

SECOND YEAR HIGHER SECONDARY EXAMINATION

BOTANY

Time 1 hr

Marks 30

I Answer any 3 from 1 to 5 each carries 1 score

1. Innermost wall layer of anther, which nourishes the developing pollen grain called -----
2. In some seeds the nucellus may be persistent such nucellus is called -----
(i)Endosperm, (ii)Scutellum, (iii)Plumule, (iv)Perisperm
3. Silencing of specific mRNA due to a complementary double stranded RNA is called -----
4. Some type of orchids live on the branches of mango tree. The relationship between mango tree and orchid is an example of
(i) Mutualism (ii) Predation (iii) commensalism (iv) Parasitism
5. Natural interconnecting food chains are called-----

II Answer any 9 of the following 2 marks each

6. Write any four devices to discourage self pollination in flowering plants
7. Match the following

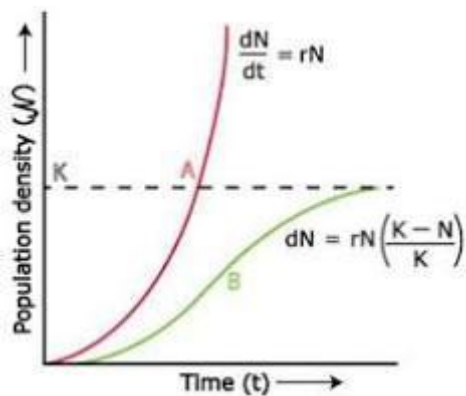
i	Gel electrophoresis	a	Cloning vector
ii	Polymerise chain reaction	b	Ethydium bromide
lii	Restriction endonuclease	c	Molicular diagnosis
iv	pBR 322	d	EcoRI

8. An ecosystem consists of the following population.
Phytoplankton, Man, Fish, Zooplankton. Draw a food chain denoting each trophic level
9. If the female parent produces bisexual flower emasculation is necessary in artificial hybridisation
a)What is emasculation
b) write down the importance of imasculation
10. Write the steps involved in the production of genetically engineered insulin
11. Double fertilisation involves two types of fusions.
a) Name the two types of fusions
b) What happens to synergids and antipodals after double fertilization?
12. Write any two uses of transgenic animals
13. Natality, Mortality, Imigration, Emigration are the four factors that affect population density.
Explain any two terms.
14. Observe the equation given below.
$$NPP = GPP - R$$

What does NPP and GPP stands for
15. Pyramid of energy is never been inverted. Why?
16. Fill the blanks

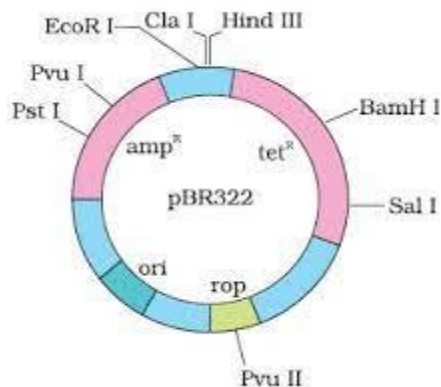
Species A	Species B	Name of interaction
+	-	Parasitism
-	-	-----
+	-----	Mutualism
+	0	-----
-----	0	Ammensalism

17. People prefer seedless fruits more than seeded ones
- Name the process concerned with the development of seedless fruits.
 - Suggest a method for production of such fruits artificially.
18. In rDNA technology amplification of gene is done by a process called PCR
- Expand PCR
 - Name the enzyme used in PCR
 - What are the three main steps involved in PCR
19. Bt cotton is an example for genetically modified organism.
- Name the foreign gene present in it
 - How this gene help the plant to resist insect pest.
 - What do 'Bt' stands for
20. The following graph shows two types of growth curves



- Name the growth curves.
- What does 'K' and 'R' stands for.

21. Observe the figure of cloning vector.



- What do the symbols amp^r and tet^r stand for
- What is 'Ori'? Give its importance.

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