

VNR12Bio

Virudhunagar District
Common Half Yearly Examination - December 2024

Standard 12 BIOLOGY

Time: 3.00 Hours

Marks: 70

Note: Answer Part - I [Bio-Botany] and Part II [Bio-Zoology] in separate answer sheets.

PART - I [Bio-Botany]

Marks: 35

Section - 1

Note: i) Answer all the questions

8×1=8

ii) Choose the appropriate answer and write the option code and the corresponding answer.

- 1) Which of the following represent Megagametophyte?
a) Nucellus b) Ovule c) Endosperm d) Embryo Sac
- 2) The Dominant Epistasis ratio is
a) 9 : 3 : 4 b) 9 : 3 : 3 : 1 c) 9 : 6 : 1 d) 12 : 3 : 1
- 3) In which techniques Ethidium Bromide is used?
a) Southern Blotting Techniques b) Western Blotting Techniques
c) Polymerised Chain Reaction d) Agarose Gel Electrophoresis
- 4) Choose the process in which plants can be regenerated from the explant
a) Somatic embryogenesis b) Tissue Culture
c) Proteoplasmic fusion d) Meristem Culture
- 5) In mimicry which of the following belongs to floral mimicry
a) Carausium morosus b) Ophrys orchid
c) Phyllum frandosum d) Acacia ants
- 6) Deforestation does not lead to
a) Alternation of local weather conditions
b) Quick nutrient cycling
c) Destruction of natural habitat weather condition
d) Soil erosion
- 7) Wheat varieties of sonora 63, Sonora 64 introduced from
a) China b) Phillipines c) Mexico d) Germany
- 8) Tectona grandis is coming under the family
a) Dipterocarpaceae b) Lamiaceae
c) Ebenaceae d) Fabaceae

Section - 2

Answer any four of the following questions

4×2=8

- 9) What is stomium
- 10) Give the names of the scientists who rediscovered mendelism.
- 11) What do you know about the word pBR 322?
- 12) What is Co-evolution?
- 13) Construct the food chain with the following data.
Hawk, Plants, Frog, Snake, Grasshopper
- 14) Give definitions for organic farming.

Section - 3

Answer any three of the following questions. Q.No. 19 is compulsory.

3×3=9

- 15) List out the functions of tapetum
- 16) List any three significance of ploidy
- 17) What is Ecological Hierarchy? Name the levels of Ecological hierarchy.
- 18) What are the materials used to grow micro-organism like spirulina?
- 19) Give any three objective of plant breeding.

Section - 4

Answer all the questions.

2×5=10

- 20) a) Give a detailed account on parthenocarpy, add a note on its significance
(OR)
b) Differentiate incomplete dominance and co-dominance
- 21) a) Explain different types of Hydrophytes with example.
(OR)
b) Write the economic importance of Rice and Teak

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PART - II [BIO-ZOOLOGY]

Marks: 35

8x1=8

I. Choose the correct answer:

- 1) In which mode of reproduction variations are seen
 a) Asexual b) Parthogenesis c) Sexual ✓ d) Both a and b
- 2) Match column I with column II and select the correct option from the codes given below:

Column I

- A) Copper releasing 100
 B) Hormone releasing
 C) Non medicated 100
 D) Mini pills

Column II

- i) LNG - 20
 ii) Lippes loop 100
 iii) Saheli
 iv) Multiload - 375

- a) A-(iv), B-(ii), C-(i), D-(iii)
 c) A-(i), B-(iv), C-(ii), D-(iii)
- 3) Three children of a family have blood group A, AB and B. What would be the genotypes of their parents?
 a) $I^{A}I^{B}$ and $I^{O}I^{O}$
 c) $I^{B}I^{B}$ and $I^{A}I^{A}$
 b) $I^{A}I^{O}$ and $I^{B}I^{O}$ ✓
 d) $I^{A}I^{A}$ and $I^{O}I^{O}$
- 4) An RNA molecule is produced by
 a) Replication b) Transcription ✓ c) Duplication d) Translation
- 5) The golden age of reptiles was
 a) Mesozoic era ✓ b) Cenozoic era c) Paleozoic era d) Proterozoic era
- 6) Competition between species leads to
 a) Extinction ✓ b) Mutation c) Amensalism d) Symbiosis
- 7) Which one of the following is not coming under insitu conservation?
 a) Sanctuaries b) Natural parks
 c) Zoological park ✓ d) Biosphere reserve
- 8) The 'thickness' of strato spheric ozone layer is measured in / on
 a) Sieverts units b) Dobson units ✓ c) Melson units d) Beaufort scale

II. Answer any four questions:

- 9) What is self pollination?
 10) What is ovulation?
 11) Name an organism where cell division is itself a mode of reproduction.
 12) What is vaccine? What are its type?
 13) What is Bioremediation?
 14) Define ecological Niche.

4x2=8

III. Answer any three of the following:

- 15) What is inhibin? State its function.
 16) What is surrogacy? (or) How can one woman carry a pregnancy for another woman?
 17) State any three goals of the human genome project.
 18) Write single cell protein and its uses.
 19) Differentiate between somatic cell gene therapy and germline gene therapy.

3x3=9

IV. Answer all questions:

- 20) a) Write any five assisted reproductive technology.

2x5=10

(OR)

- b) Explain the genetic basis of ABO blood grouping in man.
 21) a) Explain the structure of immunoglobulin with suitable diagram.

(OR)

- b) List out the various causes for biodiversity losses.