



TARGET : NEET (UG) 2024

Course : SARANSH (Youtube Live CRASH COURSE)

BIOLOGY

DPP

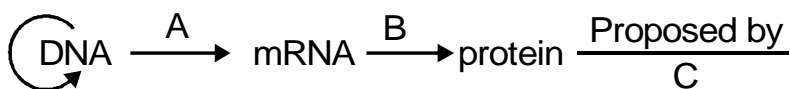
DAILY PRACTICE PROBLEMS

DPP NO. 1

BOTANY : MOLECULAR BASIS OF INHERITANCE

DPP No. : 1

1. The diagram shows an important concept in the genetic implication of DNA. Fill in the blanks A to C.



- (1) A - translation B - transcription C - Erevin Chargaff
 (2) A -transcription B - translation C - Francis Crick
 (3) A - translation B - extension C - Rosalind Franklin
 (4) A - transcription B - replication C - James Watson
2. Transformation was discovered by :
- (1) Meseson and stahl (2) Hershey and chase
 (3) Griffith (4) Waston and crick
3. 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 :
- (1) G 17%, A 16.5%,T32.5% (2) G 17%, A 33%,T 33%
 (3) G8.5%,A50%, T24.5% (4) G 34%,A 24.5%,T 24.5%
4. Taylor conducted the experiments to prove semiconservative mode of chromosome replication on
- (1) *E. coli* (2) *Vinca rosea*
 (3) *Vicia faba* (4) *Drosophila melanogaster*
5. The final proof for DNA as the genetic material came from the experiments of
- (1) Griffith (2) Hershey and Chase
 (3) Avery, Mcleod and McCarty (4) Hargobind Khorana

6. Read the following statements and choose the set of correct statements:
- (a) Euchromatin is loosely packed chromatin
 - (b) Heterochromatin is transcriptionally active
 - (c) Histone octamer is wrapped by negatively charged DNA in nucleosome
 - (d) Histone are rich in lysine and arginine
 - (e) A typical nucleosome contain 400 bp of DNA helix
- Choose the correct answer from the option given below:
- (1) (b), (e) Only
 - (2) (a), (c), (e) Only
 - (3) (b), (d), (e) Only
 - (4) (a), (c), (d) Only
7. If the length of a DNA molecule is 1.1 metres, what will be the approximate number of base pairs?
- (1) 3.3×10^6 bp
 - (2) 6.6×10^6 bp
 - (3) 3.3×10^9 bp
 - (4) 6.6×10^9 bp
8. Which one of the following experiments of Frederick Griffith resulted in the discovery of bacterial transformation?
- (1) S-strain (heat killed) + R-strain (live) → injected into Mice → Mice died
 - (2) S-strain → injected in to Mice → Mice died
 - (3) R-strain → injected in to Mice → Mice lived
 - (4) S-strain (heat killed) → injected in to Mice Mice lived
9. With respect to nucleosome, which of the following statements is mcorrect?
- (1) Nucleosomes are seen as 'beads on string' under Electron Microscope
 - (2) DNA is wrapped around positively charged histone octamer to form nucleosome.
 - (3) Nucleosome is the repeating unit of chromatin
 - (4) Nucleosome contains 120 bp of DNA helix
10. Given below are two statements:
- Statement I:** In prokaryotes, the positively charged DNA is held with some negatively charged proteins in a region called nucleoid.
- Statement II:** In eukaryotes, the negatively charged DNA is wrapped around the positively charged histone octamer to form nucleosome.
- In the light of the above statements. Choose the correct answer from the option below:
- (1) Both **Statement I** and **Statement II** are false.
 - (2) **Statement I** is correct but **Statement II** is false.
 - (3) **Statement I** incorrect but **Statement II** is true.
 - (4) Both **Statement I** and **Statement II** are true.