexual method or vegetative propagation method.
a) A-correct, R-wrong b) A-wrong, R-correct
c) A-correct, R-not explain A d) A-correct, R-explain A

8) Find out the wrongly matched pair.
a) Turmeric - Erode b) Cardamum - King of spices
c) Rubber - Kerala d) Banana - Indian National fruit

## Section - II

**Answer any four of the following:** **4×2=8**

9) Differentiate bio-medicines and botanical medicines.
10) Write the effects of ozone depletion on human beings only.
11) Write short notes on Reed - swamp stage.
12) Differentiate Somoclonal variations and Gametoclonal variations.
13) This is a type of chromosomal abnormality. Find it out, and give a note on it.

14) Differ Contharophily and Mellitophily.

## Section - III

**Answer any three of the following. Q.No. 19 is compulsory:** **3×3=9**

15) Differentiate: Incomplete dominance and Codominance.
16) Mention the name of man-made cereal. Draw the flow chart of its production.
17) Find out the type of following diagram. Write short note about it.


18) Now a days Azolla is an inevitable organism in paddy field. Why?
19) Write the cosmetic uses of Aloe.

## Section - IV

**Answer all the questions:** **2×5=10**

20) a) How do Sacred groves help in the conservation of biodiversity?
b) Explain different types of hydrophylis with examples. **(OR)**
21) a) Describe the T.S. of mature Anther.
b) Explain polygenic inheritance with an example. **(OR)**

**PART - II [BIO-ZOOLOGY]** **Marks: 35**

**Section - 1**

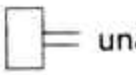
**Note: i) Answer all the questions.** **8×1=8**

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

1) A mRNA molecule is produced by
   a) Duplication b) Replication c) Translation d) Transcription
2) In which type of Parthenogensis are only males produced
   a) Arhenotoky b) Thelytoky c) Amphitoky d) Both a and c
3) Which one of the following symbols and its representation, used in human pedigree analysis is correct?


a) mating between relatives


b) unaffected male


c) unaffected female


d) male affected

4) The thickness of stratospheric ozone layer is measured in / on
   a) Sieverts units b) Dobson units
   c) Melson units d) Beaufort scale
5) Which of the following is a hormone releasing Intrauterine Device (IUD)?
   a) Multiload 375 b) LNG 20 c) Cervical cap d) Vault
6) Porter and Edelman revealed the structure of
   a) HIV b) Immunoglobulin
   c) Microbial fuel cell d) Ecosan toilets
7) 'X' is a microbial product obtained from Monascus purpureus and it helps to reduce blood cholesterol level
   a) X is Cyclosporin b) X is Statins
   c) X is Humulin d) X is Kanamycin
8) In RT-PCR technique, C DNA serves as a template. In C DNA, 'C' stands for
   a) Composite DNA b) Capped DNA
   c) Complementary DNA d) Circular DNA

**Section - 2**

**Note: Answer any four of the following questions.** **4×2=8**

9) What are the two types of Natural Parthenogenesis? Explain.
10) Differentiate between divergent evolution and convergent evolution with one example for each.
11) Mention the major threats to biodiversity caused by human activities.
12) Write the salient features of mutation theory.
13) Write a short notes on Ecosan Toilets.
14) Write the symptoms of filariasis.

## Section - 3

**Note: Answer any three of the following questions.** **3×3=9**

**Question number 19 is compulsory.**

15) What are the major tasks carried out by the Reproductive child health programme?

16) Autoimmune disease is a misdirected immunity response - Justify.

17) What are DNA vaccines?

18) What are the layers in the walls of uterus?

19) In the XY chromosomal system of sex determination males have only one 'X' chromosome, whereas females have two. How does the organism compensate for the dosage differenes between the sexes?

## Section - 4

**Note: Answer the following questions.** **2×5=10**

20) Enlist the differences between r - selected and k - selected species.

**(OR)**

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

21) Decribe various barrier methods of population control.

**(OR)**

Tabulate the major sources of solid waste.

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SIVAGANGA

# COMMON SECOND REVISION TEST – 2023

**Standard XII** Reg.No :

# BIOLOGY

**Time: 3.00 hrs.** **Part - I** **Marks: 70**

**Bio-Botany (35 marks)**

**Section - 1**

**I. Choose the correct answer:** 8 x 1 = 8

1. If a homozygous red flowered plant is crossed with a homozygous white flowered plant then the off-spring will be
   a) all red flowered b) half white flowered
   c) half red flowered d) all white flowered
2. Due to incomplete linkage in maize, the ratio of parental and recombinants are
   a) 50:50 b) 7:1:1:7 C) 96:4:3:6 D) 1:7:7:1
3. In which techniques Ethidium Bromide is used ?
   a) Polymerised Chain Reaction b) Southern blotting techniques
   c) Agarose gel electrophoresis d) Western blotting techniques
4. Virus free plants are developed from
   a) cell suspension culture b) organ culture
   c) Meristem culture d) Protoplast culture
5. A specific place in an ecosystem, where an organism lives and performs its function is
   a) landscape b) habitat c) biome d) niche
6. Solar energy used by Green plants for photosynthesis is only
   a) 2-8% b) 2-10% c) 3-10% d) 2-9%
7. _____ was the first scientist to use the term heterosis
   a) Muller and Stadler c) Cotton Mather
   c) G.H.Shull d) William S.Gaud
8. Tectora grandi's coming under the family
   a) Dipterocaipaceae b) Lamiaceae
   c) Ebinaceae d) Fabaceae

**Section - 2**

**II. Answer any 4 questions:** 4 x 2 = 8

9. What is endothelium?
10. What is gene mapping?
11. Name the enzymes involved in genetic engineering
12. Cybrid - Define
13. Pyramid of energy is always upright. Give reasons.
14. Give four examples of plants cultivated in commercial Agroforestry

**Section - 3**

**III. Answer any 3 questions. (Q.No.19 is compulsory)** 3 x 3 = 9

15. In 4 o'clock plant

    Pale Green Leaved plant x dark green leaved plant
    (male) ↓ (female)
    ?

    Explain the type of inheritance

16. Write the properties of vectors.
17. Differentiate cladode from phyllode with example.
18. Write the objectives of plant breeding.
19. Which is called as the king of bitters?
    Mention their medicinal importance.

**Section - 4**

**IV. Answer the following question.** **2 x 5 = 10**

20. a) Explain the different mode of entry of pollen tube into the oval.

*(OR)*

b) Explain the basic concepts involved in plant tissue culture.

21. a) What is soil Profile? Explain the characters of different soil Horizons.

*(OR)*

b) What are the effects of deforestation?

**Part - II**

**Bio-Zoology (35 marks)**

**Section - 1**

**I. Choose the correct answer:** **8 x 1 = 8**

1. Assertion (A) : Tubectomy is the surgical sterilisation in women.
   Reason (R) : It blocks the transport of the garments and prevents conception.
   a) (A) correct ; (R) wrong b) (A) wrong ; (R) correct
   c) (A) correct, but (R) does not explain (A) d) (A) correct, (R) explains (A)
2. Find out the incorrect pair :
   a) Neisseria gonorrhoeae - Affects urethra
   b) Hepatitis B virus - Liver Cirrhosis
   c) HIV - Enlarged lymph
   d) Candida albicans - Inflammation of heart
3. A haemophilia man marries a homozygons normal women, what would be the possible condition to their children?
   a) sons would be normal but daughters would be sufferer
   b) sons would be sufferer, but daughters would be normal
   c) both sons and daughters would be normal
   d) both sons and daughters would be normal, but daughters would be carrier
4. UAA, UAG and UGA codons are designated as
   a) stops codons b) non-sense codons
   c) both (a) and (b) d) initiator codons
5. which is the correct order of human evolution?
   a) Hominid → Homo habilis → Homo erectus → Homo Sapiens
   b) Homo habilis → Homo erectus → Hominids → Homo Sapiens
   c) Homo erectus → Homo habilis → Hominids → Homo sapiens
   d) Homo habilis → Hominids → Homo erectus → Homo Sapiens

6. Match the following and find the correct answer :

| | | | |
|---|---|---|---|
| i) | Cholera | - | (A) Mycobacterium |
| ii) | Typhoid | - | (B) Vibrio |
| iii) | Diphtheria | - | (C) Yersinia |
| iv) | Bubonic Plague | - | (D) Corynebacterium |

a) (i) B (ii) C (iii) D (iv) A b) (i) B (ii) A (iii) D (iv) C
c) (i) C (ii) D (iii) A (iv) B d) (i) D (ii) C (iii) B (iv) A

7. Saccharomyces cerevisiae is more suitable for the production of recombinant interferons than E.Coli. The reason is,
   a) E.Coli does not have machinery for glycosylation of starch
   b) Saccharomyces cerevisiae has machinery for the synthesis of rDNA
   c) E.Coli does not have machinery for glycosylation of proteins
   d) E.Coli does not have machinery for glycosylation of fats
8. Who is honoured as forest man of India?
   a) Sunderlal Bahuguna b) Jadav Payeng
   c) Amrinder Singh d) M.S.Swaminathan

## Section - 2

**II. Answer any 4 questions:** 4 x 2 = 8

9. Y-linked genes are non homologous. Why?
10. Differentiate ZIFT and GIFT.
11. What is coextinction? Give an example.
12. Why do we call some strains of bacteria as "Super Bug"?
13. What is the role of connecting links in evolution?
14. Which is referred to as biomagnification?

## Section - 3

**III. Answer any 3 questions. (Q.No.19 is compulsory)** 3 x 3 = 9

15. Differentiate merozoites from sporozoites.
16. Explain the role of placenta during pregnancy.
17. How to do amniocentesis?
18. Draw the diagram showing thermal zones in cold water bodies.
19. Stem cell therapy will increase the longivity of human life. Explain it logically.

## Section - 4

**IV. Answer the following question.** 2 x 5 = 10

20. a) Briefly explain the mechanism of fertilization and implantation in human beings.

*(OR)*

b) 'RNA World' - Discuss.

21. a) Explain the role of immunity in prevention of Cancer.

*(OR)*

b) Explain the role of PCR in clinical diagnosis.

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Tsi12Bio

Tenkasi District Common Examinations
Second Revision Test - January 2023

TENKASI

# Standard 12

## BIOLOGY

Time Allowed: 3.00 Hours | Maximum Marks: 70

### BIO-BOTANY

**Marks: 35**

**I. Choose the correct answer:** **8×1=8**

1) In a fresh water environment like pond, rooted autotraphs are
   a) Nymphaea and typha b) Ceratophynum and utricularia
   c) Wolffia and pistia d) Azolla and lemna
2) Profundal zone is predominated by heterotrophs in a pond ecosystem, because of
   a) with effective light penetration b) no effective light penetration
   c) complete absence of light d) a and b
3) The unit for mensuring ozone thickness
   a) Joule b) Kilos c) Dobson d) Watt
4) Jaya and Ratna are the semi dwarf varieties of
   a) wheat b) rice c) cowpea d) mustard
5) Groundnut is native of _____.
   a) Philipines b) India c) North America d) Brazil
6) An example for edible underground stem is
   a) Carrot b) Groundnut c) Sweet potato d) Potato
7) Ratio of complementary gene is
   a) 9:3:4 b) 12:3:1 c) 9:3:3:4 d) 9:7
8) If 20J of energy is trapped at producer level, then how much energy will be available to peacock as food in the following chain.
   Plant → Mice → Snake → Peacock
   a) 0.02J b) 0.002J c) 0.2J d) 0.002J

**II. Answer any four of the following:** **4×2=8**

9) What is reproduction?
10) Define Genetics.
11) What are restriction enzyme?
12) What is mutualism?
13) Expand CCS.
14) What is pseudo cereals? Give an example.

**III. Answer any three of the following:** **3×3=9**
**(Q.No. 19 is compulsory)**

15) Differentiate bio-medicines and botanical medicines.
16) What is seed ball?
17) Define crossing over.
18) What are multiple alleles?
19) Draw a neat labelled diagram of the structure of embryo sac.

**IV. Answer all the following:** **2×5=10**

20) a) Enumerate the characteristics features of Entomophilous flower.
**(OR)**
b) Mention the application of Biotechnology.
21) a) List out any five morphological adaptations of halophytes.
**(OR)**
b) How will you prepare an organic pesticide for your home garden with the vegetables available from your kitchen?

# BIO-ZOOLOGY

Marks: 35

## I. Choose the best answer: 8×1=8

1) In which type of reproduction only males are produced _____.
   a) Arrhenotoky b) Thelytoky c) Amphitoky d) None
2) Human Ovum is _____.
   a) Non-cleidoic b) Alecithal c) Microscopic d) All
3) Which of the following phenotype is not possible in progeny of the parental genotype combination $I^AI^O \times I^AI^B$?
   a) AB b) O c) A d) B
4) mRNA molecule is produced by _____.
   a) Replication b) Transcription c) Duplication d) Translation
5) Who proposed the Germplasm theory?
   a) Darwin b) August Weismann
   c) Lamark d) Alfred Wallace
6) Allergy involves _____.
   a) IgE b) IgG c) IgA d) IgM
7) Lion predatory on deer is an example of _____.
   a) Parasitism b) Competition c) Mutualism d) Ammensalism
8) The project Tiger was launched in the year _____.
   a) 1973 b) 1974 c) 1972 d) 1971

## II. Answer any four questions: 4×2=8

9) Define Gametogenesis.
10) What is meant by Genopore?
11) What is meant by Atavism?
12) Reason for mental depression.
13) Define Oenology.
14) What is meant by phototropism?

## III. Answer any three Questions: 3×3=9

**(Q.No. 19 is compulsory)**

15) Draw and label the human ovum.
16) Aims of Human Genonome project.
17) Reason for loss of Bio-Diversity.
18) Tabulate the Incubation periods of various types of malaria.
19) Role of SRY in sex determination.

## IV. Answer all the following: 2×5=10

20) Describe the various phases of menstrual cycle.

**(OR)**

Explain any one autosomal aneuploidy and any one allosomal aneuploidy in Human beings.

21) Draw and explain the structure of Immunoglobulin.

**(OR)**

Properties of soil.

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