

MODEL QUESTION PAPER

BIOLOGY

XII – STANDARD (STATE BOARD)

Candidate should answer Part-I (Bio Botany) and Part II (Bio zoology) in separate answer books

PART-I (Bio-Botany)

Maximum

Marks: 35

Section I

All Questions are compulsory.

8 x 1 = 8

1	Match the following: A) Complementary genes (i) 1:2:1 B) Supplementary genes (ii) 9:7 C) Co-dominance (iii) 15:1 D) Duplicate genes (iv) 9:3:4  (a) A – (iv), B – (iii), C – (i), D – (ii) (b) A – (ii), B – (iv), C – (i), D – (iii) (c) A – (iii), B – (iv), C – (ii), D – (i) (d) A – (iii), B – (i), C – (iv), D – (i)	1
2	How many different kinds of gametes will be produced by a plant having the genotype AABbCC? (a) Three (b) Four (c) Nine (d) Two	1
3	EcoRI cleaves DNA at _____. (a) AGGGTT (b) GTATAC (c) GAATTC (d) TATAGC	1
4	Photo synthetically active radiation wave length between the range of _____. (a) 200-700nm (b) 300-700nm	1

	(c) 400-700 nm (d) 500-700nm	
5	For the given statements with respect to Eichhomia select the suitable answer. Statement A: It drains of oxygen from water and is seen growing in standing water. Statement B: It is an indogeneous species of our country. (a) Statement A is correct and statement B is wrong. (b) Both the statement A and B are correct. (c) Statement A is wrong and statement B is correct. (d) Both the statement A and Bare wrong.	1
6	Which of the following is incorrectly paired? (a) Wheat – Himgiri (b) Milch breed – Sahiwal (c) Rice – Ratna (d) Pusa Komal – Brassica	1
7	Find out the correctly matched pair: (a) Rubber – <i>Shora robusta</i> (b) Dye – <i>Lawsonia inermis</i> (c) Timber – <i>Cypress papyrus</i> (d) Pulp – <i>Hevea brasiliensis</i>	1
8	Test cross involves _____. (a) Crossing between two genotypes with recessive trait (b) Crossing between two F <sub>1</sub> hybrids (c) Crossing between F <sub>1</sub> hybrid with double recessive genotype (d) Crossing between two genotypes with dominant trait	1

### Section-II

Answer any four questions.

4 x

2 = 8

9	'Pollination in Gymnosperms in different from Angiosperms' – Give reasons.	2
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10	A B C C B D E F G H I From the above figure identify the type of mutation and explain it.	2
11	Write the various steps involved in cell suspension culture.	2
12	Pyramid of energy is always upright. Give reasons.	2
13	Write in brief about Atomic Garden.	2
14	Explain the law of dominance in monohybrid cross.	2

### Section-III

Answer any **three questions**. Question No. **19** is **compulsory**

**3 x 3 = 9**

15	Give an account on cytoplasmic inheritance	3
16	How will you identify a vector?	3
17	What is Albedo effect? Write its effects.	3
18	Which is called as “The King of Bitters”? Mention their medicinal importance.	3
19	Ozone acts as a natural sun screen- Justify.	3

### Section-IV

Answer all the questions:

**2 x 5 =**

**10**

20	a) With a suitable diagram, explain the structure of an ovule. Or b) List out the significance of ploidy.	5
21	a) Explain the basic concepts involved in plant tissue culture. or b) Write a comparative note on Carbon Foot Print (CFP)	5

**PART II ( BIO - ZOOLOGY)**

**Maximum Marks: 35**

**SECTION I**

All Questions are compulsory.

8 x 1 = 8

1	Match the following: <table><thead><tr><th><b>Asexual reproduction</b></th><th><b>Organisms</b></th></tr></thead><tbody><tr><td>1. Endogenous budding</td><td>(A) Starfish</td></tr><tr><td>2. Parthenogenesis</td><td>(B) Tapeworm</td></tr><tr><td>3. Fragmentation</td><td>(C) Noctiluca</td></tr><tr><td>4. Regeneration</td><td>(D) Honey bees</td></tr></tbody></table>	<b>Asexual reproduction</b>	<b>Organisms</b>	1. Endogenous budding	(A) Starfish	2. Parthenogenesis	(B) Tapeworm	3. Fragmentation	(C) Noctiluca	4. Regeneration	(D) Honey bees	1
<b>Asexual reproduction</b>	<b>Organisms</b>											
1. Endogenous budding	(A) Starfish											
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4. Regeneration	(D) Honey bees											
2	The male sex hormone testosterone is secreted from _____. (a) Sertoli cells (b) Leydig cells (c) Epididymis (d) Prostate gland	1										
3	Which of the following is the correct sequence of events with reference to the central dogma? (a) Transcription, Translation, Replication (b) Transcription, Replication, Translation (c) Duplication, Translation, Transcription (d) Replication, Transcription, Translation	1										
4	Select the incorrect action of hormonal contraceptive pills from the following (a) Inhibition of spermatogenesis (b) Inhibition of ovulation (c) Changes in cervical mucus impairing its ability to allow passage and transport of sperm (d) Alteration in uterine endometrium to make it unsustainable for implantation	1										
5	Father of a child is colour blind and mother is carrier for colour blindness, the possibility of the child being colour blind is _____. (a) 25 % (b) 50% (c) 100 % (d) 75 %	1										
6	Who proposed the Germplasm theory? (a) August Weismann (b) Darwin	1										

	(c) Lamarck (d) Alfred Wallace	
7	AIDS virus has _____. (a) Single stranded RNA (b) Single stranded DNA (c) Double stranded RNA (d) Double stranded DNA	1
8	Assertion (A): Streptomycin is an antibiotic Reason (R): Antibiotics are microbial products inhibits the growth of pathogenic microbe. (a) A is right, R is wrong (b) R explain A (c) A and R are wrong (d) A and R are right. R does not explain A	1

### SECTION-II

Answer any **four questions**.

**4 x 2 = 8**

9	What is inhibin? State its functions.	2
10	Define criss-cross inheritance.	2
11	How does mutation theory of De vries differ from lamarck and Darwins view in the origin of new species.	2
12	What is biological oxygen demand?	2
13	Differentiate between Eurytherms and Stenotherms	2
14	Name the secondary pollutant in photochemical smog. Mention the adverse effect	2

### SECTION-III

Answer any **three questions**

**3 x 3 = 9**

15	What is amniocentesis? Why a statutory ban is imposed on this technique?	3
16	DNA acts as genetic material for majority of living organisms and not the RNA. Give reasons to support the statement.	3
17	Explain how “Rosie” is different from a normal cow.	3
18	Extinction of a keystone species led to loss of biodiversity – Justify.	3

19	Draw and label the structure of Immunoglobulin	3
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**SECTION -IV**

Answer all the **questions** .

**2 x 5 = 10**

20	(a) Define menstrual cycle. Explain its various phase. or (b) Write the salient features of genetic code.	5
21	(a) Suggest some of the ways to prevent drug and alcohol abuse. or (b) Mention the advantages and disadvantages of cloning.	5

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