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Vivek Vidyalaya Matric Higher Secondary School,
KINATHUKADAVU.

Class: XII B FULL PORTION TEST - 4 (2021-2022)
Date: 18 .03.2022 BIOLOGY TOTAL; 70

Section - 1 8 x 1 = 8

I.Choose the correct answer

1. "Gametes are never hybrid". This is a statement of
a) Law of dominance b) Law of independent assortment
c) Law of segregation d) Law of random fertilization

2. If the recombination frequency value is more than 50%, the two genes are
a) Linked b) Unlinked c) Identical d) Non- identical

3. DNA or RNA segment tagged with radio active molecule called
Vector b) probe c) clone d) plasmid

4. Which of the following are not regulating services of ecosystem services?
i) Genetic resources. ii) Recreation and aesthetic values
ii) Invasion resistance iv) Climatic regulation
a) i and iii b) ii and iv. c) i and ii d) I and iv

5. Sonora 64 wheat variety. was introduced from
a) Mexico b) China. c) North East India d) kolkata

6. Egg apparatus of angiosperm consists of
a) One egg cell and two synergids b) One egg cell and two antipodals
c) One egg cell and secondary nucleus d) Only eggs

7. Which one of the following palindromicbase sequence in DNA can be easily cut at about the middle by some particular restriction enzymes?
a) 5'CGTTCG 3'
3'ATCGTA 5'

b) 5'GAATTC 3'
3'CTTAAG 5'

c) 5'GATATG 3'
3'CTACTA 5'

d) 5'CACGTA 3'
3'CTCAGT 5'

8. In terrestrial ecosystems such as forest maximum energy is in which trophic level
T1. b) T2. c) T3 d) T4

Section - II Answer any four from the following questions. 4 x 2 = 8

9. What is endothelium? Draw 12. Define mutagenesis. .
10. the diagram of different types of aneuploidy. 11. What is a callus?
13. Give four examples of plants cultivated in commercial agroforestry
14. What is pollinium?

Section - III Answer any three from the following questions Question No. 19 is compulsory
15. What is gene mapping? Write its uses.
16. List out the anatomical adaptations seen in mesophytes.
17. Compare the various types of blotting techniques.
18. Differentiate bio-medicines and botanical medicines.
19. Give the effects of global warming.

Section - IV
Answer all questions. 2 x 5=10

20. a. When two different genes came from same parent, they tend to remain together. What is the name of this phenomenon? (ii) Draw the cross with suitable example. (iii) Write the observed phenotypic ratio.
[OR] b. What is indirect gene transfer? Explain the Agrobacterium mediated gene transfer in plants.

21. a. Which is an integral component of pest management? Describe it.
[OR] b. Which TSM is widely practiced and culturally accepted in Tamil Nadu? Explain.

Choose the correct answer
1. The male sex hormone testosterone is secreted from
a) Sertoli cells b) Leydig cell c) Epididymis d) Prostate gland

2. Females who are carriers of the discase, Haemophilia transmit the disease to
a) 25% of their sons b) 25% of their daughters c) 50% of their daughters d) 50% of their sons

3. Which theory explains the origin of universe?
a) Biogenesis b) Abiogenesis c) Special creation d) Big Bang

4. Reaction between soluble antigen and antibody leads to visible precipitate formation called
a) Precipitin reaction b) Opsonization c) Agglutination reaction d) Agglutinin

5. Streptomycin is used as an antibiotic especially against
a) E. coli b) Mycobacterium tuberculosis c) Streptomyces aureofaciens d) Streptomyces griseus

6. PCR proceeds in three distinct steps governed by temperature, they are in order of
a) Denaturation, Annealing, Synthesis

b) Synthesis, Annealing, Denaturation
c) Annealing, Synthesis, Denaturation
d) Denaturation, Synthesis, Annealing

7. Which of the following is considered as hotspots of biodiversity in India
a) Western Ghats
b) Indo-Gangetic plain
c) Eastern Himalayas
d) A and C

8. The increase in concentration of DDT at every trophic level is known as
a) Fumigation b) Bioremediation c) Radiation d) Biomagnification

Section - II -

Answer any four from the following questions 4 x 2 = 8

9. Expand the following a) ZIFT b) ICSI
10. How are multiple alleles formed?
11. List out the major gases that seems to be found in the primitive earth.
12. State Allen's rule.
13. If the length of E.coli DNA is 1.36 mm, find the number of base pairs.
14. Define eutrophication.

Section - III
Answer any three from the following 3 x 3 = 9
questions Question No. 19 is compulsory

15. Stability of a community depends upon species diversity. Justify the statement,
16. Explain briefly the structure of the smallest human cell.
17. Define allergy
18. When does antibiotic resistance develop?
19. Differentiate embryonic stem cells and adult stem cells.

Section - IV
Answer all questions

20. a. Which gland secretes thymosin? Explain its structure and function. (OR)
b. One of the applications of biotechnology is ‘gene therapy' to treat a person born with a hereditary disease. i) What does “gene therapy” mean? ii) Name the hereditary disease for which the first clinical gene therapy was used.
iii) Mention the steps involved in gene therapy to treat this disease.

21. a. Write a note on wild life sanctuaries. (OR) b. Explain the phases of spermatogenesis.

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Class: XII C FULL PORTION TEST - 3 (2021-2022)
Date: 12 .03.2022 BIOLOGY TOTAL; 70

1. Which organism is capable of both sexual and asexual reproduction?
a) Amoeba b) Euglena c) Paramecium d) Bacteria

2. Which committee creates a safe and secure environment for male and female?
a) POCSO b) PCPNDT c) Justice Verma d) UNDP

3. Which of the following phenotypes in the progeny are possible from the parental combination A x B ?
a) A and B only. b) A,B and AB only C) AB only d) A,B, AB and O

4. DNA and RNA are similar with respect to
a)Thymine as a nitrogen base
b) A single-stranded helix shape
c) Nucleotide containing sugars, nitrogen bases and phosphates
d) The same sequence of nucleotides for the amino acid phenylalanine

5. Infective stage of Entamoeba histolytica
a) Sporozoite b) Merozoite c) Schizont d) Trophozoite

6. Which is an important tool in forensic science?
a) Bacteriology b) Forestry C) DNA fingerprinting d) Palaeontology

7. Predation and parasitism are which type of interactions?
a) (+,+) b) (+, 0) c) (-,-) d) (+,-)

8. In tertiary sewage treatment, UV treatment is an alternative for
a) Biological treatment b) Sedimentation c) Chlorination d) Sequential Filtration

Section - II
Answer any four from the following questions 4 x 2 = 8
9. Define amphitoky.
10. At what stage of development are the gametes formed in new born male and female?
11. List out chemical alarm signals produced during inflammation.
12. Name the bioactive molecule used as an immunosuppressant. Name the microbe that produces this molecule.

13. What is open reading frame?

14. Write a short notes about struggle for existence?

Section - III
Answer the following questions Question No. 19 is compulsory 3 x 3 = 9

15. Differentiate temporary birth control and permanent birth control.
16. Explain the structural genes of prokaryotes with a diagram?
17.State Bergmanns rule ?
18.What is insitu conservation? Where it is conserved?
19. List all the wastes that you generate at home , school and during your trips to other places . could you very easily reduce that generation of this waste? Which could be difficult or rather impossible to reduce?

Section IV
Answer the following 2 X 5 = 10

20.Darwin finches and Australian Marsupials are suitable example of adaptive radiation - justify the statement. OR

In which host sexual phase of life cycle of plasmodium occurs ? Explain its sexual phase of life cycle

21.Justify the role of microbes as a biofertilizer OR

Explain the process of Transcription in Eukaryotes

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BIO ZOOLOGY

1.Which one of the following bacterium is not involved in ethanol production
a) Sarcina ventriculi b) Saccharomyces cerevisiae c) Ideonella sakaiensis d) Zymomonas mobilis

2. The foetal membrane that forms the basis of the umbilical cord is
a) Allantois b) Amnion c) Chorion d) Yolk sac

3. Match the following:
1. Copper releasing IUD (i) LNG-20
2. Non-medicated IUD (ii) Lippes loop IUD
3. Mini pills (iii) Saheli
4.Hormone releasing IUD. (iv) Multiload-375

4. Insulin molecule is made of two polypeptide chains?
The chain A has (i) amino acids B chain has ii amino acids?
a)i. 26 ii. 27 b)i. 22 ii. 29 c) i. 21 i. 30 d) i. 20 ii. 31

5. A population will not exist in Hardy-Weinberg equilibrium if
a) Individuals mate selectively b) There is no mutation
c) There is no migration d) The population is large

6. Amphetamines are stimulants of the CNS, whereas barbiturates are
a) CNS stimulant b) Both a and b c) Hallucinogenic d) CNS depressants

7. During sporulation Bacillus thuringiensis produces a crystal protein called (A) which is encoded by (B).
a) A - enterotoxin; B - Lac operon genes
b) A - neurotoxin; B - Fab genes
c) A - Alpha toxin; B - PCR genes
d) A - Delta endotoxin; B - Cry genes

8. Name the toxic gas that is produced when hazardous wastes are burnt.
a) Dioxin b) Nitrogen c) Oxygen d) Ammonia

Section - II
Answer any four from the following questions 4 x 2 = 8
9. Write the function of the cells that secrete inhibin.
10. What is surrogacy?
11.
12. What is coextinction? Give an example.
13. What are Operons? How many operon groups are present in E.coli?
14. What is the most important application of human stem cells?

Answer the following questions Question No. 19 is compulsory 3 x 3 = 9
15. Define syngamy. How is it classified based on the place of fertilization
16. How can we utilize PCR technique in the field of forensic medicine?
17. Classify viral diseases based on their symptoms.
18. Why sewage disposal into natural bodies is not advised?
19. Write short notes on “The Madras Crocodile Bank Trust”

Answer the following 2 X 5 = 10
20. a. Briefly explain the mechanism of fertilization and implantation in beings. [OR]

b. Explain the role of microbes in secondary treatment of sewage

21. a. List the common withdrawal symptoms of drugs and alcohol abuse [OR]

b. Write about the applications and future challenges of HGP.

Vivek Vidyalaya Matric Higher Secondary School,

KINATHUKADAVU.

Class: XII **FULL PORTION TEST - 3 (2021-2022)**
Date: 5 .03.2022 **BIOLOGY** **TOTAL; 70**

I CHOOSE THE BEST ANSWER (8 x 1 = 8)

1. Assertion (A): Saheli is an oral contraceptive pill
Reason (R): Contraceptive pills functions by enhancing the ovulation
a) A and R are correct, R explains A b) A and R are correct, but R is irrelevant to A
c) A and R are incorrect d) A is correct and R is incorrect

2. Let-Down reflex is the duty of ……...
a) Prolactin b) Progesterone c) Prostaglandin d) None of the above

3. Mesozoic era and Cenozoic era are dominated by ……. and……. Respectively
a) Mammals, Reptiles b) Reptiles, Mammals c) Mammals, Fishes d) Fishes, Reptiles

4. Porter and Edelman revealed the structure of ……
a) HIV b) Immunoglobulin c) Microbial Fuel Cell d) Ecosan toilets

5. X is a microbial product obtained from Monascus purpureus and it helps to reduce blood cholesterol level.
a) X is Cyclosporin b) X is Statins c) X is Humulin d) X is Kanamycin

6. In RT-PCR technique, cDNA serves as a template. In cDNA, 'c' stands for……
a) Composite b) Circular c) Complementary d) Capped

7. Soil zone is known as... a) Lithosphere b) Pedosphere c) Stratosphere d) Trophosphere

8. Vitrification method is carried out to manage…...
a) E-waste b) Plastic waste c) Radioactive waste d) Sewage waste

II.Answer the following. 4 x 2 = 8

9) Define human alpha lactalbumin.
10) What is Eutrophication.
11) What is bio remediation?
12) Define **SCID.**
13) Write short notes about phototropisms
14) Define Hotspots

III.Answer the following Q: NO: 19Compulsory 3 X 3 = 9

15) What is bio magnification?
16) Difference between in situ and exsitu conservation?
17) Define Anaphylaxis.
18) Write any three salient features of mutation?
19)What are the steps involved in DNA fingerprinting technique

IV. Answer the following. 2 x 5 = 10

20) Explain the process of Transcription in prokaryotes or

Explain species and are relationships

21) Explain the primary lymphoidal organ or
Explain the mammary glands

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Zoology

1.Embryo at 8 - 16 cells stage is called ……..
a) Blastula b) Morula. c) Trophoblast. d) All of these

2. Example of non medicated IUD ….
a) Cu - T b) Cu - 7. c) Multiload 375 d) lippes loop

3.The polygenic traits …..
a) Are influenced by environment b) Phenotype reflect the contribution of each allele
c) Effect of each allele is additive d) All the above

4.Linker DNA is attached to……
a) H1 b) H2A c) H3 d) H2B

5.The classical example of adaptive radiation on development of new species
a) Darwin's finches b) Marsupials of Australia c) Locomotion of mammals d) All the above

6.Which of the following toxic substances is responsible for the high malarial fever
a) Haemoglobin b) Haemocyanin c) Haemozoin d) Haemoridin

7. The population interaction in which free living organisms that catches,kills and devours individuals of other species is called
a) Parasitism b) predation c) Amensalism d) Commensalism

8. Biodiversity is affected by
a) Lattidinal gradients and species area relationship
b) species area relationship Lattidinal gradients
c) Both a and b. d) Lattidinal and longitudinal gradients

II ANSWER ANY FOUR QUESTIONS (4 x 2 = 8)

9. Write the central dogma of molecular biology and mention the scientist who proposed it 10. State the theory of origin of species by Natural selection?
11. Mention the four major functions of immunoglobulin
12. PCR can be done for the genome of HIV. Yes or No – Justify
13. How Norman Meyer defined hotspot region?
14.Define **ICSI**.

III ANSWER ANY THREE QUESTIONS. Q.NO. 18 is compulsory (3 x 3 = 9)

15. Briefly explain the structure of the operon
16. Write a short note on Haemophilia
17. Explain the procedure of Micro-TESE
18. Give an account on Ecosan toilets
19. Interpretate how anaerobic microbes are beneficial in bioremediation

IV ANSWER THE FOLLOWING QUESTIONS (2 x 5 = 10)

20. (a) Describe the **RNA WORLD** (OR)
(b) Role of every species is vital in an ecosystem. Interpretate the statement with Rivet-Popper hypothesis

21. (a) How radioactive wastes are generated? Suggests few methods to dispose them. . (OR)
(b)What is Extinction ? And it's types?

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Class XII Biology Marks 70
23.02.2022 Duration:3 hours

1.In RNAi genes are silenced using
ss DNA b) ds DNA
c) ds RNA d) ss RNA

2.i. Balanophona,Rafflesia And Orobanche are total root Parasites
ii. Viscum and Loranthus are Partial stem Partial Stem Parasite
iii. Santalum is a Partial root Parasite
iv. Cuscutta is a total Parasite Codes
a) i,ii and iii only correct
b) ii,iii and iv only correct
c) All Statements are wrong
d) All Statements are correct

3.Column-I Column-II
A.Green Carbon i Carbon emitted from diesel
B.Grey Carbon ii Carbon stores is Biosphone
C.Brown Carbon iii Carbon stored in fossil fuel
D.Black Carbon ivCarbon stored in Industrialized forest

	A	B	C	D
a	iii	iv	i	ii
b	i	ii	iii	iv
c	ii	iii	iv	i
d	ii	iv	iii	i

4.A.Carolina reaper pepper i.30,000to50,000SHU
B.Naga viper ii.2,2000,000SHU
C.Cayenne pepper iii.1,349,000SHU
D.Use of garlic iv.2,500years

A	B	C	D

a) ii. iii. i .iv.
b)ii. i. iii. iv.
c)i. ii. iii. iv.
d)iv .iii. ii. i.

5.Restriction in Restriction enzyme refers to
Cleaving of phosphodiester bond in DNA by the enzyme
b) cutting of DNA specific position only
c) prevention of multiplication of bacteriophage
d) All the above

6.protoplast is
Another name for protoplasm
an animal cell
a plant cell without a cell wall
a plant cell

7.One of endangered species of Indian medicinal plants is that of
TT and Tt b) Tt and Tt
TT and TT d) Tt and tt

8.During microsporogenesis , meiosis occurs in
Endothecium b) Milrospore mother cell c) Microspore tetrads d)pollen grains

II.Answer the following. 4 x 2 = 8
11.What are the steps involved in hybridization?
12.Write any three points about state tree of tamil nadu
13.Define pneumatophores.
14.What is rhytidome?
15.Define seral communities
16.Give four examples of plants cultivated in commercial agroforestry

III.Answer the following Q: NO: 17 Compulsory
17.Write Short notes about king of bitter?
18.What is mangroves?
19.Write any three significance of food web?
20.What is carbon sequestration?
21.Write Short Notes about Nel jeyaraman?

IV. Answer the following. 2 x 5 = 10
22.Explain RNA interference or
Write a note on heterosis.
24. or
Explain the important edaphic factors which affect vegetation

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Vivek Vidyalaya Matric Higher Secondary School

Date: 27.10.2021 BIOLOGY TEST NO 2

BIO BOTANY Marks : 60

I.Choose the correct answer

1. Ecology is the study of an individual species is called

i. Community ecology ii. Autecology

iii. Species ecology iv. Synecology

a. i only b. ii only

c. i and iv only d. ii and iii only

2. A specific place in an ecosystem, where an organism lives and performs its functions is

a. habitat b. niche

c. landscape d. biome

3. Ophrys an orchid resembling the female of an insect so as to able to get pollinated is due to phenomenon of

a. Myrmecophily b. Ecological equivalents

c. Mimicry d. None of these

4. Identify the A, B, C and D in the given table

Interaction	Effects on species X	Effects on species Y
Mutualism	A (+)	B (+)
Competition	(-) C	D (-)
	0	0

A B C D

a) (+) Parasitism (-) Amensalism

b) (-) Mutalism (+) Competition

c) (+) Competition (0) Mutalism

d) (0) Amensalism (+) Parasitism

5. Pedogenesis refers to

a. Fossils b. Water

c. Population d. Soil

6. Which of the following plant has a non succulent xerophytic and thick leathery leaves with waxy coating

a. Bryophyllum b. Ruscus

c. Nerium d. Calotropis

7. Which of the given plant produces cardiac glycosides?

a. Calotropis b. Acacia

c. Nepenthes d. Utricularia

8. Arrange the correct sequence of ecological hierarchy starting from lower to higher level.
a. Individual organism m Population Landscape e Ecosystem
b. Landscape e Ecosystem m Biome e Biosphere
c. community y Ecosystem m Landscape e Biome
d. Population n organism m Biome e LLandscape
9. The plant of this group are adapted to live partly in water and partly above substratum and free from water
a. Xerophytes b. Mesophytes
c. Hydrophytes d. Halophytes

10. Read the following statements and fill up the blanks with correct option.
i. Total soil water content in soil is called

_____
ii. Soil water not available to plants is called

_____
iii.Soil water available to plants is called

_____
(i) (ii) (iii)
(a) Holard Echard Chresard
(b) Echard Holard Chresard
(c) Chresard Echard Holard
(d) Holard Chresard Echard
11.Root pockets are found in
a) vallisneria b)Ranunculus c)sagittaria d) Eichhornia

12.Hygrophytes example
a) heterophylla b) habernaria c) ceratophyllum d) sagittaria

13.identify non succulent
a) Mollugo b) Begonia c) Aloe d) zizyphus

14.phyllode
a) asparagus b) acacia c) opuntia d) capparis

15.succulent halophyte example
a) Lianas b) salicornia c) Nerium d) peperomia

16.In which of these plants leaves are modified to spines
a) Asparagus b) Opuntia c) capparis d) ziziphus

17.Roots are totally absent in

a) Eichhornia b) Ranunculus c) Salvia d) Wolfia

18.Find the odd one out
a) Ranunculus b) Typha c) Sagittaria d) Isoetes

19.Smallest flowering plant
a) Nelumbo b) Nymphaea c) wolffia d) Pistia

20. Read the given statements and select the correct option.
Statement A : Cattle do not graze on weeds of Calotropis.
Statement B : Calotropis have thorns and spines, as defense against herbivores.
a. Both statements A and B are incorrect.
b. Statement A is correct but statement B is incorrect.
c. Both statements A and B are correct but statement B is not the correct explanation of statement A.
d. Both statements A and B are correct and statement B is the correct explanation of statement A.

21.Which inhibits the growth of aspergillus
a) Junglans b) Trichoderma c) Penicillium d) Staphylococcus

22.Odd one out
a) Duranta b) Balanophora c) Orobanche d)Refflesia

23.Cycas
a) Gymnosperm b) pteridophyte c) bryophyte d) angiosperm

24.Father of modern ecology
a) P. Misra b) Odum c) Humboldt d) Haeckel.

25.The term niche was used by
a) Hill Johnson b) Grinell c) Reiter d) Haeckel

26.Cardiac glycosides is produced by
a) Opuntia b) Calotropis c) Cinchona d) Tobacco

27.Rooted submerged hydrophytes
a) Utricularia b) Hydrila c) vallisneria d) Isoetes

28.Walking stick
a) Phyllium frondosum b) Carausium morosus c)Ophrus

d) Aspergillus

29.Cladode
a) Asparagus b) Acacia c) Opuntia d) Capparis

30.Trichophyllus plant example
a) Cucurbits b) Mukia c) Melothria d) Acacia

3 marks
1.Give an account of types of parasitism with example.
2.Distinguish between drought evaders and drought enduring plants
3.T.S of hydrilla stem.

I.Answer the following. 5 X 2 = 10
1.Write any two soil types ?
2.Write any two effects of wind?
3.What are the examples of co evolution?
4.What is amensalism?
5.Difference between cladode and phylloclade?

III.Answer the following. 2 X 5 = 10
1.Give an account of positive and negative interaction?
2.a) Difference between habitat and niche
b) Structure of leaf of peperomia.

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