DPP
DAILY PRACTICE PROBLEMS

CLASS : XIth
DATE :

SUBJECT : BIOLOGY
DPP No. : 5

Topic :-MOLECULAR BASIS OF INHERITANCE

1. Which one of the following triplet codes, is correctly matched with its specificity for an amino acid in protein synthesis of as 'start' or 'stop' codon ?
(A) UGU-Leucine (B) UAC-Tyrosine (C) UCG-Start (D) UUU-Stop

2. During translation initiation in prokaryotes, a GTP moleculs is needed in
(A) association of 30S, mRNA with formly met tRNA
(B) association of 50Ssubunit of ribosome with initiation complex
(C) formation of formyl met tRNA
(D) binding of 30S subunit of ribosome with mRNA

3. Degenaration of a genetic code is attributed to the
(A) entire codon (B) third member of a codon
(C) first member of a codon (D) second member of a codon

4. What would happen if in a gene encoding a polypetide of 50 amino acids, 25th codon (UAU) is mutated to UAA ?
(A) A polypeptide of 49 amino acids will be formed
(B) A polypeptide of 25 amino acids will be formed
(C) A polypeptide of 24 amino acids will be formed
(D) Two polypeptides of 24 and 25 amino acids will be formed

5. In the genetic code dictionary, how many codons are used to code for all the 20 essential amino acids ?
(A) 61 (B) 60 (C) 20 (D) 64

6. Chromosomes in a bacterial cell can be 1-3 in number and
(A) can be either circular or linear, but never both withint the same cell
(B) can be circular as well as linear within the same cell
(C) are always circular
(D) are always linear

7. During transcription, the DNA site at which RNA polymerase binds is called
(A) receptor (B) enhancer (C) promoter (D) regulator

8. What does 'lac' refer to in what we call the lac operon ?
(A) Lac insect (B) The number, 1,00,000 (C) Lactose (D) Lactase

9. DNA fingerprinting refers to
(A) molecular analysis or profiles of DNA samples
(B) analysis of DNA samples using imprinting device
(C) techniques used for molecular analysis of different specimens of DNA
(D) techniques used for identification of finger-prints of individuals

10. During transcription, the nucleotide sequence of the DNA strand that is being coded is ATACG, then the nucleotide sequence in the mRNA would be
(A) TATGC (B) TCTGG (C) UAUGC (D) UATGG

11. The following ratio is generally constant for a given species
(A) A + G/C + T (B) T + C/G + A (C) G + C/A + T (D) A + C/T + G

12. The telomereas of eukaryotic chromosomes consist of short sequences of
(A) thymine rich repeats
(B) cytosine rich repeats
(C) adenine rich repeats
(D) guanine rich repeats

13. After a mutation at genetic locus the character of an organism changes due to the change in
(A) protein structure
(B) DNA replication
(C) protein synthesis pattern
(D) RNA transcription pattern

14. During replication of a bacterial chromosome DNA synthesis starts from a replication origin site and
(A) RNA primers are involved (B) is facilitated by telomerase
(C) moves in one direction of the site (D) moves in bi-directional way

15. Telomerase is an enzyme which is a
(A) repetitive DNA (B) RNA (C) simple protein (D) ribonucleoprotein

16. During transcription holoenzyme RNA polymerase binds to a DNA sequence and the DNA assumes a saddle like structure at that point. What is that sequence called ?
(A) CAAT box (B) GGTT box (C) AAAT box (D) TATA box

17. Which one of the following hydrolyses internal phosphodiester bonds in a polynucleotide chain ?
(A) Lipase (B) Exonuclease (C) Endonuclease (D) Protease

18. Which one of the following makes use of RNA as a template to synthesis DNA ?
(A) Reserve transcriptase (B) DNA dependant RNA polymerase
(C) DNA polymerase (D) RNA polymerase

19. Amino acid sequence, in protein synthesis is decided by the sequence of
(A) tRNA (B) mRNA (C) cDNA (D) rRNA

20. One gene-one enzyme hypothesis was postulated by
(A) R Franklin (B) Hershey and Chase (C) A Garrod (D) Beadle and Tatum