

DELHI PUBLIC SCHOOL, JAMMU

Assignment Pre Board I

Session: 2019-20

Class XII

Sub: Biology

Topics included are:

- 1. Reproduction in organisms, Sexual reproduction in flowering plants, Human reproduction and Reproductive health.*
- 2. Principles of Inheritance and Variation, Molecular Basis of Inheritance, Evolution.*
- 3. Human Health and Diseases, Strategies for Enhancement in Food Production, Microbes in Human welfare.*
- 4. Biotechnology: Principles and Processes, Biotechnology and its applications.*

Q1. Why are exonucleases not useful in genetic engineering?

Q2. Why should a bacterial cell be made competent to introduce rDNA into it?

Q3. Given below is the nucleotide sequence of a hypothetical mRNA and amino acids coded by this mRNA:

UUUAUGUUCGAGUUAGUGUAA

Phe-Met-Phe-Glu-Leu-Val

Describe the properties of genetic code that can be correlated from the above given information.

Q4. How Innate Immunity is different from Acquired immunity? Describe any two ways by which innate immunity can be accomplished.

Q5. State the functions of primary and secondary lymphoid organs in humans.

Q6. Name two commonly used vectors in rDNA technology. Enlist and explain the three characteristic features of cloning vectors.

Q7. Write the scientific name of the source plants and the effect on the human body of these drugs.

i) Morphine

ii) Cocaine

iii) Marijuana

Q8. Trace the development of a zygote of a dicot angiosperm into a fully developed embryo.

Q9. Mention two objectives of setting up GEAC by our Government.

Q10. Expand MOET and what is the role of genetic mother in MOET?

Q11. What is aminoacylation? State its significance.

Q12. $p^2+2pq+q^2=1$. Explain this algebraic equation on the basis of Hardy Weinberg's principle.

Q13. Write the characteristics of *Ramapithecus*, *Dryopithecus* and Neanderthal man.

Q14. Explain the following phases in the menstrual cycle of a human female.

i) Menstrual phase

ii) Follicular phase

iii) Luteal phase

Q15. When a seed of an orange is squeezed, many embryos instead of one are observed. Explain how it is possible?

Q16. Differentiate between annual and biennial plants. Provide one example of each.

Q17. How does the application of cyanobacteria help to improve agriculture output?

Q18. Name a genus of baculovirus. Why are they considered good biocontrol agents?

Q19. How do organic farmers control pests? Give two examples.

Q20. What is a test cross? How can it decipher the heterozygosity of a plant?

Q22. Mention two advantages of micropropagation. Give two examples where it is commercially adopted.

Q23. Why the insertion inactivation method is proffered to antibiotic resistance to detect rDNA?

Q24. Describe the steps involved in the sequencing of a genome.

Q25. What is vaccination ?How does it help to produce immunity?