

SEM	SET	PAPER CODE	TITLE OF THE PAPER
IV	2013	12PBI4113	BIOTECHNOLOGY

**SECTION – A****Answer all the questions:****20 x 1 = 20****Choose the correct answer:**

- The phenolic compound secreted by injured cells of dicot plants is \_\_\_\_\_.  
a) Taxol  
b) Quinol  
c) Acetosyringone  
d) None of the above
- Tin polymerase used in PCR is obtained from \_\_\_\_\_.  
a) *Thermus aquaticus*  
b) *Thermus indicus*  
c) Both  
d) None of the above
- Any excised part of plants to be used in tissue culture is called \_\_\_\_\_.  
a) Explants  
b) Cybrids  
c) Hybrids  
d) None of the above
- Golden rice is rich source of \_\_\_\_\_.  
a) Vitamin E  
b) Vitamin C  
c) Vitamin A  
d) None of the above
- Which of the following can be used as the platform for DNA microarray.  
a) Poly lysine  
b) Poly glutamate  
c) Poly vinyl pyrrolidone  
d) None of the above

**Fill in the blanks:**

6. Restriction enzymes from different sources acting on the same sequences are termed \_\_\_\_\_.
7. Protein binding sequences on DNA can be determined using \_\_\_\_\_ analysis.
8. The phenotypic variation of cultured plants is termed \_\_\_\_\_.
9. Expand: ICSI.
10. DNA spot on a micro array is termed \_\_\_\_\_.

**State True or False:**

11. Agrobacterium infects monocot plants.
12. Duration of a granted patent is 5 years.
13. SCID mice is a knock out mice.
14. *Bacillus anthracis* was used as biological weapon.
15. Microarray analysis can be useful for monitoring co regulated genes.

**Answer in one or two sentences:**

16. List out the antibiotic resistance genes contained in PBR<sup>322</sup>.
17. Comment on plant breeder's right.
18. What are biological weapons?
19. What are cybrids?
20. Comment on stem cell niche.

## SECTION – B

Answer all the questions:

5 x 4 = 20

21. a. Give a brief account on restriction enzymes.

**OR**

b. Describe the gene transfer mechanism mediated by Agrobacterium.

22. a. Explain the mechanism of GURT.

**OR**

b. Explain the principle involved in PCR.

23. a. Comment on bioleaching.

**OR**

b. Give a brief account on biopesticides.

24. a. Explain the principles of 'Eugenics'.

**OR**

b. List out any four agricultural applications of biotechnology.

25. a. List out the features of stem cells.

**OR**

b. List out the applications of microarray.

## SECTION – C

**Answer any FOUR questions:**

**4 x 15 = 60**

26. Write an essay on cloning vehicles.
27. Describe the methods of recombinant selection.
28. Write an essay on gene transfer methods.
29. Give a detailed account on the strategies of gene therapy.
30. Explain the features of embryonic stem cells.

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