



12th Standard

BIOLOGY

FIRST REVISION

TEST-2023

**Various District
Question Paper Collection**

FIRST REVISION TEST - 2023

Exam No. _____

Marks : 70

XII - BIOLOGY

Time : 3-00 Hours

Note : Candidate should answer Part-I (Bio-Botany) & Part-II (Bio-zoology) in separate answer-books.

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

SECTION - I

Note: 1) Answer all the questions. 2) Choose the correct answer. (8x1=8)

- Match

	a	b	c	d
a. Orthotropus	iii	iv	ii	i
b. Hemianotropus	iii	iv	i	ii
c. Amphitropus	i	ii	iii	iv
d. Circinotropus	i	ii	iv	iii

 - Cactaceae
 - Alismataceae
 - Polygonaceae
 - Primulaceae
- Select the period for Mendel's hybridization experiments
 - 1850-1857
 - 1853-1860
 - 1856-1863
 - 1859-1866
- An allohexaploidy contains
 - Six different genomes
 - Six copies of three different genomes
 - Two copies of three different genomes
 - Six copies of one genome
- EcoRI cleaves DNA at
 - AGGGTT
 - GTATATC
 - GAATTC
 - TATAGC
- Which one is in descending order of a food chain
 - Producers → Secondary consumers → Primary consumers → Tertiary consumers
 - Tertiary consumers → Primary consumers → Secondary consumers → Producers
 - Tertiary consumers → Secondary consumers → Primary consumers → Producers
 - Tertiary consumers → Producers → Primary consumers → Secondary consumers
- Find out the correct pair.
 - N₂ fixing biofertilizer - Bacillus subtilis
 - P solubilizing biofertilizer - Anabaena azollae
 - P mobilizing biofertilizer - Pseudomonas striata
 - Plant growth promoting Rhizobacteria - Pseudomonas fluorescence
- Observe the following statements and pick out the right option from the following

Statement I - Perfumes are manufactured from essential oils

Statement II - Essential oils are formed at different parts of the plants

 - Statement I is correct
 - Statement II is correct
 - Both statements are correct
 - Both statements are wrong
- One green house gas contributes 14% of total global warming and another contributes 6%. These are respectively identified as
 - N₂O and CO₂
 - CFCs and N₂O
 - CH₄ and CO₂
 - CH₄ and CFCs

SECTION - II

Note: Answer any four of the following questions.

(4x2=8)

- Define Genetics.
- What is sterilization?
- Define Deforestation.
- What is Mellitophily?
- What is phytoremediation?
- Write short notes on Beauveria species?

SECTION - III

Note: Answer any three of the questions. Question No.19 is compulsory.

(3x3=9)

- Write short notes on Sonora 64.
- Draw the labelled structure of Ti Plasmid.
- What is Albedo effect and write their effects?
- Write short notes on Heterosis?
- What is Ozone hole?

SECTION - IV

Note: Answer all the following questions.

(2x5=10)

- What is endosperm? Explain the types.
- What do know about the Artificial seed? Write its advantages.
- Draw a pyramid from the following details and explain in brief.
Quantities of Organism are given-Hawks-50, plants-1000, rabbit and mouse - 250+250, pythons and lizard -100+50 respectively.
- Write the origin and area of cultivation of green gram and red gram.

(PART - I) BIO - ZOOLOGY (Marks:35)**SECTION - I****Note: 1) Answer all the questions. 2) Choose the correct answer. (8x1=8)**

- Leydig cells secrete a hormone called _____.
a) Inhibin ☒ b) Testosterone c) Progesterone d) Oestrogen
- Which one of the following is 'Null' allele?
a) $I^A I^A$ b) $I^B I^B$ c) $I^A I^B$ ☒ d) $I^O I^O$
- An operon is a
a) Protein that suppresses gene expression
b) Protein that accelerates gene expression
☒ c) Cluster of structural genes with related function
d) Gene that switched other genes on or off
- Who proposed the Germplasm theory?
a) Darwin ☒ b) August Weismann
c) Lamarck d) Alfred Wallace
- Match the following**

1) Amoebiasis	i) Tsetse fly ²	<input checked="" type="radio"/> a) 1) iii, 2) i, 3) iv, 4) ii
2) African sleeping sickness	ii) Plasmodium ⁴	b) 1) iii, 2) i, 3) ii, 4) iv
3) Kala-azar	iii) House flies ¹	c) 1) iii, 2) ii, 3) i, 4) iv
4) Malarial fever	iv) Sand fly ³	d) 1) ii, 2) i, 3) iii, 4) iv
- Assertion(A):** Insulin Prevents diabetes Mellitus
Reason (R): Insulin helps to take glucose by the cells
 a) (A) is correct : but (R) is wrong
 b) (A) is wrong : but (R) is correct
 c) Both (A) and (R) are true, but (R) doesnot explain (A)
☒ d) Both (A) and (R) are true, (R) Explains (A)
- The relationship between sucker fish and shark is _____.
a) competition ☒ b) commensalism c) predation d) parasitism
- In the E-waste generated by the mobile phone which among the following metal is most abundant?
☒ a) copper b) silver c) chlorine d) florine

SECTION - II**Note: Answer any four of the following questions. (4x2=8)**

- Expand the following. a) ZIFT b) ICST
- Write two functions of codon - AUG.
- Which is referred to as 'Industrial alcohol'? Why?
- What is Eutrophication?
- What is meant by Totipotency?
- Write any two applications of finger printing.

SECTION - III**Note: Answer any three of the questions. Question No.19 is compulsory. (3x3=9)**

- Write a note on conjugation.
- Differentiate between divergent evolution and convergent evolution with one example for each.
- Write a short note on 'stem cell banks'.
- Differentiate between J-shaped and S-shaped growth curves.
- A character present in grandfather goes to grandson through daughter. Draw flow chart for this pattern of Inheritance.

SECTION - IV**Note: Answer all the following questions. (2x5=10)**

- a) Explain the permanent birth control methods. (OR)
 b) Explain any two genetical disorder diseases.
- a) Explain the structure of Thymus gland with neat diagram. (OR)
 b) Explain the major causes for biodiversity decline.

RM

XII - Std

Time : 3.00 Hrs

FIRST REVISION TEST - 2023

BIOLOGY

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Marks : 70

Bio - Botany

I Choose the correct answer :-

8 X 1 = 8

- Find the correct statements.
 - in zosteria pollination occurs upper surface of the water.
 - Vallisneria is a monoecious and pollinated inside the water.
 - Trap machanism seen in Aselepiadaceae
 - Piston machanism seen in panilionaceae
- Match :-

i. Chemical weapon	-	1. GFP
ii. Induced mutation in plants	-	2. Thermal neutrons
iii. Castor seeds	-	3. Dichloro ethylsulphide
iv. Aequorea victoria	-	4. Gamma rays

a) i-3 ii-4 iii-2 iv-1 b) i-3 ii-4 iii-1 iv-2 c) i-3 ii-2 iii-1 iv-4 d) i-1 ii-3 iii-2 iv-4
- Pick out the wrong pair.

a) Vincristine	-	Anti carcinogenic
b) Codeine	-	Analgesic
c) Capsaicin	-	Ear Pain treatment
d) Quinine	-	Antimalarial
- The Alkaloid Juglone inhibits the growth of seedlings of
 - Apple and Tomato
 - Apple and Sugarcane
 - Alfalfa and sugarcane
 - Tomato and sugarcane
- Total ozone layer over the earth surface is
 - 0.3cm
 - 3cm
 - 3 mtr
 - 0.3 DU
- Assertion (A) Breeding crop with Higher Level of vitamins and minerals or higher protein and healthier fats is called tissue culture
Reason (R) Growing plan protoplast, cells, tissues and organs under Natural condition in called tissue culture.
 - Both A and R correct
 - Both A and R wrong
 - A correct R wrong
 - A wrong R correct
- Which of the following indirectly increases carbon foot print
 - Kiwi
 - Litchi
 - Cherry
 - Berry
- Which of the following is used to stops platelets from clotting in arteries which leads to heart attack.
 - Tamarin
 - Alloin
 - Curcumin
 - Capsisine

PART - B

II Answer any four questions :-

4 X 2 = 8

- What is Back Cross?
- Write any two algae which are used for SCP.
- What you mean Embryoids?
- What is ozone hole?
- What is Pseudo cereal?
- Define Ecology?

PART - C

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

3 X 3 = 9

- Write a short note on Pollen Kitt.
- Explain the Machanism of crossing over.
- Write the three advantages of herbicide tolerant crops.
- Cryopreservation - Explain.
- What are seed balls?

PART - D

IV Answer in detail :-

2 X 5 = 10

- Draw and Label the Diagram of L.S. of Ovule. (OR)
 - What is gene Mapping? Write its uses.
- Describe the Dihybrid ratio of Mendel with suitable example. (OR)
 - Give an account of seaweed liquid fertilizer.

RM 12 EM Biology Page - 1

Bio - Zoology

Section - I

1. Answer all questions. 2. Choose the most appropriate answer :-

8 X 1 = 8

- This gland is most active during neonatal and pre - adolescent periods
a) Pineal gland b) Thymus c) Pituitary d) Thyroid
- The mode of reproduction in bacteria is by
a) Formation of gametes b) Endospore formation
c) Conjugation d) Zoospore formation
- A population will not exist in Hardy Weinberg equilibrium if
a) Individuals mate selectively b) There are no mutations
c) There is no migration d) The population is large
- World biofuel day is observed every year on
a) August 10th b) August 2nd c) August 5th d) August 20th
- The nature sperms are stored in the
a) Seminiferous tubules b) Vars deferens
c) Epididymis d) Seminal vesicle
- Match the following and choose the correct combination from the options given below

Column I	Column II
a) Mutualism	1. Lion and deer
b) Commensalism	2. Round worm and man
c) Parasitism	3. Birds compete with squirrels for nuts
d) Competition	4. Sea anemone on hermit crab
e) Predation	5. Barnacles attached to whales
a) A-4 B-5 C-2 D-3 E-1	b) A-3 B-1 C-4 D-2 E-5
c) A-2 B-3 C-1 D-5 E-4	d) A-5 B-4 C-2 D-3 E-1
- Which of the following is the correct sequence of event with reference to the central dogma of protein synthesis?
a) Transcription, Transduction, Replication b) Transcription, Replication, Translation
c) Duplication, Transcription, Translation d) Replication, Transcription, Translation
- Incineration, Chemical disinfection, autoclaving, encapsulation are the methods of waste disposal of
a) Plastic waste b) E - waste c) Medical waste d) Radioactive waste

Section - 2

Note : Answer any four of the following questions :-

4 X 2 = 8

- Differentiate in situ bioremediation from exsitu bioremediation.
- Write short note on ultrasound scanning.
- Draw a labelled sketch of lymph node.
- Write any two applications of PCR.
- What are the effects of the introduction of tilapia fish from South Africa?
- Placenta is an endocrine tissue - Justify.

Section - 3

Note : Answer any three of the following Q.No. 19 is a compulsory one :-

3 X 3 = 9

- What is Pathenogenesis? Mention its types.
- What is referred to as reverse transcription PCR?
- Mention the three periods of Mesozoic era.
- What are the applications of Karyotyping?
- Differentiate in situ conservation from exsitu conservation.

Section - 4

Answer the following :-

2 x 5 = 10

- Explain the different types of natural birth control measures. (OR)
Write down the applications of DNA fingerprinting technology.
- Tabulate the interactions between two species populations with examples. (OR)
Describe the various stages of Sewage treatment.

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Ranipet - DIST

R

FIRST REVISION TEST - 2023

Standard - XII

Time : 3.00 hrs

BIOLOGY

BIO-BOTANY

Section - A

Marks: 70

MARKS: 35

8×1=8

I. Choose the correct answer:-

- 1) First cell of male gametophyte in angiosperm is
a) Primary endosperm nucleus b) nucleus
c) megaspore d) microspore
- 2) Fruit colour in squash is an example of
a) inhibitory genes b) complementary genes
c) dominant epistasis d) recessive epistasis
- 3) Changing the codon AGC to AGA represents this type of mutation.
a) deletion b) Frameshift c) Nonsense d) Missense
- 4) Which of the following one is used as a biosensor.
a) Electroporation b) Vector c) bioreactor d) Electrophoresis
- 5) The prevention of large scale loss of biological integrity
a) Biofuel b) Biosafety c) Bioethics d) Biopatent
- 6) Sticky gends of Boerhaavia and cleome support
a) Hydrochory b) Autochory c) Zoochory d) Anemochory
- 7) Which of the following is not a sedimentary cycle.
a) Calcium b) Sulphur c) Phosphorus d) Nitrogen
- 8) The plants which are grown in Silviculture system are
a) Teak & Sandal b) Clitoria and begonia
c) Solenium and Crotalaria d) Sesbania and Acacia

Section - B

II. Answer any four questions:-

4×2=8

- 9) What is heterois?
- 10) Which is called as King of bitters?
- 11) What is endothelium?
- 12) What is meant by Cytoplasmic inheritance?
- 13) What is genemapping? Mention its uses.
- 14) What do you know about the word PBR 322.

Section - C

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

3×3=9

- 15) Give an account on Cryopreservation?
- 16) What is Vivipary? Name a plant group which exhibit Vivipary.
- 17) Construct the Food chain with the following data:-
Hawk, Plants, Frog, Snake, Grasshopper
- 18) Explain Carbon Sequestration (CCS)
- 19) Differentiate Primary introduction from Secondary introduction.

Section - D

IV. Answer the following questions:-

2×5=10

- 20) With suitable diagram explain the structure of Ovule.
[or]
Explain dominant epistasis with an example.
- 21) Enumerate the anatomical adaptations of xerophytes.
[or]
Generally human activities are against to the ecosystem. Whereas you a student.
How will you help to protect the ecosystem.

R

(2)
BIO- ZOOLOGY
Section - I

XII BIOLOGY**MARKS: 35****8×1=8**

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:

- 1) Which one of the following are at high risk extinction due to habitat destruction
 a) Amphibians b) Birds c) Mammals d) Echinoderms
- 2) Why *Saccharomyces cerevisiae* is more suitable for production of recombinant interferon than *E.coli*?
 a) *E.coli* does not possess the machinery for glycosylation of proteins
 b) *E.coli* cannot be used in bio fermentor
 c) *E.coli* does not have suitable plasmid for the production of proteins
 d) *E.coli* is not easily available for the production of proteins.
- 3) ELISA is mainly used for
 a) Selecting animals having desired traits b) Detection of mutations
 c) Detection of pathogens d) Selecting plants having desired traits
- 4) The mature sperms are stored in the _____
 a) Epididymis b) Seminiferous tubules
 c) Seminal vesicle d) Vas deferens
- 5) A mRNA molecule is produced by _____
 a) Duplication b) Replication c) Translation d) Transcription
- 6) Which period was called "Age of fishes"?
 a) Devonian b) Permian c) Ordovician d) Triassic
- 7) Meselson and Stahl's experiment proved _____
 a) Transduction b) Transformation
 c) DNA is the genetic material d) Semi - conservative nature of DNA Replication
- 8) Competition between species leads to _____
 a) Amensalism b) Extinction c) Symbiosis d) Mutation

Section - B

II. Note: Answer any four of the following questions:-

4×2=8

- 9) What is Surrogacy?
- 10) Write the cause of Down's Syndrome.
- 11) Who disproved Lamarck's theory of acquired characters? How?
- 12) Write any two differences between active and passive immunity.
- 13) Which is referred to as Industrial alcohol? Why?
- 14) What does gene therapy mean?

Section - C

III. Note: Answer any three of the following questions.

Question number 19 is compulsory:-

3×3=9

- 15) What is Amniocentesis? Why a statutory ban is imposed on this technique?
- 16) State the name of an immunosuppressant used in organ transplantation is produced from the fungus *Trichoderma polysporum* and state its uses.
- 17) Differentiate natality from Mortality?
- 18) Write about gene banks.
- 19) In the XY chromosomal system sex determination, males have only one X Chromosome, whereas female have two, How does the organism compensate for this dosage differences between the sexes?

Section - D

IV. Note: Answer the following questions:-

2×5=10

- 20) a) Explain the structure of Human Ovum with a neat labelled diagram. [or]
 b) Write the salient features Human Genome Project.
- 21) a) Explain the structure of Immunoglobulin with suitable diagram. [or]
 b) Write about the effects of chemicals used in the field of Agriculture.



TENKASI

Standard 12

Time Allowed: 3.00 Hours

BIOLOGY

Maximum Marks: 70

BIO-BOTANY

Marks: 35

8×1=8

I. Choose the correct answer:

- 1) Solidifying agent used in plant tissue culture is
a) Nicotinic acid b) Cobaltous chloride c) EDTA d) Agar
- 2) In which technique, Ethidium Bromide is used?
a) Southern blotting techniques b) Western blotting techniques
c) Polymerase chain reaction d) Agrose gel electroporosis
- 3) If haploid number in a cell is 18. The double monosomic and trisomic number will be
a) 35 and 37 b) 34 and 35 c) 37 and 35 d) 17 and 19
- 4) Match the following:

I. External fertilization	- i) Pollen grain
II. Androecium	- ii) Antherwall
III. Male gametophyte	- iii) Algae
IV. Primary parietal layer	- iv) Stamens

a) I-iv; II-i; III-ii; IV-iii b) I-iii; II-iv; III-i; IV-ii
c) I-iii; II-iv; III-ii; IV-i d) I-iii; II-i; III-iv; IV-ii
- 5) **Assertion** : Turmeric fights various kinds of cancer.
Reason : Curcumin is an anti-oxidant present in turmeric.
a) Assertion is correct; Reason is wrong.
b) Assertion is wrong; Reason is correct.
c) Both are correct.
d) Both are wrong.
- 6) The ozone layer of troposphere is called
a) Middle ozone b) Ozone shield c) Bad ozone d) Good ozone
- 7) From the following which one is the column of sterile tissue surrounded by the anther lobe.
a) Periplasmodium b) Pollen chamber c) Connective tissue d) Tapetum
- 8) The group of degradable biopolymers are
a) Cry IAC and DMH - II b) PHAs and PHB
c) GFP and PGA d) DMH and HT

II. Answer any four of the following:

4×2=8

- 9) Write short note on Pollen kitt.
- 10) What are multiple alleles?
- 11) Name the enzymes involved in genetic engineering.
- 12) What is pseudocereal? Give an example.
- 13) Define Food Web.
- 14) Define Habitat.

III. Answer any three of the following:

3×3=9

Q.No. 19 is compulsory.

- 15) Give an account on Cryopreservation.
- 16) What is Albedo effect? Write their effects.
- 17) Write a note on heterosis.
- 18) What is Energy flow?
- 19) Write a short note on pBR322 plasmid.

IV. Answer all the following:

2×5=10

- 20) a) With a suitable diagram, explain the structure of an ovule. (OR)
b) What is gene mapping? Write its uses.
- 21) a) How will you protect ecosystem? (OR)
b) Enumerate the anatomical adaptations of xerophytes.



BIO-ZOOLOGY

Section - A

Marks: 35

I. Answer all questions:

8×1=8

- Which is incorrectly matched?
 - Monocystis - Isogamy
 - Protozoa - Merogamy
 - Aphis - Paedogamy
 - Trichonympha - Hologamy
- Name the proteolytic enzyme present in the spermatid _____.
 - Testosterone
 - Hyaluronidase
 - Hyaluronic acid
 - Axoneme
- Medical termination is extremely safe up to _____.
 - 11 weeks
 - 10 weeks
 - 12 weeks
 - 20 weeks
- Patau's syndrome is due _____.
 - 21 Trisomy
 - 18 Trisomy
 - 13 Trisomy
 - 14 Trisomy
- Find out correct matching sequence.

a) One gene - one enzyme hypothesis	-	1. UAA, UAG and UGA
b) RNA world	-	2. Francis Crick
c) Central dogma of protein synthesis	-	3. Beadle and Tatum
d) Non sense codon	-	4. Walter Gilbert

 - 3, 4, 2, 1
 - 4, 3, 2, 1
 - 2, 4, 3, 1
 - 1, 2, 3, 4
- Assertion :** Organs having different structural patterns but similar functions are termed as analogous structure and brings about convergent Evolution.
Reason : Darwin's finches and Australian Marsupials are the example for Adaptive radiation and its similarity is referred as Convergent Evolution.
 - Both 'A' and 'R' are true and 'R' is correct explanation for 'A'.
 - Both 'A' and 'R' are true but 'R' is not correct explanation of 'A'.
 - 'A' true and 'R' false.
 - 'A' false and 'R' true.
- SMOG is derived from _____.
 - Smoke
 - Fog
 - Both 'A' and 'B'
 - Only 'A'
- The relationship between shark and sucker fish is _____.
 - competition
 - commensalism
 - predation
 - parasitism

Section - B

II. Answer any four questions:

4×2=8

- Write a note on colostrum.
- Explain Intra - cytoplasmic sperm injection.
- Any two application of Karyotyping?
- Name the four different types of malaria and causative agent.
- What are Heptens?
- What is Acclimatisation?

Section - C

III. Answer any three questions. Q.No. 18 is compulsory:

3×3=9

- What are the symptoms of Hirsutism?
- What is meant by Heterogametic males?
- Differentiate Connective link and Atavism?
- A child suffer from non functioning of 'T' - Lymphocytes cannot elicit immunity against pathogen? What is the name of the disease? How it is corrected?
- What are DNA Vaccine?

Section - D

IV. Answer all the questions:

2×5=10

- What are the major tasks carried out by the Reproductive child health programme? Explain barrier method of contraception.

(OR)

What is meant by Paleontology and explain a brief account about Human evolution?

- Explain the various types of innate immunity.

(OR)

Explain the following:

- Interferons
- Biomagnification with example

M. SIVA Kumar
sri Ram math 2 Hr. sec
vallam.



VIRUDHUNAGAR

Standard 12

BIOLOGY

Marks: 70

Time: 3.00 Hrs.

Note: Candidate should answer Part - I (Bio-Botany) and Part - II (Bio-Zoology) in separate answer - books.

PART - I [BIO-BOTANY]

Marks: 35

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 the corresponding answer.

- The genotype of a plant showing the dominant phenotype can be determined by
 - Test cross
 - Pedigree analysis
 - Dihybrid cross
 - Back cross
- The constant temperature in plant tissue culture is
 - $27^{\circ}\text{C} \pm 2^{\circ}\text{C}$
 - $25^{\circ}\text{C} \pm 5^{\circ}\text{C}$
 - $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$
 - $27^{\circ}\text{C} \pm 3^{\circ}\text{C}$
- Choose the correctly matched sequence:**
 - Primary succession - i) Green plants are dominant during early stages
 - Autotrophic succession - ii) Developing in disturbed area
 - Allogenic succession - iii) Developing in barren area
 - Secondary succession - iv) Occurs as a result of abiotic factors
 - a-iii, b-iv, c-i, d-ii
 - a-iii, b-i, c-iv, d-ii
 - a-iv, b-iii, c-ii, d-i
 - a-iv, b-i, c-ii, d-iii
- Changing the codon AGC to AGA represents
 - missense mutation
 - frame shift mutation
 - deletion mutation
 - non-sense mutation
- Choose correctly matched pair:**
 - Dye - Lawsonia inermis
 - Pulp - Hevea brasiliensis
 - Timber - Cyperus papyrus
 - Rubber - Shorea robusta
- Importing better varieties and plants from outside and acclimatizing them to local environment is called
 - heterosis
 - introduction
 - cloning
 - selection
- Choose the wrong statements:**
 - Gladiolus is a indicator for nitrate.
 - The endemic center for Hardwickia binata is Southern Western Ghats.
 - Prosopis juliflora is an invasive species native to Mexico and South America.
 - Appiko movement was started in Uttara Karnataka.
 - ii, iii, iv
 - i, iii
 - i, iii, iv
 - i, ii

V12Bio

8) **Assertion** : *Agrobacterium tumefaciens* is popular in genetic engineering because this bacterium is associated with the root nodules of all cereals and pulse crops.

Reason : A gene incorporated in the bacterial chromosomal genome get automatically transferred to the plant with which associated.

- a) Both Assertion and Reason are true and Reason is the correct explanation for Assertion.
 b) Assertion is true but Reason is false.
 c) Both Assertion and Reason are false.
 d) Assertion is false but Reason is true.

Section - II

Answer any four of the following:

4×2=8

- 9) Write a note on Heterostyly.
 10) What is co-evolution?
 11) Define : Explant
 12) What is synapsis? What are its types?
 13) Give four examples of plants cultivated in commercial agroforestry.
 14) Differentiate: Bio-medicines and Botanical medicines

Section - III

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

3×3=9

- 15) Differentiate: Incomplete dominance and Codominance.
 16) What is Albedo effect? Write its effect.
 17) Write the risk of genetically modified foods.
 18) Explain the best suited type followed by plant breeders at present.
 19) Photosynthesis follows the First law of thermodynamics - Justify the statement.

Section - IV

Answer all the questions:

2×5=10

- 20) a) Give a concise account on steps involved in fertilization of an angiospermic plant.
 (OR)

b) Compare the various types of blotting technique.

- 21) a) What is hybridization? Explain the steps involved in hybridization.

(OR)

b) How will you prepare an organic pesticide for your home garden with the vegetables available from your kitchen?

Page No. _____
 Date _____

Topic _____

I) ANSWER ALL THE QUESTIONS

- 1) The following are one testis/ovary condition. Name the gland.
 a) Seminoma b) Endometriosis c) Ovarian cyst d) Endometrial gland
- 2) The sex determination system in humans is
 a) XX b) XY c) XO d) XX or XY
- 3) Who proposed the Germplasm theory?
 a) Darwin b) August Weismann c) Lamarck d) Alfred Wallace
- 4) Choose the correctly match pair
 a) Amphetamines Stimulant
 b) LSD Narcotic
 c) Heroin Psychotropic
 d) Benzodiazepine Pain Killer
- 5) The Purpose of biological treatment of waste water is to
 a) Increase BOD b) Reduce BOD c) Reduce Sedimentation d) Increase sedimentation
- 6) The first Clinical gene therapy was done for the treatment of
 a) AIDS b) Cancer c) Cystic Fibrosis d) SCID
- 7) Which one of the following are at high risk extinction due to habitat destruction
 a) Mammals b) Birds c) Echinoderms d) Amphibians
- 8) 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

Section - 2

II) Answer any four of the following questions

- 9) What is Parthenogenesis? Give two examples from animals.
- 10) What is Criss-Cross Inheritance?
- 11) What are DNA Vaccines?
- 12) List out the major gases seems to be found in the primitive earth?
- 13) Differentiate foeticide and Infanticide.
- 14) What is Natality?

Section - 3

III) Answer any three of the following questions:- (Question number 17 is Compulsory)

3 X 3 = 9

- 15) What are applications of karyotyping?
- 16) Differentiate between somatic cell gene therapy and germline gene therapy.
- 17) Write notes on "Eutrophication".
- 18) Discuss briefly - "Ecosan".
- 19) Compare and Contrast the In-situ and ex-situ conservation.

Section - 4

IV) Answer the following questions:-

2 X 5 = 10

- 20) Give a Schematic representation of spermatogenesis in humans.
 (or)
 List out the various causes for biodiversity losses.
- 21) Explain the genetic basis of ABO blood grouping man.
 (or)
 Explain the structure of immunoglobulin.