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Register No.

Time : 3.00 Hrs.

Quarterly Examination - 2023
BIOLOGY

Marks : 70

PART - I BIO - BOTANY
SECTION - I (Marks : 35)

Note : (i) Answer all the questions. ii) Choose the most appropriate answer from the given four alternatives and write the option code and corresponding answer **8 x 1 = 8**

1. Double fertilization, triple fusion is unique feature of
a) angiosperms b) gymnosperms c) pteridophytes d) algae
2. Size of the pollen grains in Myosotis a) 10 mm b) 20 mm c) 200 mm d) 2000 mm
3. "Father of Genetics" is a) P. Maheswari b) Mendel c) K.C. Mehta d) S.R. Kashyap
4. The dominant epistasis ratio is a) 9 : 3 : 3 : 1 b) 12 : 3 : 1 c) 9 : 3 : 4 d) 9 : 6 : 1
5. Changing the codon AGC to AGA represents
a) missense mutation b) nonsense mutation c) frameshift mutation d) deletion mutation
6. Virus free plants are developed from
a) organ culture b) meristem culture c) protoplast culture d) cell suspension culture
7. PBR - 322, BR stands for
a) Plasmid Bacterial Recombination b) Plasmid Bacterial Replication c) Plasmid Boliver and Rodriguez d) Plasmid Baltimore and Rodriguez
8. Golden rice is a variety of *Oryza sativa*, that have
a) precursor of Vit A b) precursor of Vit B12 c) precursor of Vit C d) precursor of Vit D

SECTION - 2**Note : Answer any four of the following questions.****4 x 2 = 8**

9. What is polyembryony?
10. Draw and label the parts of the structure of ovule.
11. What is back cross?
12. Define - Crossing over.
13. Mention the two algae which is used as production of scp.
14. Define - cryopreservation.

SECTION - 3**Note : Answer any 3 of the following questions. Q.No.19 is compulsory.****3 x 3 = 9**

15. Mention the types of ovules.
16. What is meant by cytoplasmic inheritance?
17. What is gene mapping? Write its uses.
18. What is bioremediation? Give some examples of bioremediation.
19. Write the advantages of artificial seeds.

SECTION - 4**Note : Answer all questions.****2 x 5 = 10**

20. a) Give a detailed account on parthenocarpy. Add a note on its significance.
(OR)
b) Explain the law of dominance in monohybrid cross.
21. a) Mention the applications of Biotechnology.
(OR)
b) Write the applications of plant tissue culture.

PART - II BIO - ZOOLOGY
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 corresponding answer **8 x 1 = 8**

1. Allergy involves a) IgG b) IgE c) IgA d) IgM
2. Which period was called "Age of fishes"? a) Permian b) Triassic c) Devonian d) Ordovician
3. The total number of nitrogenous bases in human genome is estimated to be about
a) 3.5 million b) 35 million c) 3500 d) 3.1 billion
4. Patau's syndrome was also referred to as
a) 13 - Trisomy b) 21 - Trisomy c) 18 - Trisomy d) none of these
5. Match Column I with Column II and select the correct option from the codes given below.

Column I	-	Column II
A) Copper releasing IUD	-	i) LNG - 20
B) Hormone releasing IUD	-	ii) Lippes loop IVD
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)
6. The male sex hormone testosterone is secreted from
a) sertoli cells b) epididymis c) Leydig's cell d) prostate gland
7. Colostrum is rich in a) IgE b) IgA c) IgD d) IgM
8. In which type of parthenogenesis are only males produced?
a) Thelytoky b) Amphitoky c) Arrhenotoky d) Both a and b

SECTION - B

4 x 2 = 8

Answer any 4 of the following

9. Differentiate : Binary fission in Amoeba and multiple fission in plasmodium.
10. What is inhibin? State its functions.
11. Differentiate foeticide and infanticide
12. If the coding sequence in a transcription unit is written as follows.
5' TGCATGCATGCATGCATGCG3' write down the sequence of mRNA.
13. List out the major gases seems to found in the primitive earth.
14. Why do you think it is not possible to produce vaccine against 'common cold'?

SECTION - 3

3 x 3 = 9

Answer any 3 of the following. Question No.19 is compulsory.

15. What are interferons? Mention their role.
16. Rearrange the descent in human evolution.
Austrolopithecus → Homo erectus → Homo sapiens → Ramapithecus → Homo habilis.
17. State any three goals of the human genome project.
18. What are the applications of karyotyping.
19. What is Amniocentesis?

SECTION - 4

2 x 5 = 10

Answer all the questions.

20. Explain the different kinds of syngamy among living organisms. (OR)
Give a schematic representation of spermatogenesis and oogenesis in humans.
21. Explain the genetic basis of ABO blood grouping in man. (OR)
What are vaccines. Explain its types.