NAAHAR PUBLIC SCHOOL (CBSE) SENIOR SECONDARY,
AYYUR AGARAM, VILLUPURAM

TERM-I 2022-23, Micro Revision Test-6

CLASS: XII, Time: **60 minutes**
Sub: BIOLOGY (044) Max. Marks: **30**
Tr. Initial: MHR / ATCHAYA Date: 18.11.2022

I. Choose the correct answer (10 x ½ = 5) (5 minutes)

1. The cutting of DNA at a specific location became possible with the discovery of
   a) Probes b) Restriction enzymes c) Ligases d) Selectable markers
2. The DNA molecule to which the gene of interest is integrated for cloning is called
   a) Vector b) Carrier c) Template d) Transformer
3. For transformation, micro particles coated with DNA to be bombarded with gene gun are made up of
   a) Gold or Tungsten b) Silicon or Platinum c) Platinum or Zinc d) Silver or Platinum
4. DNA or RNA segment tagged with a radioactive molecule is called
   a) Plasmid b) Probe c) Clone d) Vector
5. Plasmids present in the bacterial cells are
   a) Linear double helical RNA molecules b) Linear double helical DNA molecules
   c) Circular double helical RNA molecules d) Circular double helical DNA molecules
6. The process of RNA interference has been used in the development of plants resistant to _____
   a) Insects b) Nematodes c) Fungi d) Viruses
7. The first ever human hormone produced by recombinant DNA technology is _____
   a) Progesterone b) Insulin c) Estrogen d) Testosterone
8. Cry-I endotoxins obtained from *Bacillus thuringiensis* are effective against ___
   a) Nematodes b) Flies c) Mosquitoes d) Boll worms
9. The maximum number of existing transgenic animals is of _____
   a) Fish b) Mice c) Cow d) Pig
10. Bt toxin is harmful to insects like
    a) lepidoterans (tobacco budworm, armyworms) b) coleopterans (beetles)
    c) dipterans (flies and mosquito) d) all of the above

II. Answer the following in brief. (6×1=6) (12 minutes)

11. What is Biopiracy?
12. What is GEAC? What are its main objectives?
13. How are ‘cry’ and ‘CRY’ different from each other in biotechnology?
14. What are the features of a plasmid being used as a cloning vector?
15. Draw and label the *E. coli*cloning vector pBR322 and mark restriction sites
16. Enumerate the Principles of Biotechnology?

III. Answer the following in short. (5×2=10) (15 minutes)

17. Explain the principle involved in ELISA.
18. What do you understand about a recombinant vaccine? Give two examples.
19. How is foreign DNA introduced into a host maintained by a host and transferred to successive generations?
20. Define –Palindromic sequence, Annealing, Extension &Amplification.
21. Explain any two vector-less methods that are used to introduce recombinant DNA into a competent host cell.

IV. Answer the following in detail. [3 + 3 + 3 = 9] (24 minutes)

22. What is gene therapy? Illustrate using the example of adenosine deaminase (ADA) deficiency.
23. a) What is a polymerase chain reaction?
    b) Explain the steps involved with diagram?
    c) Mention its applications.
24. Diagrammatically represent the experimental steps in cloning and expressing an human gene (say the gene for growth hormone) into abacterium like *E. coli* ?