

SECOND YEAR HIGHER SECONDARY EXAMINATION SAMPLE QUESTION PAPER

I. Answer any 3 questions. From one to five. (Each carries one score).

1. Fill up the blank suitably

Intine: cellulose

Exine:

2. The enzyme used in polymerase chain reaction is.....

Choose the correct answer.

3. Which of the following gene encode proteins to control corn borer?

- a. Cry I Ac
- b. Cry II Ab
- c. Cry I Ab
- d. Cry II Ac

4. The green plants in the ecosystem are the chief.....

- a. Decomposers
- b. Consumers
- c. Producers
- d. Herbivores

5. Fill up the blank suitably.

Lichen is an example for

- a. Competition
- b. Mutualism
- c. Predation
- d. Parasitism

II. Answer any 9 questions from 6 to 16 (Each carries 2 scores).

6. Write the name of innermost layer of micro sporangium. Write its function.

7. We can see many embryos in the seeds of some plants. What is this phenomenon called? Give two examples.

8. Expand ELISA and write down the principle in this technique.

9. BT cotton is an example for genetically modified organism. How this gene help the plant to resist this insect pests?

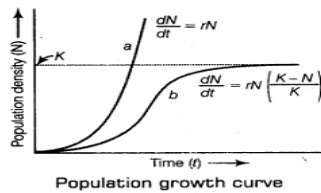
10. What are the two kinds of nuclease enzymes? Write their role in rDNA technology.

11. Write two types of vectorless gene transfer techniques. Explain.

12. Match the following:

- | | |
|-----------------|----------|
| a. Mutualism | i. -/0 |
| b. Commensalism | ii. +/- |
| c. Parasitism | iii. +/+ |
| d. Amensalism | iv. +/0 |

13. a. Name the two types of growth curves given below.

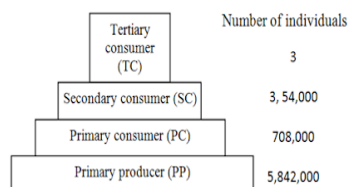


b. What does 'K' stands for?

14. Differentiate between grazing food chain(GFC) and detritus food chain(DFC).

15. Given below are some steps in the process of decomposition. Arrange them in correct order: (Fragmentation, Humification, Mineralisation, Leaching, Catabolism).

16. a. Observe the pyramid given below and name it.



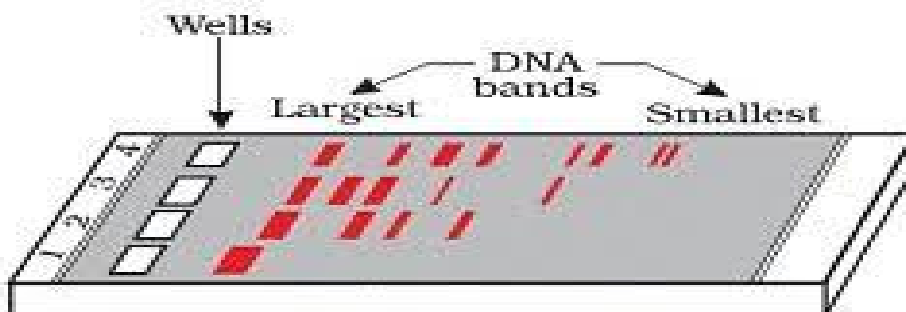
b. Name the Pyramid which can never be inverted.

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

17. Double fertilization is the characteristic feature of angiosperms.

- What does it mean?
- Name the processes and products?

18. Observe the figure given below.



- a. Identify the given technique
- b. Name the stain used to visualize DNA fragments here.
- c. Write the nature of separation of DNA fragments by this process.

19. Insulin consists of two short polypeptide chains.

- a. Name the chains.
- b. Write the steps involved in this preparation of genetically engineered insulin.

20. a. Which are the factors affecting population density?

- b. Which are the factors help to increase population density?

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