

B**COMMON HALFYEARLY EXAMINATION- 2023****Standard - XII****Time : 3.00 hrs****BIOLOGY****Marks: 70****BIO-BOTANY****Marks: 35****Part - I****I. Answer all questions.****8×1=8**

- 1) The example for vegetative reproduction in root is
 - a) Curcuma longa
 - b) Dalbergia
 - c) Musa paradisiaca
 - d) Zingiber officinale
- 2) The number of Chromosomes present in Arabidopsis
 - a) 1262
 - b) 216
 - c) 10
 - d) 16
- 3) Which of the following one is used as a Biosensors?
 - a) Electrophoresis
 - b) Bioreactors
 - c) Vectors
 - d) Electroporation
- 4) Callus → _____

↗ Shoots (Caulogenesis) ↘

↘ Roots (Rhizogenesis) ↗

Plantlets

 - a) Redifferentiation
 - b) Differentiation
 - c) Totipotency
 - d) Dedifferentiation
- 5) Which of the following is not a sedimentary cycle
 - a) Nitrogen Cycle
 - b) Phosphorus Cycle
 - c) Sulphur Cycle
 - d) Calcium Cycle
- 6) The plant indicator for heavy metal contamination is
 - a) Lichens
 - b) Petunia
 - c) Gladiolus
 - d) Robinia pseudoacacia
- 7) Who developed World's first cotton hybrid
 - a) N.G.P.Rao
 - b) C.T. Patel
 - c) B.P. Pal
 - d) K. Ramiah
- 8) Trans-tetra hydrocannabinol is the active principle in
 - a) Justicia adhatoda
 - b) Dalbergia latifolia
 - c) Marijuana
 - d) Phyllanthus amarus

(2)

XII BIOLOGY

Part - II

II. Answer any four questions:-

4×2=8

- 9) List any two strategy adopted by bisexual flowers to prevent self pollination.
- 10) Define Atavism with example.
- 11) What is bioventing?
- 12) Write any two advantages of Artificial seeds
- 13) What is Co-evolution?
- 14) Write any two uses of "Dates of India"?

Part - III

III. Answer any three questions. Q.No.19 is compulsory:-

3×3=9

- 15) A person got irritation while applying chemical dye. What would be your suggestion for alternative?
- 16) Write any three effects of CO₂ gas on plant growth.
- 17) Define CCS
- 18) Write the differences between Synonymous and Non-synonymous mutation.
- 19) Draw a diagram of PBR 322 plasmid.

Part - IV

All questions are compulsory:-

2×5=10

- 20) Write the advantages of conventional methods in artificial propagation

[or]

Describe dominant epistasis with an example.

- 21) Write the applications of plant Tissue culture.

[or]

What are the benefits of Agroforestry.

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(3)
BIO-ZOOLOGY
 Part - I

XII BIOLOGY

Marks: 35

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 the corresponding answer.

- 1) Inhibin hormones secretes form
 - a) Sertoli cells
 - b) Nurse cells
 - c) Spermatogonic cells
 - d) All the above
- 2) ABO blood group in man is controlled by
 - a) Multiple alleles
 - b) Lethal genes
 - c) Sex linked genes
 - d) X-linked genes
- 3) When lactose is present in the culture medium
 - a) Transcription of $lac y$, $lac z$, $lac a$ genes occurs
 - b) Repressor is unable to bind to the operator
 - c) Repressor is able to bind to the operator
 - d) Both (a) and (b) are correct
- 4) _____ can be confirmed by Widal test
 - a) Typhoid
 - b) Cholera
 - c) Diphtheria
 - d) AIDS
- 5) How many amino acids are arranged in the two chains of Insulin?
 - a) Chain A has 12 and Chain B has 13
 - 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
- 6) Predation and parasitism are which type of interactions?
 - a) (+, +)
 - b) (+, 0)
 - c) (--, --)
 - d) (+, --)
- 7) The organization which published the red list of species is
 - a) WWF
 - b) IUCN
 - c) ZSI
 - d) UNEP
- 8) SMOG is derived from
 - a) Smoke
 - b) Fog
 - c) Both A and B
 - d) Only A

(4)

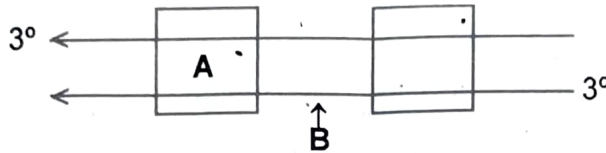
XII BIOLOGY

Part - II

Note: Answer any four questions.

4×2=8

- 9) Write different types of binary fission?
- 10) Differentiate foeticide and infanticide?
- 11) Name the parts marked 'A' and 'B' in the given transcription unit:



- 12) List out three major categories in which fossilization occur?
- 13) Define - Oenology
- 14) Explain hibernation and aestivation with examples.

Part - III

Note:- Answer any three questions.**Question No.19 is compulsory:-**

3×3=9

- 15) Draw a labeled sketch of Spermatozoan.
- 16) What is multiple allele?
- 17) Who disproved Lamarck's Theory of acquired characters? How?
- 18) How was Insulin obtained before the advent of rDNA technology? What were the problems encountered?
- 19) Define - 4R.

Part - IV

Note:- Answer all questions:-

2×5=10

- 20) a) Briefly explain about Invitro fertilization (IVF) or Test tube baby.
[or]
b) It is established that RNA is the first genetic material. Justify giving reasons.
- 21) a) Explain the structure of immunoglobulin with suitable diagram.
[or]
b) Mention the major threats to biodiversity caused by human activities. Explain.

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