

QUARTERLY EXAMINATION - 2024

CLASS: XII

BIOLOGY

Reg.No

Time : 3.00 Hours

BIO-BOTANY

MAX MARKS : 70

MARKS : 35

SECTION - I

Answer all the Questions :

8x1=8

Choose the most correct answer from the given alternate answer and write with its symbols.

1. External fertilization occurs in
a) Angiosperms b) Bryophytes c) Algae d) Gymnosperms
2. If the haploid number of chromosome of a cell is 16.
The double monosomic and trisomic number will be
a) 30 and 33 b) 34 and 35 c) 37 and 35 d) 17 and 19
3. Totipotency refers to
a) Capacity to generate genetically identical plants
b) capacity to generate a whole plant from any plant cell / explant
c) Capacity to generate hybrid protoplasts
d) recovery of healthy plants from diseased plants
4. Which is the biologically degradable and biologically active thermoplastic?
a) Lactic acid b) Polylactic acid c) Green fluorescent protein d) Polyhydroxybutyrate
5. Which mendelian idea is depicted by a cross in which the F1 generation resembles both the Parents
a) Incomplete dominance b) Law of dominance c) Inheritance of one gene d) co.dominance
6. Choose the correct statement (s) about tenuinucellat le
a) Sporogamous cell is sub hypodermal b) Ovule - ve fairly large nucellus
c) Sporogenous cell is epidermal d) Ovules e single layer of nucellus tissue
7. Which of the following plant is an example for atavism in plants?
a) *Antirrhinum* b) *Capsella bursa pastoris* c) *Mirabilis jalapa* d) *Hieracium pilosella*
8. Who is called as father of Tissue culture?
a) Alfred H sturtevant b) C.B. Bridges c) Karpechenko d) Gottlieb Haberlandt

SECTION - II

Answer any Four of the following

4x2=8

9. What is called Pollinium? Give an example
10. Define : Test Cross
11. Differentiate - Crossing over and Translocation
12. What are the materials used to grow micro organism like spirulina?
13. What do you mean embryoids?
14. What is called Mellitophily?

SECTION - III

Answer any Three of the following. Question number 19 is compulsory.

3x3=9

15. The endosperm of an angiosperm is different from gymnosperm.
Do you agree ? justify your answer
16. What is meant by cytoplasmic inheritance?
17. Differentiate - linkage and crossing over
18. Write the advantages of artificial seeds
19. What do you know about pBR322 ?

SECTION - IV

Answer all the questions.

2x5=10

20. a) Give a detailed account on parthenocarpy . Add a note on its significances (OR)
b) Explain the mechanism of crossing over
21. a) Mention the applications of Biotechnology (OR)
b) Explain the basic concepts of tissue culture

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PART-I

Note : I. Answer all the Questions

II. Choose most appropriate answer from the given alternatives and write the Option code and corresponding answer

8x1=8

- What is the type of asexual reproduction seen in Aurelia.
 - Encystment
 - Strobilation
 - Binary fission
 - Sporulation
- The smallest human cell is
 - Ovum
 - Sperm
 - Epithelial cell
 - Follicular cell
- Colostrums is rich in
 - Ig E
 - Ig A
 - Ig D
 - Ig M
- Who discovered antigens on the surface of rbc and epithelial cells?
 - Bernstein
 - Landsteiner
 - a.wiener
 - Bertram
- A contraceptive pill prevents ovulation by
 - blocking fallopian tube
 - inhibiting release of FSH and LH
 - stimulating release of FSH and LH
 - causing immediate degeneration or released ovum
- Which of the following is the correct sequence of event with reference to the central dogma?
 - Transcription, Translation, Replication
 - Transcription, Replication, Translation
 - Duplication, Translation, Transcription
 - Replication, Transcription, Translation
- The wings of birds and butterflies is an example of
 - Adaptive radiation
 - convergent evolution
 - divergent evolution
 - Variation
- Match th following with correct sequence

Disease	-	Pathogens	A	B	C	D
a) Typhoid	-	I - wucherecia bancrofti	a. III	IV	I	II
b) Pneumonia	-	II - plasmodium	b. II	I	III	IV
c) Filariasis	-	III - salmonella	c. IV	I	II	III
d) Malaria	-	IV - sreptococcus	d. I	III	II	IV

PART-II

Answer any four of the following question. Question No. 14 is compulsory.

4x2=8

- What is apolysis?
- What are the 4 main functions of the reproductive system?
- Differentiate between foeticide and infanticide
- Write the application of karyotyping?
- What is corpolite?
- Suggest some way to prevent drug and alcohol abuse

PART-III

Answer any three of the following question 19 is compulsory

3x3=9

- Draw a picture of mature sperm and label the parts?
- How are sexually transmitted disease spread?
- State any three goals of the Human Genome Project
- Mention the Symptoms of phenylketonuria
- How are malaria vectors distinguished from chikungunya?

PART-IV

Answer all the question and draw pictures wherever necessary

5x2=10

- Describe the structure of the human ovum with a neat labeled diagram [OR]
What about the salient features of genetic code?
- What are the main objections to Darwinian theories? [OR]
Illustrate structure of immunoglobulin with suitable diagram