

SECOND YEAR BOTANY MODEL QUESTION

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BIOLOGY

PART A: BOTANY

I. Answer 3 question from 1 to 5. Each carries 1 score.

1. Note the relationship and find a suitable word for the fourth place

Female gametophyte : embryo sac

Male gametophyte :

2. Expand PCR

3. In a vertical distribution of different species occupying different species levels is called.....

4. Which among the following is a selectable marker in pBR322

a) ori, b) Hind III , c) rop, d) ampr

5. In a given habitat the maximum possible number for a species is called..... Of the species.

II. Answer any 9 question from 6 to 16. Each carries 2 score

6. We can see many embryos in the seed of some plants, what is this phenomenon called. Give two examples.

7. Arrange the following in sequence and name the process.

Pollen grain, sporogenous tissue, anther, microspore tetrad , pollen mother cell, male gamete.

8. explain decomposition . write down it's steps.

9. The dna fragments can be separated using gel electrophoresis .

a) Name the gel used in this technique.

b) write the name of the technique used to remove the DNA from the gel.

10. Fill in the blanks with appropriate symbols

Species A	Species B	Name of interaction
(a)	(b)	mutualism
+	(c)	parasitism
+	0	(d)

11. Denaturation, annealing and extension are 3 steps of a process used for gene amplification .

a) Name the process

b) name the organism from which taq polymerase is extracted.

12. What is food chain? Describe the two types of food chain.

13. Many countries encourage the cultivation of GM crops. Write four advantages of GM plants.

14. Comment on brood parasitism with example.

15. Pyramid of energy is always upright. Why?

16. Match the following

A	B
Antigen-antibody reaction	ADA deficiency
Lactalbumin	emphysema
Antitrypsin	Rosie
Gene therapy	ELISA

III. Answer any 3 questions from 17 to 20. Each carries 3 scores

17. What is pollination? Which are the types of pollination?

18. While studying nucleotide sequence, Raju found the following sequence, which can be recognized by some enzyme.

5' GAATTC3'

3'CTTAAG5'

a) Give the salient features of this sequence.

b) Write name of enzyme which recognize such sequence.

c) Write the name of this sequence.

19. Observe the terms given below

Natality, Mortality, Immigratin, Emigration

a) Identify and write the terms that increase population density.

b) Substantiate your answer with suitable explanation.

20. Bt. Cotton is an example of genetically engineered cotton.

a) What does Bt stands for?

b) Name the gene responsible for Bt toxin.

c) How does the toxin kill the insect.