

TIRUVANMALAI DIST  
**QUARTERLY EXAMINATION - 2024**

12 - STD

**BIOLOGY**  
**BIO - BOTANY**



Marks : 70

Time : 3.00 Hrs

**PART - A****I Answer the following.****1. Match the following.**

8 X 1 = 8

- |                            |   |                 |    |     |
|----------------------------|---|-----------------|----|-----|
|                            |   |                 |    |     |
| I) External fertilisation  | - | i) Pollen grain | a) | I   |
| II) Androecium             | - | ii) Anther wall | b) | II  |
| III) Male gametophyte      | - | iii) Algal      | c) | III |
| IV) Primary parietal layer | - | iv) Stamens     | d) | IV  |
2. In *Haplopappus gracilis*, the number of chromosomes in cells of muscles is 4. What will be the chromosome number in primary endosperms  
a) 8                      b) 12                      c) 6                      d) 2
3. Which one of the following is not correct statement.  
a) Ti plasmid causes the bumpy top disease    b) Multiple cloning site is known as polylinker.  
c) Non viral method transfection of Nucleic acid in cell.  
d) Poly lactic acid is a kind biodegradable and bio active thermoplastic.
4. Which of the following fungus is used as fire indicator.  
a) *Pyronema*                      b) *Pilobolus*                      c) *Agaricus*                      d) *Volvoriella*
5. **Choose the wrong match.**  
a) Green Fluorescent protein - *Aequorea Victoria*  
b) Single cell protein - *Bacillus Subtilis*  
c) Polylactic acid - Aliphatic Polyester  
d) Poly hydroxy butyrate - Biopolymer
6. Secondary metabolite obtained from *Papaver Samniferum*  
a) Codeine    b) Capsaicin    c) Vincristin    d) Quinine
7. Sharbati Sonara is a mutant variety of wheat which is developed by irradiating of .....rays    a) Cosmic    b) Ultra violet    c) Gamma    d) X - rays
8. Puemergence of sexual reproduction in *Hieracium pilosella* is the best example for  
a) Atavism    b) Regeneration    c) Multiple alleles    d) Polygenic inheritance

**PART - B****II Answer any four questions of the following.**

4 X 2 = 8

9. What is Mellitophily?  
10. Define Law of independent assortment.  
11. Write any four types of Aneuploidy.  
12. What are tools for genetic engineering?  
13. What is cryopreservation?  
14. Differentiate Chresard and Echard.

**PART - C****III Answer any three questions. Question No 19 is compulsory.**

3 X 3 = 9

15. "Endothecium is associated with dehiscence of anther". Justify the statement.  
16. What is gene mapping? Write its uses.  
17. How will you avoid the growing microbes in nutrient medium during culture process?  
18. Explain the following interaction types with example.  
i) Mutualism                      ii) Parasitism  
19. Write the advantages? *Bt.Cotton*.

**PART - D****IV Answer all the questions.**

20. a) What are the advantages of seed dispersal. (OR)  
b) Compare the various types of blotting techniques.                      2 X 5 = 10
21. a) What is endosperm? Explain the types. (OR)  
b) Mention the name of man made cereal. How it is formed.

**BIO - ZOOLOGY ( PART- A)**

8 X 1 = 8

**I Choose the correct answer.**

1. The mode of sexual reproduction in bacteria is by .....  
a) formation of gametes                      b) endospore formation  
c) conjugation                                      d) zoospore formation
2. Colostrum is rich in .....  
a) IgE    b) IgA    c) IgD    d) IgM
3. Match column I a with column II and select the correct option from the codes given below  

<b>Column I</b>	<b>Column II</b>
A. Copper releasing IUD	i) LNG - 20
B. Hormone releasing IUD	ii) Lippes loop IUD
C. Non medicated IUD	iii) Saheli
D. Mini pills	iv) Multiload - 375
a) A - iv, B - ii, C - i, D - iii	b) A - iv, B- i, C - iii, D - ii
c) A - i, B- iv, C - ii, D - iii	d) A - iv, B- i, C - ii, D - iii
4. Down's syndrome is the trisomic condition of chromosome .....  
a) 21    b) 10    c) 13    d) 20
5. Transcription in prokaryotes condition of chromosome .....  
a)  $\beta$     b)  $\gamma$     c)  $\rho$     d) s
6. Which one of the following is not involved in DNA replication?  
a) DNA polymerase                      b) RNA polymerase                      c) Helicase                      d) DNA ligase
7. The Neanderthal man had the brain capacity of  
a) 650 - 800 cc                      b) 1200 cc                      c) 900 cc                      d) 1400 cc
8. African sleeping sickness is a ..... disease.  
a) Bacterial                      b) protozoan                      c) viral                      d) fungal

**PART- B****II Answer any four questions.**

4 X 2 = 8

9. What is called apolysis?
10. How sexually transmitted disease can be prevented?
11. State Weiner-hypothesis.
12. What is an operon?
13. What are coacervates?
14. Write the immunological function of skin.

**PART- C****III Answer any three question. (Q. No. 19 is compulsory)**

3 X 3 = 9

15. Compare Monozygotic and Dizygotic twins.
16. What is Karyotyping? Mention its applications.
17. State the goals of Human Genome project.
18. Mention any three objectives of Darwinism.
19. Describe the structure of Immunoglobulin with a diagram.

**PART- D****IV Answer the following question.**

2 X 5 = 10

20. a) Describe the types of allosomal aneuploidy in human beings. (OR)  
b) Discuss the salient features of genetic code.
21. a) Explain Hardy - Weinberg equilibrium and its assumptions. (OR)  
b) How active immunity differs from passive immunity.

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