

Virudhunagar District
Common First Revision Examination - 2025

012049

Time: 3.00 Hours

Standard 12
BIOLOGY
Part - I (BIO-BOTANY)
Section - 1

Marks: 70
Marks: 35

8x1=8

Answer all the questions

- 1) First cell of female gametophyte in angiosperm is
 - a) Microspore
 - b) Megaspore
 - c) Nucleus
 - d) primary Endosperm Nucleus
- 2) Find out the correct pair
 - a) Duplicate genes - 15 : 1
 - b) Supplementary genes - 9 : 7
 - c) Inhibitor genes - 9 : 3 : 4
 - d) Complementary genes - 13 : 3
- 3) Which is frequently used as reporter of expression
 - a) GMF
 - b) Circular protein
 - c) GFP
 - d) PLA
- 4) Which of the following statement is correct
 - a) Agar is not extracted from marine algae such as sea weeds
 - b) Callus undergoes differentiation and produces somatic embryoids
 - c) Surface sterilization of explants is done by using mercuric bromide
 - d) pH of the culture medium is 5.0 to 6.0
- 5) Match

| | |
|-------------------------|---------------------------------|
| I) Holard | - Water goes to water table |
| II) Chresard | - Water not available to plants |
| III) Echard | - Total soil water in soil |
| IV) Gravitational water | - water available to plants |

| | | | | |
|----|----------|-----------|------------|-----------|
| | I | II | III | IV |
| a) | iii | iv | i | ii |
| b) | iii | ii | iv | i |
| c) | iii | iv | ii | i |
| d) | iii | i | ii | iv |
- 6) In which year Nagapattinam, Tanjore, Thiruvavur districts are affected by KAJA storm
 - a) October 2018
 - b) December 2017
 - c) November 2018
 - d) December 2019
- 7) **Assertion (A)** : Gamma rays are generally use to induce mutation in wheat varieties
Reason (R) : Because they carry lower energy to non-ionize electrons from atom
 - a) A and R are correct
 - b) A is correct R is wrong
 - c) A is wrong R is correct
 - d) A and R are wrong
- 8) An example for Dioecious plant
 - a) carica
 - b) castor
 - c) maize
 - d) coconut

Section - 2**Answer any four of the following**

4x2=8

- 9) Draw and label the parts of the first cell of male gametophyte
- 10) What is back cross
- 11) Differentiate missense, non-sense mutation.
- 12) How will you identify asymmetric cuts?
- 13) Define cybrid
- 14) What is Albedo effect?

Section - 3**Answer any three. Q.No. 19 is compulsory.**

3x3=9

- 15) What is seed ball?
- 16) Differentiate somodonal variations and Gametoclonal variations
- 17) Write the disadvantages of Bt cotton
- 18) Differentiate incomplete dominance and codominance
- 19) Draw and label the structure of Embryosac

V12Bio.

Section - 4

Answer all the questions

2×5=10

- 20) a) Explain T-s of Mature Anther (OR)
 b) Describe dominant epistasis with an example ✓
- 21) a) What are the steps involved in recombinant DNA technology (OR)
 b) What is gene mapping? Write its uses.

Part - II (BIO-ZOOLOGY)

Marks: 35

I. Answer all the questions

8×1=8

- 1) Find the wrongly matched pair
 a) Bleeding phase - fall in oestrogen and progesterone
 b) Follicular phase - rise in oestrogen
 c) Luteal phase - rise in FSH level
 d) Ovulatory phase - LH Surge
- 2) The permanent birth control in male is
 a) Appendectomy b) Vasectomy c) oral contraceptive d) Tubectomy
- 3) Which of the following is true about Rh factor in the progeny of the parental genotypic combination $I^A I^O \times I^A I^B$?
 a) AB b) O c) A d) B
- 4) Which of the following is the correct sequence of event with reference to the central dogma?
 a) Transcription, Translation, Replication
 b) Transcription, Replication, Translation
 c) Duplication, Translation, Transcription
 d) Replication, Transcription, Translation
- 5) Which of the following was the contribution of Hugo de Vries?
 a) Theory of Mutation b) Theory of natural selection
 c) Theory of inheritance of acquired characters d) Germplasm theory
- 6) Exo-erythrocytic schizogony of plasmodium takes place in
 a) RBC b) Leucocytes c) Stomach d) Liver
- 7) Match the pathogens with respective disease caused by them and select the correct match using the codes given below
 a) *Leishmania donovani* - i) Amoebiasis
 b) *Wuchereria bancrofti* - ii) Kala-azar
 c) *Trypanosoma gambiense* - iii) Sleeping sickness
 d) *Entamoeba histolytica* - iv) Filariasis
 a) A-ii, B-iv, C-iii, D-i b) A-ii, B-iv, C-i, D-iii
 b) A-iii, B-i, C-ii, D-iv d) A-i, B-iv, C-iii, D-ii
- 8) Cyclosporin - 8 is an immuno suppressive drug produced from
 a) *Aspergillus niger* b) *Monascus purpureus*
 c) *penicillium notatum* d) *Trichoderma polysporum*

II. Answer any four of the following

4×2=8

- 9) Why is the offspring formed by asexual reproduction referred as a clone?
 10) What is Inhibin? State its function
 11) Expand the following a) ZIFT b) ICSI
 12) Differentiate - Leading stand and Lagging stand
 13) What is connecting link?
 14) What is bio remediation? ✓

III. Answer any three of the following

3×3=9

- 15) Write the differences between multiple fission and sporulation in Amoeba?
 16) Placenta is an endocrine tissue - justify? ✓
 17) One women pregnancy for another women is it possible? and write its name?
 18) What are the applications of Karyotyping? ✓
 19) Write about single cell protein and its uses

IV. Answer the following

2×5=10

- 20) Describe the structure of the human Ovum with a neat labelled diagram (OR)
 What are multiple alleles? Describe their inheritance in human with example
 21) Explain Hardy Weinberg law. List any four factors that affect the genetic equilibrium? (OR)
 Explain the structure of immunoglobulin with suitable diagram.