

# DPP

DAILY PRACTICE PROBLEMS

CLASS : XI<sup>th</sup>  
DATE :

SUBJECT : BIOLOGY  
DPP No. : 1

## Topic :-MOLECULAR BASIS OF INHERITANCE

- In sea urchin DNA, which is double stranded, 17% of the bases were shown to be cytosine. The percentages of the other three bases expected to be present in this DNA are  
(A) G 17%, A 16.5%, T 32.5% (B) G 17%, A 33%, T 33%  
(C) G 8.5%, A 50%, T 24.5% (D) G 34%, A 24.5%, T 24.5%
- Which of the following RNAs picks up specific amino acid (from amino acid pool) in the cytoplasm to ribosome during protein synthesis  
or  
Which from of RNA has a structure resembling clover leaf  
(A) tRNA (B) mRNA (C) rRNA (D) All of these
- Read the following statements and choose the correct option  
A. Nitrogenous base is linked to the pentose sugar through a N-glycosidic linkage  
B. Phosphate group is linked to 5'-OH of a nucleoside through phosphoester linkage  
C. Two nucleosides are linked through 3'-5' N-glycosidic linkage  
D. Negatively charged DNA is wrapped around positively charged histone octamer to form nucleosome  
E. The chromatin that is more densely packed and stains dark is called euchromatin  
(A) A, B and C alone are wrong (B) D alone is wrong  
(C) C and E alone are wrong  
(D) A alone is wrong  
(E) A, B and D alone are wrong
- The substance that acts as connecting link between two generation is  
(A) Ribonucleic acid (B) Deoxyribonucleic acid  
(C) Nucleoplasm (D) Ribonucleic acid + Deoxyribonucleic acid
- Which one of the following peak absorption of ultraviolet light by heterocyclic bases (Nitrogen bases)  
(A) 1500 nm (B) 26 nm (C) 75 nm (D) 260 nm
- The enzyme that breaks H<sub>2</sub> bonds in DNA is  
(A) Helicase (B) Topoisomerase (C) Ligase (D) Polymerase
- Exon part of m-RNAs has code for  
(A) Protein (B) Lipid (C) Phospholipid (D) Carbohydrate

8. It has not escaped our notice that the specific pairing we have postulated immediately suggests a possible copying mechanism for genetic material. This is written by  
 (A) Meselson and Stahl (B) Archibald Garrod (C) Severo Ochoa (D) Waston and Crick
9. DNA elements, which can switch their position, are called  
 (A) Exons  
 (B) Introns  
 (C) Cistrons  
 (D) Transposons/Jumping genes
10. The specific DNA sequence where EcoRI cuts is  
 or  
 Which of the following plaindromic sequence is recognized by EcoRI  
 (A) ATTCGA (B) GAATTC  
 CGAATT CAAGTT  
 (C) GCTTAA (D) GTTCAA  
 TAAGCT CTTAAG
11. The enzyme DNA polymerase was discovered by  
 (A) Kornberg (B) Okazaki (C) Waston and Crick (D) Jacob and Monod
12. What is false about t RNA  
 (A) It binds with an amino acid at it 5' end  
 (B) It has five double stranded regions  
 (C) It has a codon at one end which recognizes the anticodon on messenger RNA  
 (D) It looks like clover leaf in the three dimensional structure
13. c-DNA can be formed by  
 (A) Transaminase  
 (B) DNA ligase  
 (C) RNA dependent DNA polymerase (Reverse Transcriptase)  
 (D) DNA dependent DNA polymerase
14. Which of the following is not correct  
 (A) (B)  $A + T = G + C$  (C)  $A + G = C + T$  (D) None of these
15. Which is not correctly matched  
 (A) Lipase - Hydrolysis of fats  
 (B) Isomerased - Joining of similar substrate amd management of substrate  
 (C) Polymerase - Chain elongation  
 (D) DNA ligase - Breaks DNA strand into two segments
16. In a mutational event, when adenine is replaced by guanine, it is a case of  
 or  
 A mutation which substitutes one purine base with another purine base is called  
 (A) Transition (B) Transversion (C) Frameshift mutation (D) Transcription
17. During transcription, if the nucleotide sequence of the DNA strand that is being coded is ATACG; then the nucleotide sequence in the mRNA would be  
 (A) UAUGC (B) UATGC (C) TATGC (D) TCTGG

18. During replication of a bacterial chromosome DNA synthesis starts from a replication origin site and  
(A) Moves in one direction of the site  
(B) Moves in bi-directional way  
(C) RNA primers are involved  
(D) Is facilitated by telomerase
19. Which option shows correctly labelled region in the given diagram of DNA replication  
(A) Only c (B) a, c (C) a, b (D) b, c
20. Removal of RNA polymerase III from nucleoplasm will affect the synthesis of  
or  
Eukaryotic RNA polymerase III catalyse the synthesis of  
(A) tRNA (B) hnRNA (C) mRNA (D) rRNA

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