YASHWANTRAO CHAVAN COLLEGE OF SCIENCE, KARAD
Department of Chemistry &
B.Sc. II Biochemistry
Paper-IV
Question Bank

Q.1) Select correct answer from the given alternative.

1. The fundamental unit of genetic information is known as……..
   i)cell ii)gene
   iii)protein iv)amino acid

2. Human insulin contains……amino acids.
   i) 51 ii) 30
   iii) 32 iv)20

3. Diabetes mellitus is a common metabolic disorder,characterized by insufficient ……..
   i) glycogen ii) glucose
   iii) sucrose iv)insulin

4. Acute phase of AIDS may last for about……..weeks.
   i) 8-12 ii) 10-12
   iii) 15-30 iv)none of these

5. 2-amino 6-oxypurine is ……..
   i) Guanine ii) Xanthine
   iii) Adenine iv)Cytosine

6. ……..is not a terminating codon.
   i) UAA ii) UAG
   iii) UGA iv)AUU

7. ……glycoprotein is important for viral infection and detection of AIDS.
   i) gP_{120} ii) gp
   iii) gp_{100} iv) none of these

8. Construction of c-DNA requires……..
   i) Reverse transcriptase ii) S 1 nuclease
   iii) DNA polymerase iv) all of these

9. 2,4-dioxypyrimidine is……..
   i) Thymine ii) Uracil
   iii)Cytosine iv)Adenine

10. DNA contains ……..sugar.
    i) D-deoxyribose ii) ribose
    iii) glucose iv) All of these

11. AIDS caused by……..virus.
    i) HIV virus ii) Adenovirus
    iii) Human papillomavirus iv) All of these

12. Polypeptide chain number,present in insulin structure is……
    i) 1 ii) 2
    iii) 3 iv)4

13. RNA molecule are detected by using ……blotting technique.

i) Southern ii) Northern

iii) Western iv) all of these

14. In PCR denaturation of DNA is carried out at…… °c temperature.

i) 95 ii) 85

iii) 74 iv) 64

15. The methods involved in PCR technique are…….

i) denaturation ii) renaturation

iii) DNA synthesis iv) all of these

16. The width of the double helix is ……A°.

i) 20 ii) 10

iii) 40 iv)15

17. The nicks in DNA is joined by the enzyme……..

i) Helicase ii) DNA ligase

iii) Replicase iv) Polymerase

18. Protiens are detected by…….blotting technique.

i) Western ii) Southern

iii)Northern iv) none of these

19. The characteristics of Genetic code are……..

    i) Universal ii) Degenerate

    iii) Non-overlapping iv) all of these

20. The enzyme ……..catalyses the formation of peptide bond.

    i) peptidyltransferase ii) synthase

    iii) terminal transferase iv) phosphorylase

21. Replication is continuous on …….

    i) leading strand ii) lagging strand

    iii) okazaki fragment iv) none of these

22. …….bond is present in nucleic acid.

    i) hydrogen bond ii) glycosidic bond

    iii)phosphodiester bond iv) all of these

23. AUG codon gives information for which…….amino acid.

    i) Alanine ii) Proline

    iii) Glycine iv) Methionine

24. ……..is a process in which DNA copies itself to produce identical daughter molecules of DNA.

i) Replication ii) Recombination

iii) Transcription iv) Translation

25. The ……..enzyme bind to both the DNA strands at the replication fork.

i) helicases ii) primase

iii) polymerase iv) synthase

26. The enzyme responsible for the synthesis of RNA primer in eukaryotes……..

i) DNA polymerase α ii) DNA polymerase β

iii) DNA polymerase ð iv) Topoisomeras

27. …….. base is not present in RNA.

i) A ii) T

iii) G iv) C

28. ……. enzyme is required for the separation of double stranded DNA during replication.

i) Helicase ii) topoisomerase

iii) Replicase iv) polymerase

29. ……. factor is required for the termination of transcription.

i) Rho ii) Sigma

iii)Gamma iv) Delta

30. ……..protein is required for the initiation of translation.

i) IF2 ii) Tu

iii)Ts iv) G factor

Q.2) Brief questions:

1. Describe the principle,working and applications of PCR.
2. Describe in detail Enzyme Reverse Transcriptase.
3. Describe in detail mechanism of prokaryotic transcription.
4. Describe in detail mechanism of Replication.
5. Describe in detail Southern Blotting technique.
6. Write in detail about enzyme Restriction endonuclease.
7. Write in detail Watson and Crick model of DNA.
8. Describe in detail mechanism of prokaryotic translation.
9. Describe the structure of HIV.
10. Describe the structure of insulin.

Q.3) Write short notes:

1. Genetic Code
2. Applications of genetic Engineering
3. structure of insulin
4. charging of t-RNA by amino acyl t-RNA synthetase
5. structure of HIV
6. Enzyme Reverse Transcriptase
7. Distinguish between DNA and RNA
8. m-RNA
9. t-RNA
10. Transcription bubble
11. Lysis of CD4 cells