

Chapter-06 Molecular Basis of Inheritance

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NEET Biology MCQ

Chapter-6 Molecular basis of Inheritance

1. A sample of DNA contains 20% of adenine. What is the quantity of guanine present?
A. 30 **B. 20** D. 25 C. 15
Ans: B
2. Who proposed the concept of reverse transcription?
A. Crick & Temmin **B. Temmin & Baltimore**
C. Watson & Chargaff D. Chargaff
Ans: B
3. What is the name of process of addition of methyl guanosine triphosphate at the 5' end of hn RNA?
A. Splicing **B. Capping** C. Tailing D. None of these
Ans: B
4. Find out the wrong pair/s?
1. rRNA- RNA polymerase |
2. tRNA- RNA polymerase ||
3. mRNA- RNA polymerase III
A. Both 1 & 2 **B. Both 2&3** C. Only 1 D. Only 2
Ans: B
5. Who proposed base pairing rules of DNA?
A. James Watson **B. Erwin Chargaff** C. Francis Crick D. Frederic Griffith
Ans: B

6. Find out the incorrect pair
1. B-galactosidase - produces by z-gene
 2. Permease - produces by y-gene
 3. Transacetylase - produces by a-gene
- A. 1 & 2 B. 2&3 C. All the statements **D. None of the statements**
- Ans: D
7. What is the length of DNA having 75 base pairs?
- A. 255Ao **B. 112.5 A0** C. 750 Ao D. None of these
- Ans: B
8. Which amino acids are present mostly in histone?
- A. Arginine & Glycine B. Glycine & Lysine
- C. Arginine & Lysine** D. Arginine & Valine
- Ans: C
9. During tailing which molecule is added at the 3' end of hnRNA?
- A. Poly adenylate residue** B. Methyl guanosine tri phosphate
- C. Methyl guanosine diphosphate D. Adenosine monophosphate
- Ans: A
10. Which type of histones interconnect two adjacent nucleosomes?
- A. H₁ & H_A B. H_A & H₂B **C. H_q only** D. H₃ & H₂A
- Ans: C
11. Who discovered Lac operon?
- A. Jacob & Monod** B. Jacob & Watson
- C. Watson & Monod D. Crick & Monod
- Ans: A
12. Which is the largest gene in Man?
- A. Dystrophin** B. Dystronin C. Dystromin D. Dystropin
- Ans: A

13. What were the experimental materials used by Griffith to prove that DNA is the genetic material?

- A. E-coli & Streptococcus pneumonia
- B. Mice & Staphylococcus pneumonia
- C. Mice, Streptococcus pneumonia & Staphylococcus pneumonia
- D. None of these

Ans: C

14. Which enzyme unwinds DNA double helix during DNA replication?

- A. Topoisomerase
- B. Helicase
- C. SSB protein
- D. DNA polymerase

Ans: B

15. Who experimentally proved that DNA is the genetic material?

- A. Meselson & Chase
- B. Hershey & Chase
- C. Hershey & Meselson
- D. Watson & Chase

Ans: B

16. Consider the following statements

- 1. Codes for amino acid methionine
- 2. Initiation codon
- 3. Stop codon
- 4. Sense codon

Which of the above statements are true with respect to AUG?

- A. 1, 2 & 3 are correct
- B. 2, 3 & 4 are correct
- C. 1, 2 & 4 are correct
- D. Only 1 is incorrect

Ans: C

17. Which codons are stop codons

- A. UAA, UGA & UAG
- B. UAA, UGA & UAG
- C. UAA, UGC & UGAD. UAA, UAG & UCG

Ans: B

18. Which amino acids are coded by the genetic codes GAG & GUG respectively

- A. Glutamic acid & Glutamic acid
- B. Glutaric acid & Valine
- C. Glutaric acid & Proline
- D. Glutamic acid & Valine

Ans: D

19. The exchange of chromosomes segments between non-homologous chromosomes is called
A. **Translocation** B. Deletion C. Transfer D. Frame shift

Ans: A

20. Okazaki fragments are
A. **Short DNA fragments on the lagging strand**
B. Short DNA fragments on the leading strand
C. The RNA primers required for initiation of DNA synthesis
D. The DNA fragment produced due to radiation action

Ans: A

21. RNA polymerizes which is on the promoter, moves to the structural genes to transcribe them. However, it happens when
A. **There is no repressor on the operator** B. There is repressor on the operator
C. Inducer binds to structural genes D. RNA polymerase shifts first to regulator gene

Ans: A

22. The special unwinding enzyme that helps in breaking the weak hydrogen bond which hold the two strands of DNA is
A. Primase B. DNA ligase C. DNA polymerase D. **Helicase**

Ans: D

23. Transfer of DNA from one bacteria to another through cell to cell contact is known as
A. Conjugation B. **Transformation** C. Transduction D. Transcription

Ans: B

24. The four nitrogen base sequence which form the code words for DNA Language is
A. UTAC B. ACTU C. AGCU D. **ATCG**

Ans: D

25. DNA strands are antiparallel because of the presence of
A. H-bonds B. Peptide bonds C. Di sulphide bonds D. **Phospho diester bonds**

Ans: D

32. Where is the location of promoter in the transcription unit?

- A. Towards 5' end of template strand
- B. Towards 3' end of template strand
- C. Towards 5' end of coding strand
- D. Towards 3' end of coding strand

Ans: A

33. Which molecule acts as an adaptor during translation?

- A. mRNA
- B. rRNA
- C. tRNA
- D. hRNA

Ans: C

34. Who confirmed transforming principle experimentally?

- A. Oswald Avery
- B. Collin McLeod
- C. Maclynn McCarty
- D. All of them together

Ans: D

35. What is the product of metabolism of galactose in lac operon?

- A. Glucose + Lactose
- B. Glucose + Glucose
- C. Glucose + Fructose
- D. None

Ans: D

36. What is the name of segment of DNA capable of producing a polypeptide chain

- A. Recon
- B. Cistron
- C. Mutton
- D. None of these

Ans: B

37. Who experimentally proved semi conservative model of DNA replication

- A. Meselson & Stahl
- B. Frederic Griffith
- C. Watson & Crick
- D. Chargaff

Ans: A

38. The codon AUG stands for which amino acid

- A. Tryptophan
- B. Glycine
- C. Lysine
- D. Methionine

Ans: D

39. How many sense codons are there in genetic code

- A. 64
- B. 61
- D. 60
- C. 62

Ans: B

40. When did human genome project start?
A. 1989 B. 1990 C. 1988 D. None

Ans: B

41. Where is the location of terminator in the transcription unit
E. Towards 5' end of template strand
F. Towards 3' end of template strand
G. Towards 5' end of coding strand
H. Towards 3' end of coding strand

Ans: B

42. Who named the term nucleic acid to the content of chromatin?
A. Frederic Altmann B. Oswald Awery C. Gregor Mendel D. None

Ans: D

43. Which enzymes prevents the binding of unwound DNA strands
A. DNA ligase B. DNA polymerase C. SSB protein D. Helicase

Ans: C

44. RNA polymerase III transcribes
A. ERNA B. mRNA C. hnRNA D. rRNA

Ans: A

45. Degeneracy of genetic code is due to
A. First nitrogen base B. Second nitrogen base
C. Third nitrogen base D. First & second nitrogen base

Ans: C

46. Number of base pairs in a mini satellite is approximately
A. 6-12 bp B. 12-18 bp C. 18- 24 bp D. None

Ans: D

47. The post transcriptional process involves
A. Splicing B. Tailing C. Capping D. All

Ans: D

48. How many naturally occurring amino acids are there
A. 20 B. 21 C. 22 D. None

Ans: A

49. How many stop codons are there? –
A. 3 B. 2 C. 4 D. 5

Ans: A

50. Which gene produces permease in Lac operon?
A. Z-gene B. A-gene C. Y-gene D. P-gene

Ans: C

From Rajesh Kumar Principal, KV, Devlali