

Class : 12

Register  
Number

## COMMON HALF YEARLY EXAMINATION - 2023 - 24

Time Allowed : 3.00 Hours]

## BIOLOGY

Part - I (Bio-Botany) (Marks : 35)

[Max. Marks : 70

## Section - I

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 corresponding answer.

- pBR 322, pBR stands for
  - Plasmid Bacterial Recombination
  - Plasmid Bacterial Replication
  - Plasmid Boliver and Rodriguez
  - Plasmid Baltimore and Rodriguez
- Which of the following is not a sedimentary cycle.
  - Nitrogen Cycle
  - Phosphorous Cycle
  - Sulphur Cycle
  - Calcium Cycle
- Arrange the correct sequence of ecological hierarchy starting from lower to higher level.
  - Individual Organism → Population → Landscape → Ecosystem
  - Landscape → Ecosystem → Biome → Biosphere
  - Community → Ecosystem → Landscape → Biome
  - Population → Individual organism → Biome → Landscape
- Size of pollen grain in Myosotis.
  - 10 micrometer
  - 20 micrometer
  - 100 micrometer
  - 200 micrometer
- In his classic experiments on Pea plants, Mendel did not use.
  - Flower Position
  - Seed Colour
  - Pod Length
  - Seed Shape
- Statement I : Coffee contains Coffeine  
Statement II : Drinking coffee enhances Cancer
  - Statement I is correct, Statement II is wrong
  - Both Statement I and II are correct
  - Statement I is wrong, Statement II is correct
  - Both Statement I and II are wrong.
- Which of the following is incorrectly paired?
  - Wheat - Himgiri
  - Milch Bread - Sahiwal
  - Rice - Ratna
  - Pusa Komal - Brassica
- The unit for measuring ozone thickness.
  - Joule
  - Kilo
  - Dobson
  - Watt

## SECTION - B

II. Answer any four questions.

4x2=8

- What is Co evolution? 121
- Which is called as the "King of Bitters"? Mention their medicinal importance. 197
- Draw and label the structure of Dicot mature embryo. 23
- Differentiate Linkage and Crossing Over. 54
- What is meant by Atavism. 46
- Define the term Heterosis. 177

## SECTION - C

III. Answer any three questions. Question No. 19 is compulsory.

3x3=9

- Characteristic of Entomo Philous Flowers? 17
- What is Artificial Seeds? Write two advantages. 102, 103
- What is Ecological Hierarchy? Name the levels of Ecological Hierarchy. 110
- What is Biofortification? 84
- Draw and Pyramid from following details and Explain in brief.  
Quantities of Organisms are given Hawks - 50, Plants - 1000, Rabbit and Mouse - 250 + 250,  
Pythons and Lizard - 100 + 50 respectively. 139

## SECTION - D

IV. Answer all the following:

2x5=10

- (a) How will you prepare an organic pesticide for your Home Garden with the vegetables available from your Kitchen? 200 (OR)
- (b) Mention the name of man - made Cereal. How it is formed. 63, 64
- (a) What is Endosperm. Explain the types. 21 (OR)
- (b) Mention the application of Biotechnology. 88

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PART - II ( BIO-ZOOLOGY) (Max. Marks: 35)  
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 the corresponding answer. 8x1=8

- The relationship between Sucker fish and Shark is -----  
a) Competition  b) Commensalism   
c) Predation  d) Parasitism
- Select the incorrect action of Hormonal Contraceptive pills from the following.  
a) Inhibition of Spermatogenesis  b) Inhibition of Ovulation   
c) Changes in cervical mucus impairing its ability to allow passage and transport of sperms.   
d) Alteration in Uterine Endometrium to make it unsuitable for implantation.
- In the E - waste generated by the Mobile phones, which among the following metal is most abundant?  
a) Copper  b) Silver  c) Palladium  d) Gold
- How many amino acids are arranged in the two chains of Insulin?  
a) Chain A has 12 and Chain B has 13 amino acids   
b) Chain A has 21 and Chain B has 30 amino acids   
c) Chain A has 20 and Chain B has 30 amino acids   
d) Chain A has 12 and Chain B has 20 amino acids
- In humans which of the following undergoes meiosis II?  
a) Second Polar Body  b) Spermatogonia   
c) Secondary Oocyte  d) Both (a) and (c)
- Klinefelter's Syndrome is characterized by a Karyotype of  
a) XYY  b) XO  c) XXX  d) XXY
- Large holes in "Swiss Cheese" are due to production of large amount of CO<sub>2</sub> by ----- bacterium.  
a) Leuconostoc Mesenteroides  b) Propionibacterium Sharmanii   
c) Thermococcus Proteus  d) Staphylococcus Thermophilus
- Which among the following is the criterion for determination of "Biodiversity Hot Spot" -  
a) Very high level of species richness   
b) High degree of habitat loss and fragmentation   
c) High degree of Endemism  d) High degree of Extinction of species

## SECTION - B

II. Answer any four of the following in One or two sentences.

4x2=8

- What is Anaphylaxis? 127
- What is Acclimatisation? 167
- Name the methods used to determine the age of Fossils? 92
- What are the effects of Noise Pollution? 208
- Saccharomyces Cerevesiae is called as Brewer's Yeast. Justify. 141
- Colostrum is essential for Infant. Give reason. 24

## SECTION - C

III. Answer any 3 of the following. Question No. 18 is compulsory.

3x3=9

- Who disproved Lamarck's Theory of acquired characters? How? 96
- Write any three uses of Transgenesis. 18, 156
- Differentiate between r - selected and k - selected species. 176
- A particular amino acids leads to mental retardation, When it starts accumulating in the brain after conversion.  
a) Identify the amino acid? Phenylalanine  b) Which type of disorder is it called? Phenylketonuria   
c) What is the product formed when the enzyme is present? Tyrosine
- How is Poly Spermy avoided in Humans? 21

## SECTION - D

IV. Answer in Detail.

2x5=10

- To overcome the population explosion, birth control is the only available solution. Explain the various barrier methods to control Human Population. 34, 35 (OR)  
b) List out the various causes of Biodiversity Losses. 189
- a) Draw and explain the structure of Peripheral Lymphoid Organ. 120, 121 (OR)  
b) What is VNTR Sequence? Write the applications of DNA Fingerprinting.

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