



# ST. JOSEPH STUDY CENTRE

12<sup>th</sup> STD Quarterly Exam

BIOLOGY

Time: 2 Hrs 30 Mins / Total Marks: 70

Bio-Botany

**I. Answer any 5 of the following questions:**

**[5 x 2 = 10]**

1. What are vectors?
2. What are transgenic plants? (GMO)?
3. What is Biopiracy? Give examples.
4. Define callus.
5. What is cybrid / Somatic hybridization?
6. What is Patent?

**II. Answer any 3 of the following questions:**

**[3 x 3 = 9]**

7. What is single cell protein?
8. What is pBR<sub>322</sub> plasmid?
9. What are embryodis?
10. Write a short note on cryo – preservation.

**III. Answer any 4 of the following questions:**

**[4 x 5 = 20]**

11. Give an account of single cell protein.
12. Steps involved in recombinant DNA technology.
13. Explain the various methods of gene transfer.
14. What are the basic concepts of tissue culture?
15. Techniques involved in plant tissue culture?

**Note: Separate paper for botany and zoology**

**I. Answer any 5 of the following questions:**

**[5 x 2 =10]**

1. What is criss – cross inheritance?
2. Explain Wiener Hypothesis.
3. What is pedigree analysis?
4. Why tRNA is called an adapter molecule?
5. What is base pair rule?
6. Differentiate – Template strand and coding strand.

**II. Answer any 2 of the following questions:**

**[2 x 3 = 6]**

7. Mention the symptoms of Down's syndrome.
8. What are the three structural differences between RNA and DNA?
9. Give reasons: Genetic code is 'universal'.

**III. Answer any 3 of the following questions:**

**[3 x 5 = 15]**

10. Write a note on allosomal chromosomal abnormalities.
11. Write notes on Karyotyping and its applications.
12. Why the human genome project is called a mega project?
13. Describe the structure of tRNA with a diagram.

-----ALL THE BEST-----

70 marks will be converted to 100 marks

Test should be written under the supervision of your parents and get the answer paper signed from them.

No corrections should be made after the test timings. We expect your honesty.

Test Papers have to be submitted after the completion of all the 4 tests.

Submission Date of Test Papers: 1<sup>st</sup> October, 2<sup>nd</sup> October, 3<sup>rd</sup> October

Timings: 9 AM – 12.30 PM / 5 PM- 7 PM