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Reg. No.

Quarterly Examination - 2022

BIOLOGY

Time : 3.00 hrs. Max. Marks : 70

PART - A

BIO - BOTANY (35 Marks)

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

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

1. Pollen tube was discovered by _____
   a) J.G.Kolreuter b) G.B.Amici c) E.Strasburger d) E.Hanning.
2. "Gametes are never hybrid". This is a statement of _____
   a) Law of dominance b) Law of Independent Assortment.
   c) Law of Segregation d) Law of random fertilization.
3. Assertion (A) : Gamma rays are generally used to induce mutation in what varieties.
   Reason (R) : Because they carry lower energy to non-ionize electrons from atom.
   a) A is correct ; R is correct explanation of A.
   b) A is correct ;R is not correct explanation of A.
   c) A and R are correct. d) Both A and R is wrong.
4. In which techniques Ethidium Bromide is used?
   a) Southern blotting techniques b) Western blotting techniques
   c) Polymerase Chain Reaction d) Agarose gel Electrophoresis.
5. Match the following:

Column 'A'	Column 'B'
1. Exo nuclease	A) Add or remove phosphate
2. Endo nuclease	B) binding the DNA fragments
3. Alkaline Phosphatase	C) cut the DNA at terminus
4. Ligase	D) cut the DNA at middle.

	1	2	3	4
a)	A	B	C	D
b)	C	D	B	A
c)	A	C	B	D
d)	C	D	A	B

6. Solidifying agent used in plant tissue culture is
   a) Nicotine acid b) Cobaltous chloride c) EDTA d) Agar
7. Orthotropous type of ovule found in _____
   a) Polygonaceae b) Primulaceae c) Cactaceae d) Leguminosae.
8. Select the incorrect pair:
   a) Incomplete dominance - 1:2:1 b) Dominant Epistasis – 12:3:1
   c) Test cross of mono hybrid cross – 1:1:1:1 d) Dihybrid cross – 9:3:3:1

PART - B

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

9. What is Mellitophily?
10. Define hybrid vigour or heterosis.
11. What is genetic map?
12. What is Bio remediation?
13. Write any two advantages of Bt cotton.
14. What is Totipotency?

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PART - C

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

15. List out any three functions of Tapetum.
16. Write a note on PBR 322 plasmid.
17. Draw the structure of an Angiospermic ovule and label any four parts.
18. Write the significance of crossing over.
19. Give an account on Crypreservation.

Part - D

IV. Answer the following questions : **2 x 5 = 10**

20. a) What is Endosperm? Explain its types. **(OR)** b)Write the significances of Ploidy.
21. a) What is SCP? Write the applications of single cell protein? **(OR)**
    b) List out the advantages of Artificial seeds.

BIO - ZOOLOGY (35 Marks)

SECTION - 1

Note: 1. Answer all the questions. **8 x 1 = 8**

2. Choose the most appropriate answer from the given FOUR alternatives and write the option code and the answer.

1. In which type of parthenogenesis are only females produced?
   A) Arrhenotoky b) Thelytoky c) Amphitoky d) Both A and B
2. Colostrum is rich in _____ a) Ig E b) Ig A c) Ig D d) Ig M
3. Which of the following is a fungal STI? a) Syphilis b) Gonorrhoea c) AIDS d) Candidiasis
4. What can be the blood group of offspring when both parents have AB blood group?
   a) AB only b) A,B and AB c) A,B,AB and O d) A and B only
5. Which of the following acts as a initiator codon? a) AUG b) GUA c) UAA D) UAG
6. The book Philosophic Zoologique was published by _____
   a) Charles Darwin b) Lamarck c) Weismann d) Hugo de Vries
7. Allergy involves _____ a) Ig E b) Ig G c) Ig D d) Ig M
8. Which is called as the queen of drugs?a) Bacitracin b) Tetracycline c) Penicillin d) Neomycin

SECTION - 2

Answer any four questions. **4 x 2 = 8**

9. In which conditions encystment occurs in Amoeba?
10. Draw and label the structure of human sperm.
11. Expand the following. a) ZIFT b) GIFT
12. How is milk converted into curd?
13. Name the corresponding anticodons for the codons given below.
    AAU, CGA,UAU and GCA
14. Write short notes on cholera.

SECTION - 3

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

15. Mention the importance of the position of testes in Human.
16. What is amnio centesis? Why a statuory ban is imposed on the techniques?
17. Write a note on Kline Felter's Syndrome.
18. Name the enzymes and their role in lactose metabolism in E.Coli.
19. Mention any three objections to Darwinism.

SECTION - 4

Answer all the questions. **2 x 5 = 10**

20. a) Explain the various phases of the menstrual cycle. **(OR)** b)How is sex determined in human?
21. a) Differentiate between divergent and convergent evolution with one example each. **(OR)**
    b) Write briefly about mental depression, symptoms and ways to relive from it.

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