

Biotechnology

1. The term cistron, muton and recon were introduced by

- (A) Watson and Crick
- (B) S. Benzer
- (C) Meselson
- (D) Morgan

Answer: (B)

2. Extranuclear genetic material is found in

- (A) Plastid and nucleus
- (B) Mitochondria and plastids
- (C) Nucleus and cytoplasm
- (D) Mitochondria and nucleus

Answer: (B)

3. The molecular formulae of deoxyribose sugar and ribose sugar respectively are

- (A) $C_5H_{10}O_4$ and $C_5H_{10}O_6$
- (B) $C_5H_{10}O_4$ and $C_5H_{10}O_5$
- (C) $C_5H_{10}O_5$ and $C_5H_{10}O_4$
- (D) $C_5H_{10}O_5$ and $C_6H_{10}O_4$

Answer: (B)

4. The nitrogen bases which pair with two hydrogen bonds are

- (A) Adenine and thymine
- (B) Adenine and Cytosine
- (C) Cytosine and guanine
- (D) Cytosine and adenine

Answer: (A)

5. DNA differs from RNA in

- (A) Presence of deoxyribose sugar
- (B) Presence of thymine base
- (C) Property of replication

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(D) All the above

Answer: (D)

6. DNA molecules makes a complete turn after every

- (A) 20 Å
- (B) 34 Å
- (B) 3.4 Å
- (D) 10 base pairs

Answer: (D)

7. The distance between two successive nitrogenous base pairs is

- (A) 34 Å
- (B) 36 Å
- (C) 20 Å
- (D) 3.4 Å

Answer: (D)

8. In nucleoside, nitrogen base is attached to pentose sugar at

- (A) Carbon – 1 of pentose sugar
- (B) Carbon – 2 of pentose sugar
- (C) Carbon – 4 of pentose sugar
- (D) Carbon – 5 of pentose sugar

Answer: (A)

9. If the strand of DNA has 35 nucleotide how many phosphodiester bonds would exist

- (A) 34
- (B) 35
- (C) 24
- (D) 70

Answer: (A)

10. In eukaryotic DNA replication, lagging strand is formed by

- (A) RNA fragments
- (B) Okazaki fragments

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- (C) DNA fragments
- (D) Nucleotide fragments

Answer: (B)

11. The enzyme DNA polymerase can work only in

- (A) 3' → 5' direction
- (B) 5' → 3' direction
- (C) Both the direction
- (D) 5' → 5' direction

Answer: (B)

12. Enzyme required for removing RNA primer during DNA replication is

- (A) DNA primase
- (B) DNA ligase
- (C) DNA polymerase I
- (D) DNA polymerase III

Answer: (C)

13. During DNA replication, the reunion or recoiling of separated DNA strand is prevented by

- (A) Helix destabilizing protein
- (B) Single strand binding protein
- (C) Rep protein
- (D) Both (A) and (B)

Answer: (D)

14. The enzyme that cuts the bonds of DNA molecule at the origin of replication is

- (A) Endonuclease
- (B) DNA polymerase
- (C) DNA gyrase
- (D) DNA ligase

Answer: (A)

15. Which of the following enzyme is required to release the tension imposed by uncoiling of strands?

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- (A) Endonuclease
- (B) DNA ligase
- (C) DNA gyrase
- (D) DNA helicase

Answer: (C)

16. The cellular composition of m-RNA is

- (A) 5-10%
- (B) 3-5%
- (C) 10-20 %
- (D) 70-80%

Answer: (B)

17. Formation of mRNA from DNA is called

- (A) Transformation
- (B) Transduction
- (C) Translation
- (D) Transcription

Answer: (D)

18. The ratio of purines and pyrimidines in mRNA is not 1:1 because the nitrogenous bases are

- (A) Unpaired
- (B) Paired
- (C) Paired only in loops
- (D) Paired in stems

Answer: (A)

19. The codons which may present at 3' end of mRNA

- (A) UAA
- (B) UAG
- (C) UGA
- (D) Any one of these

Answer: (D)

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20. Which of the following is not tool of genetic engineering?

- (A) Vectors
- (B) Enzymes
- (C) Foreign DNA
- (D) GMO

Answer: (D)

21. In recombinant DNA technology a plasmid vector is cleaved by

- (A) Modified DNA ligase
- (B) A heated alkaline solution
- (C) The same enzyme that cleave the donor DNA
- (D) The different enzyme other than that cleave the donor DNA

Answer: (C)

22. The most common plasmid vector used in genetic engineering is

- (A) PBR 328
- (B) PBR 322
- (C) PBR 325
- (D) PBR 330

Answer: (B)

23. 'Nif gene' for nitrogen fixation in cereal crops like wheat, jowar etc. is introduced by cloning

- (A) Rhizobium meliloti
- (B) Bacillus thuringiensis
- (C) Rhizopus
- (D) Rhizophora

Answer: (A)

24. Eco RI is an

- (A) Ligase
- (B) Polymerase
- (C) Restriction enzyme
- (D) Gyrase

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Answer: (C)

25. The transgenic plant flavr savr tomato carries an artificial gene for

- (A) Delay ripening process
- (B) Longer shelf life
- (C) Added flavours
- (D) All of these

Answer: (D)