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NEET MOLECULAR BASIS OF INHERITANCE — PYQS

Max. Marks: 672 **Questions:** 168

Section A (MCQ) — 168 questions

Q.1 In the lac operon, the z gene codes for : [NEET (UG) 2026]

(1) the repressor of lac operon
(2) transacetylase
(3) permease
(4) beta-galactosidase

Solution

Q.2 Arrange the following steps of DNA fingerprinting in a correct sequence.

A. Isolation of DNA and its digestion by restriction endonucleases.
B. Hybridisation using a labelled VNTR probe.
C. Transferring of separated DNA fragments to synthetic membranes.
D. Detection of hybridised DNA fragments by autoradiography.
E. Separation of DNA fragments by electrophoresis.

Choose the correct answer from the options given below : [NEET (UG) 2026]

(1) A, E, B, C, D (2) A, D, B, E, C
(3) A, B, D, C, E (4) A, E, C, B, D

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Q.3 Which of the following statements are correct with reference to a transcription unit?

A. A transcription unit in DNA is defined primarily by three regions: promoter, structural gene and terminator.
B. The promoter is said to be located towards the 5'-end of the structural gene.
C. The promoter is a DNA sequence that provides binding site for RNA polymerase.
D. The promoter defines the template and coding strands.
E. The terminator is located towards the 3'-end of the coding strand and it defines the end of the process of transcription.

Choose the correct answer from the options given below: [NEET (UG) 2026]

(1) B, C, D and E only (2) A, B, C, D and E
(3) A, B, C and D only (4) A, C, D and E only

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Q.4 Which of the following statements are correct with reference to packaging of DNA helix ?

A. Histones are organized to form a unit of eight molecules called histone octamer.
B. Histones are negatively charged basic proteins.
C. Histones are rich in the basic amino acid residues – lysine and arginine.
D. The positively charged DNA is wrapped around the histone octamer to form nucleosome.
E. The packaging of chromatin at higher levels requires an additional set of proteins called non-histone chromosomal proteins.

Choose the correct answer from the options given below : [NEET (UG) 2026]

(1) B, D and E only (2) A, B and D only
(3) C, D and E only (4) A, C and E only

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Q.5 Which of the following statements about lac-operon is correct? [RE-NEET (UG) 2026]

(1) Galactose can act as an inducer of lac operon
(2) Gene i is constitutively expressed
(3) Lactose activates repressor to bind to the operator
(4) Genes i, z, y and a share single common promoter

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Q.6 Which of the following enzymes synthesizes precursor mRNA? [RE-NEET (UG) 2026]

(1) DNA polymerase (2) RNA polymerase I
(3) RNA polymerase II (4) RNA polymerase III

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Q.7 Which chromosome in the human genome has the highest number of genes? [NEET (UG) 2025]

(1) Chromosome 1 (2) Chromosome 10
(3) Chromosome X (4) Chromosome Y

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Q.8 Match **List-I** with **List-II**

List - I	
A.	Alfred Hershey and Martha Chase

List - I	
B.	Euchromatin
C.	Frederick Griffith
D.	Heterochromatin

List - II	
I.	*Streptococcus pneumoniae*
II.	Densely packed and dark-stained
III.	Loosely packed and light-stained
IV.	DNA as genetic material confirmation

Choose the correct answer from the options given below: [NEET (UG) 2025]

(1) A-IV, B-III, C-I, D-II
(2) A-III, B-II, C-IV, D-I
(3) A-II, B-IV, C-I, D-III
(4) A-IV, B-II, C-I, D-III

Solution

Q.9 Which of the following are the post-transcriptional events in a eukaryotic cell?

A. Transport of pre-mRNA to cytoplasm prior to splicing.
B. Removal of introns and joining of exons.
C. Addition of methyl group at 5' end of hnRNA.
D. Addition of adenine residues at 3' end of hnRNA.
E. Base pairing of two complementary RNAs.

Choose the correct answer from the options given below : [NEET (UG) 2025]

(1) B, C, E only (2) C, D, E only
(3) A, B, C only (4) B, C, D only

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Q.10 Given below are two statements:

Statement-I: In the RNA world, RNA is considered the first genetic material evolved to carry out essential life processes. RNA acts as a genetic material and also as a catalyst for some important biochemical reactions in living systems. Being reactive, RNA is unstable.

Statement-II: DNA evolved from RNA and is a more stable genetic material. Its double helical strands being complementary, resist changes by evolving repairing mechanism.

In the light of the above statements, choose the most appropriate answer from the options given below : [NEET (UG) 2025]

(1) Statement-I is correct but statement II is incorrect
(2) Statement-I is incorrect but statement II is correct
(3) Both statement I and statement II are correct
(4) Both statement I and statement II are incorrect

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Q.11 Given below are two statements :

Statement-I: Transfer RNAs and ribosomal RNA do not interact with mRNA.

Statement-II: RNA interference (RNAi) takes place in all eukaryotic organisms as a method of cellular defence.

In the light of the above statements, choose the most appropriate answer from the options given below : [NEET (UG) 2025]

(1) Statement-I is correct but statement II is incorrect
(2) Statement-I is incorrect but statement II is correct
(3) Both statement I and statement II are correct
(4) Both statement I and statement II are incorrect

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Q.12 Who proposed that the genetic code for amino acids should be made up of three nucleotides? [NEET (UG) 2025]

(1) Jacques Monod (2) Franklin Stahl
(3) George Gamow (4) Francis Crick

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Q.13 Histones are enriched with - [NEET (UG) 2025]

(1) Phenylalanine & Leucine
(2) Phenylalanine & Arginine
(3) Lysine & Arginine
(4) Leucine & Lysine

Solution

Q.14 Which factor is important for termination of transcription? [NEET (UG) 2025]

(1) ρ (rho) (2) γ (gamma)
(3) α (alpha) (4) σ (sigma)

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Q.15 The lactose present in the growth medium of bacteria is transported to the cell by the action of [NEET (UG) 2024]

(1) Beta-galactosidase (2) Acetylase
(3) Permease (4) Polymerase

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Q.16 A transcription unit in DNA is defined primarily by the three regions in DNA and these are with respect to upstream and down stream end; [NEET (UG) 2024]

(1) Repressor, Operator gene, Structural gene

(2) Structural gene, Transposons, Operator gene
(3) Inducer, Repressor, Structural gene
(4) Promoter, Structural gene, Terminator

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Q.17 Which of the following statement is correct regarding the process of replication in *E. coli*? [NEET (UG) 2024]

(1) The DNA dependent DNA polymerase catalyses polymerization in one direction that is $3' \longrightarrow 5'$
(2) The DNA dependent RNA polymerase catalyses polymerization in one direction, that is $5' \longrightarrow 3'$
(3) The DNA dependent DNA polymerase catalyses polymerization in $5' \longrightarrow 3'$ as well as $3' \longrightarrow 5'$ direction
(4) The DNA dependent DNA polymerase catalyses polymerization in $5' \longrightarrow 3'$ direction

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Q.18 Match **List I** with **List II**

List-I		List-II	
A.	Frederick Griffith	I.	Genetic code
B.	Francois Jacob & Jacques Monod	II.	Semi-conservative mode of DNA replication
C.	Har Gobind Khorana	III.	Transformation
D.	Meselson & Stahl	IV.	Lac operon

Choose the correct answer from the options given below: [NEET (UG) 2024]

(1) A-III, B-II, C-I, D-IV
(2) A-III, B-IV, C-I, D-II
(3) A-II, B-III, C-IV, D-I
(4) A-IV, B-II, C-II, D-III

Solution

Q.19 Which one is the correct product of DNA dependent RNA polymerase to the given template?
3'TACATGGCAAATATCCATTCA5' [NEET (UG) 2024]

(1) 5'AUGUACCGUUUAUAGGUAAGU3'
(2) 5'AUGUAAAGUUUAUAGGUAAGU3'
(3) 5'AUGUACCGUUUAUAGGGAAGU3'
(4) 5'ATGTACCGTTTATAGGTAAGT3'

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Q.20 Match **List I** with **List II**:

List - I		List - II	
A.	RNA polymerase III	I.	snRNPs
B.	Termination of transcription	II.	Promoter
C.	Splicing of Exons	III.	Rho factor
D.	TATA box	IV.	snRNAs, tRNA

Choose the correct answer from the options given below : [NEET (UG) 2024]

(1) A-II, B-IV, C-I, D-III
(2) A-III, B-II, C-IV, D-I
(3) A-III, B-IV, C-I, D-II
(4) A-IV, B-III, C-I, D-II

Solution

Q.21 Given below are two statements regarding RNA polymerase in prokaryotes.
Statement-I: In prokaryotes, RNA polymerase is capable of catalysing the process of elongation during transcription.
Statement-II: RNA polymerase associate transiently with 'Rho' factor to initiate transcription.

In the light of the above statements, choose the correct answer from the options given below : [RE-NEET (UG) 2024]

(1) Statement-I is true but Statement-II is false
(2) Statement-I is false but Statement-II is true
(3) Both Statement-I and Statement-II are true
(4) Both Statement-I and Statement-II are false

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Q.22 Given below are two statements:
Statement-I: In eukaryotes there are three RNA polymerases in the nucleus in addition to the RNA polymerase found in the organelles.
Statement-II: All the three RNA polymerases in eukaryotic nucleus have different roles.

In the light of the above statements, choose the correct answer from the options given below: [RE-NEET (UG) 2024]

(1) Statement-I is correct but Statement-II is incorrect
(2) Statement-I is incorrect but Statement-II is correct
(3) Both Statement-I and Statement-II are correct
(4) Both Statement-I and Statement-II are incorrect

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Q.23 Match **List-I** with **List-II**: [RE-NEET (UG) 2024]

List-I		List-II	
A.	Histones	I.	Loosely packed chromatin

List-I		List-II	
B.	Nucleosome	II.	Densely packed chromatin
C.	Euchromatin	III.	Positively charged basic proteins
D.	Heterochromatin	IV.	DNA wrapped around histone octamer

(1) A-IV, B-III, C-II, D-I
(2) A-III, B-I, C-IV, D-II
(3) A-II, B-III, C-IV, D-I
(4) A-III, B-IV, C-I, D-II

Solution

Q.24 Given below are two statements :
Statement-I: In the lac operon, the z gene codes for beta-galactosidase which is primarily responsible for the hydrolysis of lactose into galactose and glucose.
Statement-II: In addition to lactose, glucose or galactose can also induce lac operon.

In the light of the above statements, choose the correct answer from the options given below : [RE-NEET (UG) 2024]

(1) Statement-I is true but Statement-II is false
(2) Statement-I is false but Statement-II is true
(3) Both Statement-I and Statement-II are true
(4) Both Statement-I and Statement-II are false

Scan or tap for the full solution

Q.25 Unequivocal proof that DNA is the genetic material was first proposed by [NEET (UG) 2023]

(1) Alfred Hershey and Martha Chase
(2) Avery, MacLeod and McCarty
(3) Wilkins and Franklin
(4) Frederick Griffith

Solution

Q.26 What is the role of RNA polymerase III in the process of transcription in Eukaryotes? [NEET (UG) 2023]

(1) Transcription of tRNA, 5S rRNA and snRNA
(2) Transcription of precursor of mRNA
(3) Transcription of only snRNAs
(4) Transcription of rRNAs (28S, 18S and 5.8S)

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Q.27 Expressed Sequence Tags (ESTs) refer to [NEET (UG) 2023]

(1) All genes that are expressed as proteins.
(2) All genes whether expressed or unexpressed.
(3) Certain important expressed genes.
(4) All genes that are expressed as RNA.

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Q.28 How many different proteins does the ribosome consist of? [NEET (UG) 2023]

(1) 60 (2) 40 (3) 20 (4) 80

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Q.29 Match **List I** with **List II**.

List I		List II	
A.	Gene 'a'	I.	β-galactosidase
B.	Gene 'y'	II.	Transacetylase
C.	Gene 'i'	III.	Permease
D.	Gene 'z'	IV.	Repressor protein

Choose the correct answer from the options given below : [NEET (UG) 2023]

(1) A-II, B-III, C-IV, D-I
(2) A-III, B-IV, C-I, D-II
(3) A-III, B-I, C-IV, D-II
(4) A-II, B-I, C-IV, D-III

Solution

Q.30 Given below are two statements:
Statement-I: RNA mutates at a faster rate.
Statement-II: Viruses having RNA genome and shorter life span mutate and evolve faster.

In the light of the above statements, choose the correct answer from the options given below: [NEET (UG) 2023]

(1) Both Statement-I and Statement-II are false.
(2) Statement-I is true but Statement-II is false.
(3) Statement-I is false but Statement-II is true.
(4) Both Statement-I and Statement-II are true.

Scan or tap for the full solution

Q.31 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 options given below: [NEET (UG) 2023]

(1) Both Statement-I and Statement-II are false.
(2) Statement-I is correct but Statement-II is false.
(3) Statement-I is incorrect but Statement-II is true.
(4) Both Statement-I and Statement-II are true.

Scan or tap for the full solution

Q.32 Which one of the following is the sequence on corresponding coding strand, if the sequence on mRNA formed is as follows 5′ AUCG AUCG AUCG AUCG AUCG AUCG AUCG 3′?

[NEET (UG) 2023]

(1) 3′ UAGC UAGC UAGC UAGC UAGC UAGC UAGC 5′
(2) 5′ ATCG ATCG ATCG ATCG ATCG ATCG ATCG 3′
(3) 3′ ATCG ATCG ATCG ATCG ATCG ATCG ATCG 5′
(4) 5′ UAGC UAGC UAGC UAGC UAGC UAGC UAGC 3′

Scan or tap for the full solution

Q.33 The process of translation of mRNA to proteins begins as soon as: [NEET (UG) 2022]

(1) The small subunit of ribosome encounters mRNA
(2) The larger subunit of ribosome encounters mRNA
(3) Both the subunits join together to bind with mRNA
(4) The tRNA is activated and the larger subunit of ribosome encounters mRNA

Scan or tap for the full solution

Q.34 DNA polymorphism forms the basis of:

[NEET (UG) 2022]

(1) Genetic mapping
(2) DNA fingerprinting
(3) Both genetic mapping and DNA fingerprinting
(4) Translation

Scan or tap for the full solution

Q.35 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. Histones are rich in lysine and arginine
E. A typical nucleosome contains 400 bp of DNA helix

Choose the correct answer from the options given below : [NEET (UG) 2022]

(1) (B), (D), (E) only (2) (A), (C), (D) only
(3) (B), (E) only (4) (A), (C), (E) only

Scan or tap for the full solution

Q.36 If a geneticist uses the blind approach for sequencing the whole genome of an organism, followed by assignment of function to different segments, the methodology adopted by him is called as : [NEET (UG) 2022]

(1) Sequence annotation
(2) Gene mapping
(3) Expressed sequence tags
(4) Bioinformatics

Solution

Q.37 If the length of a DNA molecule is 1.1 metres, what will be the approximate number of base pairs?

[NEET (UG) 2022]

(1) 3.3×10^9 bp (2) 6.6×10^9 bp
(3) 3.3×10^6 bp (4) 6.6×10^6 bp

Scan or tap for the full solution

Q.38 In an *E. coli* strain i gene gets mutated and its product cannot bind the inducer molecule. If growth medium is provided with lactose, what will be the outcome? [NEET (UG) 2022]

(1) Only z gene will get transcribed
(2) z, y, a genes will be transcribed
(3) z, y, a genes will not be translated
(4) RNA polymerase will bind the promoter region

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Q.39 Ten *E. coli* cells with ^{15}N-dsDNA are incubated in medium containing ^{14}N nucleotide. After 60 minutes, how many *E. coli* cells will have DNA totally free from ^{15}N? [NEET (UG) 2022]

(1) 20 cells (2) 40 cells
(3) 60 cells (4) 80 cells

Scan or tap for the full solution

Q.40 In lac operon, z gene codes for

[NEET (UG) 2022 (Phase 2)]

(1) Transacetylase (2) β-galactosidase
(3) Permease (4) Repressor

Scan or tap for the full solution

Q.41 Given below are two statements

Statement-I: DNA polymerases catalyse polymerisation only in one direction, that is $5' \longrightarrow 3'$.

Statement-II: During replication of DNA, on one strand the replication is continuous while on other strand it is discontinuous.

In the light of the above statements, choose the correct answer from the options given below:

[NEET (UG) 2022 (Phase 2)]

(1) Statement-I is incorrect but Statement-II is correct
(2) Both Statement-I and Statement-II are correct
(3) Both Statement-I and Statement-II are incorrect
(4) Statement-I is correct but Statement-II is incorrect

Scan or tap for the full solution

Q.42 Match **List - I** with **List - II**.

	List - I		List - II
a.	In lac operon i gene codes for	i.	transacetylase
b.	In lac operon z gene codes for	ii.	permease
c.	In lac operon y gene codes for	iii.	β-galactosidase
d.	In lac operon a gene codes for	iv.	Repressor

Choose the correct answer from the options given below [NEET (UG) 2022 (Phase 2)]
(1) (a) - (iii), (b) - (i), (c) - (iv), (d) - (ii)
(2) (a) - (iii), (b) - (ii), (c) - (i), (d) - (iv)
(3) (a) - (iv), (b) - (iii), (c) - (ii), (d) - (i)
(4) (a) - (iv), (b) - (i), (c) - (iii), (d) - (ii)

Scan or tap for the full solution

Q.43 Match **List-I** with **List-II**:

	List - I		List - II
a.	Bacteriophage φX174	i.	48502 base pairs
b.	Bacteriophage lambda	ii.	5386 nucleotides
c.	*Escherichia coli*	iii.	3.3×10^9 base pairs
d.	Haploid content of human DNA	iv.	4.6×10^6 base pairs

Choose the correct answer from the options given below: [NEET (UG) 2022 (Phase 2)]
(1) (a)-(i), (b)-(ii), (c)-(iv), (d)-(iii)
(2) (a)-(i), (b)-(ii), (c)-(iii), (d)-(iv)
(3) (a)-(ii), (b)-(iv), (c)-(i), (d)-(iii)
(4) (a)-(ii), (b)-(i), (c)-(iv), (d)-(iii)

Solution

Q.44 If DNA contained sulfur instead of phosphorus and proteins contained phosphorus instead of sulfur, what would have been the outcome of Hershey and Chase experiment? [NEET (UG) 2022 (Phase 2)]
(1) Radioactive phosphorus in bacterial cells
(2) No radioactive sulfur in bacterial cells
(3) Both radioactive sulfur and phosphorus in bacterial cells
(4) Radioactive sulfur in bacterial cells

Scan or tap for the full solution

Q.45 Against the codon 5' UAC 3', what would be the sequence of anticodon on tRNA? [NEET (UG) 2022 (Phase 2)]
(1) 5' GUA 3' (2) 5' AUG 3'
(3) 5' ATG 3' (4) 5' GTA 3'

Scan or tap for the full solution

Q.46 If A and C make 30% and 20% of DNA, respectively, what will be the percentage composition of T and G? [NEET (UG) 2022 (Phase 2)]
(1) T : 20%, G : 20% (2) T : 20%, G : 30%
(3) T : 30%, G : 20% (4) T : 30%, G : 30%

Scan or tap for the full solution

Q.47 Complete the flow chart on central dogma. [NEET (UG) 2021]

(a) DNA $\xrightarrow{(b)}$ mRNA $\xrightarrow{(c)}$ (d)

(1) (a) - Transduction; (b) - Translation; (c) - Replication; (d) - Protein
(2) (a) - Replication; (b) - Transcription; (c) - Transduction; (d) - Protein
(3) (a) - Translation; (b) - Replication; (c) - Transcription; (d) - Transduction
(4) (a) - Replication; (b) - Transcription; (c) - Translation; (d) - Protein

Scan or tap for the full solution

Q.48 What is the role of RNA polymerase III in the process of transcription in eukaryotes? [NEET (UG) 2021]
(1) Transcribes only snRNAs
(2) Transcribes rRNAs (28S, 18S and 5.8S)
(3) Transcribes tRNA, 5S rRNA and snRNA
(4) Transcribes precursor of mRNA

Scan or tap for the full solution

Q.49 DNA fingerprinting involves identifying differences in some specific regions in DNA sequence, called as [NEET (UG) 2021]
(1) Polymorphic DNA (2) Satellite DNA
(3) Repetitive DNA (4) Single nucleotides

Scan or tap for the full solution

Q.50 Identify the correct statement. [NEET (UG) 2021]
(1) Split gene arrangement is characteristic of prokaryotes

(2) In capping, methyl guanosine triphosphate is added to the 3' end of hnRNA
(3) RNA polymerase binds with Rho factor to terminate the process of transcription in bacteria
(4) The coding strand in a transcription unit is copied to an mRNA

Scan or tap for the full solution

Q.51 If Adenine makes 30% of the DNA molecule, what will be the percentage of Thymine, Guanine and Cytosine in it? [NEET (UG) 2021]
(1) T : 20 ; G : 25 ; C : 25
(2) T : 20 ; G : 30 ; C : 20
(3) T : 20 ; G : 20 ; C : 30
(4) T : 30 ; G : 20 ; C : 20

Solution

Q.52 Which of the following RNAs is not required for the synthesis of protein? [NEET (UG) 2021]
(1) siRNA (2) mRNA (3) tRNA (4) rRNA

Scan or tap for the full solution

Q.53 Which is the "Only enzyme" that has "Capability" to catalyse Initiation, Elongation and Termination in the process of transcription in prokaryotes? [NEET (UG) 2021]
(1) DNase
(2) DNA dependent DNA polymerase
(3) DNA dependent RNA polymerase
(4) DNA Ligase

Scan or tap for the full solution

Q.54 Which one of the following statements about histones is wrong? [NEET (UG) 2021]
(1) Histones carry positive charge in the side chain
(2) Histones are organized to form a unit of 8 molecules
(3) The pH of histones is slightly acidic
(4) Histones are rich in amino acids - Lysine and Arginine

Scan or tap for the full solution

Q.55 **Statement-I:** The codon 'AUG' codes for methionine and phenylalanine.
Statement-II: 'AAA' and 'AAG' both codons code for the amino acid lysine.

In the light of the above statements, choose the correct answer from the options given below. [NEET (UG) 2021]
(1) Statement-I is incorrect but Statement-II is true
(2) Both Statement-I and Statement-II are true
(3) Both Statement-I and Statement-II are false
(4) Statement-I is correct but Statement-II is false

Scan or tap for the full solution

Q.56 If the distance between two consecutive base pairs is 0.34 nm and the total number of base pairs of a DNA double helix in a typical mammalian cell is 6.6×10^9 bp, then the length of the DNA is approximately [NEET (UG) 2020]
(1) 2.7 meters (2) 2.0 meters
(3) 2.5 meters (4) 2.2 meters

Scan or tap for the full solution

Q.57 Which of the following statements is correct? [NEET (UG) 2020]
(1) Adenine does not pair with thymine
(2) Adenine pairs with thymine through one H-bond
(3) Adenine pairs with thymine through two H-bonds
(4) Adenine pairs with thymine through three H-bonds

Scan or tap for the full solution

Q.58 The first phase of translation is [NEET (UG) 2020]
(1) Recognition of an anti-codon
(2) Recognition of DNA molecule
(3) Binding of mRNA to ribosome
(4) Aminoacylation of tRNA

Solution

Q.59 Name the enzyme that facilitates opening of DNA helix during transcription. [NEET (UG) 2020]
(1) DNA polymerase (2) RNA polymerase
(3) DNA helicase (4) DNA ligase

Scan or tap for the full solution

Q.60 Purines found both in DNA and RNA are: [NEET (UG) 2019]
(1) Guanine and cytosine
(2) Cytosine and thymine
(3) Adenine and thymine
(4) Adenine and guanine

Solution

Q.61 Expressed Sequence Tags (ESTs) refers to : [NEET (UG) 2019]
(1) DNA polymorphism
(2) Novel DNA sequences
(3) Genes expressed as RNA
(4) Polypeptide expression

Solution

Q.62 Under which of the following conditions will there be no change in the reading frame of following mRNA?
5' AACAGCGGUGCUAUU 3' [NEET (UG) 2019]

(1) Insertion of A and G at 4th and 5th positions respectively
(2) Deletion of GGU from 7th, 8th and 9th positions
(3) Insertion of G at 5th position
(4) Deletion of G from 5th position

Scan or tap for the full solution

Q.63 Which of the following features of genetic code does allow bacteria to produce human insulin by recombinant DNA technology? [NEET (UG) 2019]
(1) Genetic code is nearly universal
(2) Genetic code is specific
(3) Genetic code is not ambiguous
(4) Genetic code is redundant

Solution

Q.64 Match the following genes of the Lac operon with their respective products :

List-I		List-II	
a.	i gene	i.	β-galactosidase
b.	z gene	ii.	Permease
c.	a gene	iii.	Repressor
d.	y gene	iv.	Transacetylase

Select the **correct** option. [NEET (UG) 2019]
(1) (a)-(iii), (b)-(i), (c)-(iv), (d)-(ii)
(2) (a)-(iii), (b)-(iv), (c)-(i), (d)-(ii)
(3) (a)-(i), (b)-(iii), (c)-(ii), (d)-(iv)
(4) (a)-(iii), (b)-(i), (c)-(ii), (d)-(iv)

Solution

Q.65 The experimental proof for semi-conservative replication of DNA was first shown in a [NEET 2018]
(1) fungus (2) bacterium
(3) plant (4) virus

Scan or tap for the full solution

Q.66 Select the correct match : [NEET 2018]
(1) Alec Jeffreys - *Streptococcus pneumoniae*
(2) Alfred Hershey and Martha Chase - TMV
(3) Matthew Meselson and F. Stahl - *Pisum sativum*
(4) Francois Jacob and Jacques Monod - Lac operon

Scan or tap for the full solution

Q.67 Select the correct match : [NEET 2018]
(1) Ribozyme - Nucleic acid
(2) $F_2 \times$ Recessive parent - Dihybrid cross
(3) T.H. Morgan - Transduction
(4) G. Mendel - Transformation

Scan or tap for the full solution

Q.68 Many ribosomes may associate with a single mRNA to form multiple copies of a polypeptide simultaneously. Such strings of ribosomes are termed as [NEET 2018]
(1) polysome (2) polyhedral bodies
(3) plastidome (4) nucleosome

Scan or tap for the full solution

Q.69 AGGTATCGCAT is a sequence from the coding strand of a gene. What will be the corresponding sequence of the transcribed mRNA? [NEET 2018]
(1) AGGUAUCGCAU (2) UGGTUTCGCAT
(3) ACCUAUGCGAU (4) UCCAUAGCGUA

Scan or tap for the full solution

Q.70 All of the following are part of an operon except [NEET 2018]
(1) an operator (2) structural genes
(3) an enhancer (4) a promoter

Scan or tap for the full solution

Q.71 The final proof for DNA as the genetic material came from the experiments of [NEET 2017]
(1) Griffith
(2) Hargobind Khorana
(3) Avery, MacLeod and McCarty
(4) Hershey and Chase

Solution

Q.72 If there are 999 bases in an RNA that codes for a protein with 333 amino acids, and the base at position 901 is deleted such that the length of the RNA becomes 998 bases, how many codons will be altered ? [NEET 2017]
(1) 1 (2) 11 (3) 333 (4) 33

Scan or tap for the full solution

Q.73 During DNA replication, Okazaki fragments are used to elongate [NEET 2017]
(1) The leading strand away from replication fork
(2) The lagging strand towards replication fork
(3) The lagging strand away from the replication fork
(4) The leading strand towards replication fork

Scan or tap for the full solution

Q.74 Which of the following RNAs should be most abundant in animal cell ? [NEET 2017]
(1) m-RNA (2) mi-RNA
(3) r-RNA (4) t-RNA

Scan or tap for the full solution

Q.75 Spliceosomes are not found in cells of : [NEET 2017]

(1) Bacteria (2) Plants
(3) Animals (4) Fungi

Solution

Q.76 The association of histone H_1 with a nucleosome indicates : [NEET 2017]

(1) DNA replication is occurring
(2) Transcription is occurring
(3) The DNA is condensed into a Chromatin Fibre
(4) The DNA double helix is exposed

Scan or tap for the full solution

Q.77 Which one of the following is the starter codon ? [NEET 2016 (Phase 1)]

(1) AUG (2) UAG (3) UAA (4) UGA

Scan or tap for the full solution

Q.78 Which of the following is required as inducer(s) for the expression of Lac operon? [NEET 2016 (Phase 1)]

(1) lactose (2) lactose and galactose
(3) glucose (4) galactose

Scan or tap for the full solution

Q.79 A complex of ribosomes attached to a single strand of RNA is known as : [NEET 2016 (Phase 1)]

(1) Polypeptide (2) Okazaki fragment
(3) Polysome (4) Polymer

Scan or tap for the full solution

Q.80 Which of the following is not required for any of the techniques of DNA fingerprinting available at present? [NEET 2016 (Phase 1)]

(1) DNA – DNA hybridization
(2) Polymerase chain reaction
(3) Zinc finger analysis
(4) Restriction enzymes

Solution

Q.81 Taylor conducted the experiments to prove semiconservative mode of chromosome replication on [NEET 2016 (Phase 2)]

(1) *Vicia faba*
(2) *Drosophila melanogaster*
(3) *Vinca rosea*
(4) *E. coli*

Solution

Q.82 The equivalent of a structural gene is - [NEET 2016 (Phase 2)]

(1) cistron (2) recon (3) muton (4) operon

Scan or tap for the full solution

Q.83 Which of the following rRNAs acts as structural RNA as well as ribozyme in bacteria ? [NEET 2016 (Phase 2)]

(1) 5.8 S rRNA (2) 23 S rRNA
(3) 18 S rRNA (4) 5 S rRNA

Scan or tap for the full solution

Q.84 A molecule that can act as a genetic material must fulfill the traits given below, except [NEET 2016 (Phase 2)]

(1) it should be able to express itself in the form of 'Mendelian characters'
(2) it should be unstable structurally and chemically
(3) it should provide the scope for slow changes that are required for evolution
(4) it should be able to generate its replica

Scan or tap for the full solution

Q.85 DNA-dependent RNA polymerase catalyzes transcription on one strand of the DNA which is called the [NEET 2016 (Phase 2)]

(1) coding strand (2) antistrand
(3) template strand (4) alpha strand

Scan or tap for the full solution

Q.86 Which one of the following is not applicable to RNA? [AIPMT 2015]

(1) Complementary base pairing
(2) 5' phosphoryl and 3' hydroxyl ends
(3) Heterocyclic nitrogenous bases
(4) Chargaff's rule

Scan or tap for the full solution

Q.87 Identify the correct order of organisation of genetic material from largest to smallest : [AIPMT 2015]

(1) Chromosome, genome, nucleotide, gene
(2) Genome, chromosome, nucleotide, gene
(3) Genome, chromosome, gene, nucleotide
(4) Chromosome, gene, genome, nucleotide

Scan or tap for the full solution

Q.88 Satellite DNA is important because it : [AIPMT 2015]

(1) Shows high degree of polymorphism in population and also the same degree of polymorphism in an individual, which is heritable from parents to children.
(2) does not code for proteins and is same in all members of the population.
(3) codes for enzymes needed for DNA replication.

(4) codes for proteins needed in cell cycle.

Scan or tap for the full solution

Q.89 Gene regulation governing lactose operon of *E. coli* that involves the lac I gene product is [AIPMT 2015 (Cancelled)]

(1) negative and inducible because repressor protein prevents transcription.

(2) positive and inducible because it can be induced by lactose

(3) negative and repressible because repressor protein prevents transcription

(4) feedback inhibition because excess of β-galactosidase can switch off transcription

Scan or tap for the full solution

Q.90 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 [AIPMT 2015 (Cancelled)]

(1) G 17%, A 16.5%, T 32.5%

(2) G 17%, A 33%, T 33%

(3) G 8.5%, A 50%, T 24.5%

(4) G 34%, A 24.5%, T 24.5%

Solution

Q.91 Which one of the following is wrongly matched? [AIPMT 2014]

(1) Transcription – Writing information from DNA to t-RNA

(2) Operon – Structural genes, operator and promoter

(3) Repressor protein – Binds to operator to stop enzyme synthesis

(4) Translation – Using information in m-RNA to make protein.

Scan or tap for the full solution

Q.92 Transformation was discovered by : [AIPMT 2014]

(1) Griffith (2) Watson and Crick

(3) Hershey and Chase (4) Meselson and Stahl

Scan or tap for the full solution

Q.93 Select the correct option ; [AIPMT 2014]

(1) Direction of RNA synthesis 3'–5', Direction of reading of the template DNA strand 5'–3'

(2) Direction of RNA synthesis 5'–3', Direction of reading of the template DNA strand 5'–3'

(3) Direction of RNA synthesis 5'–3', Direction of reading of the template DNA strand 3'–5'

(4) Direction of RNA synthesis 3'–5', Direction of reading of the template DNA strand 3'–5'

Scan or tap for the full solution

Q.94 One of the most frequently used techniques in DNA fingerprinting is :- [NEET 2013 (Karnataka)]

(1) SSCP (2) SCAR (3) VNTR (4) AFLP

Scan or tap for the full solution

Q.95 An analysis of chromosomal DNA using the Southern hybridization technique does not use: [AIPMT 2014]

(1) Blotting (2) PCR

(3) Electrophoresis (4) Autoradiography

Scan or tap for the full solution

Q.96 Commonly used vectors for human genome sequencing are : [AIPMT 2014]

(1) BAC and YAC (2) T/A Cloning Vectors

(3) T-DNA (4) Expression Vectors

Scan or tap for the full solution

Q.97 The diagram shows an important concept in the genetic implication of DNA. Fill in the blanks A to C. [NEET 2013]

DNA $\xrightarrow{A}$ mRNA $\xrightarrow{B}$ protein $\xrightarrow[C]{\text{Proposed by}}$

(1) A-translation B-extension C-Rosalind Franklin

(2) A-translation B-transcription C-Erwin Chargaff

(3) A-transcription B-translation C-Francis Crick

(4) A-transcription B-replication C-James Watson

Scan or tap for the full solution

Q.98 Which enzyme will be produced in a cell in which there is a non-sense mutation in the lac Y gene ? [NEET 2013]

(1) Transacetylase

(2) Lactose permease and transacetylase

(3) Lactose permease

(4) β-galactosidase

Scan or tap for the full solution

Q.99 DNA $\xrightarrow{C}$ mRNA $\xrightarrow{B}$ protein $\xrightarrow[A]{\text{Proposed By}}$

The figure gives an important concept in the genetic implication of DNA. Fill the blanks A, B and C.

[NEET 2013 (Karnataka)]

(1) A - Erwin Chargaff
B - translation
C - replication

(2) A - Maurice Wilkins
B - transcription
C - translation

(3) A - Francis Crick
B - translation
C - transcription

(4) A - James Watson
B - replication
C - extension

Solution

Q.100 Which of the following is not a property of the genetic code ? [NEET 2013 (Karnataka)]

(1) Ambiguous (2) Universal
(3) Degeneracy (4) Non-overlapping

Scan or tap for the full solution

Q.101 In an inducible operon, the genes are :

[NEET 2013 (Karnataka)]

(1) usually expressed unless a signal turns them "off"
(2) always expressed
(3) never expressed
(4) usually not expressed unless a signal turns them "on"

Scan or tap for the full solution

Q.102 Read the following four statements (A-D) :
How many of the above statements are right ?

A. In transcription, adenine pairs with uracil
B. Regulation of lac operon by repressor is referred to as positive regulation
C. The human genome has approximately 50,000 genes
D. Haemophilia is a sex-linked recessive disease

[AIPMT 2012 (Mains)]

(1) Four (2) Two (3) Three (4) One

Scan or tap for the full solution

Q.103 What is it that forms the basis of DNA Fingerprinting ? [AIPMT 2012 (Mains)]

(1) The relative proportions of purines and pyrimidines in DNA
(2) The relative amount of DNA in the ridges and grooves of the fingerprints
(3) The relative difference in the DNA occurrence in blood, skin and saliva
(4) Satellite DNA occurring as highly repeated short DNA segments

Scan or tap for the full solution

Q.104 Removal of introns and joining of exons in a defined order during transcription is called

[AIPMT 2012 (Prelims)]

(1) Looping (2) Inducing
(3) Slicing (4) Splicing

Scan or tap for the full solution

Q.105 If one strand of DNA has the nitrogenous base sequence as ATCTG, what would be the complementary RNA strand sequence

[AIPMT 2012 (Prelims)]

(1) ATCGU (2) UAGAC
(3) AACTG (4) TTAGU

Scan or tap for the full solution

Q.106 Which one of the following is not a part of a transcription unit in DNA ? [AIPMT 2012 (Prelims)]

(1) The structural gene (2) The inducer
(3) A terminator (4) A promoter

Scan or tap for the full solution

Q.107 Removal of RNA polymerase-III from nucleoplasm will affect the synthesis of

[AIPMT 2012 (Prelims)]

(1) tRNA (2) hnRNA
(3) rRNA (4) mRNA

Scan or tap for the full solution

Q.108 PCR and Restriction Fragment Length Polymorphism are the methods for

[AIPMT 2012 (Prelims)]

(1) Genetic transformation
(2) Genetic fingerprinting
(3) Study of enzymes
(4) DNA sequencing

Solution

Q.109 The unequivocal proof of DNA as the genetic material came from the studies on a:

[AIPMT 2011 (Mains)]

(1) Viroid (2) Bacterium
(3) Fungus (4) Bacterial virus

Scan or tap for the full solution

Q.110 Which one of the following also acts as a catalyst in a bacterial cell? [AIPMT 2011 (Prelims)]

(1) 5S rRNA (2) snRNA
(3) hnRNA (4) 23S rRNA

Scan or tap for the full solution

Q.111 What are those structures that appear as 'beads-on-string' in the chromosomes when viewed under electron microscope ? [AIPMT 2011 (Prelims)]
(1) Nucleosomes (2) Genes
(3) Nucleotides (4) Base pairs

Scan or tap for the full solution

Q.112 The 3'-5' phosphodiester linkages inside a polynucleotide chain serve to join - [AIPMT 2010 (Mains)]
(1) One nucleotide with another nucleotide
(2) One nitrogenous base with pentose sugar
(3) One nucleoside with another nucleoside
(4) One DNA strand with the other DNA strand

Scan or tap for the full solution

Q.113 The lac operon consists of - [AIPMT 2010 (Mains)]
(1) Three regulatory genes and three structural genes
(2) Four regulatory genes only
(3) Two regulatory genes and two structural genes
(4) One regulatory gene and three structural genes

Scan or tap for the full solution

Q.114 In eukaryotic cell transcription, RNA splicing and RNA capping take place inside the - [AIPMT 2010 (Mains)]
(1) Dictyosomes (2) Ribosomes
(3) Nucleus (4) ER

Scan or tap for the full solution

Q.115 Which one of the following statements about the particular entity is true? [AIPMT 2010 (Mains)]
(1) Nucleosome is formed of nucleotides
(2) Centromere is found in animal cells, which produces aster during cell division
(3) The gene for producing insulin is present in every body cell
(4) DNA consists of a core of eight histones

Scan or tap for the full solution

Q.116 Which one of the following does not follow the central dogma of molecular biology ? [AIPMT 2010 (Prelims)]
(1) *Mucor* (2) HIV
(3) *Chlamydomonas* (4) Pea

Solution

Q.117 The one aspect which is not a salient feature of genetic code, is its being – [AIPMT 2010 (Prelims)]
(1) Specific (2) Degenerate
(3) Ambiguous (4) Universal

Scan or tap for the full solution

Q.118 Select the two correct statements out of the four (A–D) statements given below about lac operon.
The correct statements are :
A. Glucose or galactose may bind with the repressor and inactivate it
B. In the absence of lactose the repressor binds with the operator region
C. The z-gene codes for permease
D. This was elucidated by François Jacob and Jacques Monod [AIPMT 2010 (Prelims)]
(1) B and D (2) A and B
(3) B and C (4) A and C

Scan or tap for the full solution

Q.119 Whose experiments cracked the DNA and discovered unequivocally that a genetic code is a "triplet"? [AIPMT 2009]
(1) Nirenberg and Matthaei
(2) Morgan and Sturtevant
(3) Hershey and Chase
(4) Beadle and Tatum

Solution

Q.120 Semi-conservative replication of DNA was first demonstrated in: [AIPMT 2009]
(1) *Drosophila melanogaster*
(2) *Streptococcus pneumoniae*
(3) *Salmonella typhimurium*
(4) *Escherichia coli*

Solution

Q.121 Removal of introns and joining the exons in a defined order in a transcription unit is called: [AIPMT 2009]
(1) Transformation (2) Capping
(3) Splicing (4) Tailing

Scan or tap for the full solution

Q.122 What is not true for genetic code? [AIPMT 2009]
(1) It is nearly universal
(2) A codon in mRNA is read in a noncontiguous fashion
(3) It is degenerate
(4) It is unambiguous

Scan or tap for the full solution

Q.123 In the DNA molecule: [AIPMT 2008]

(1) the total amount of purine nucleotides and pyrimidine nucleotides is not always equal
(2) there are two strands which run antiparallel one in $5' \longrightarrow 3'$ direction and other in $3' \longrightarrow 5'$
(3) there are two strands which run parallel in the $5' \longrightarrow 3'$ direction
(4) the proportion of adenine in relation to thymine varies with the organism

Scan or tap for the full solution

Q.124 One turn of the helix in a B-form DNA is approximately - [AIPMT 2006]
(1) 20 nm (2) 3.4 nm (3) 2 nm (4) 0.34 nm

Scan or tap for the full solution

Q.125 Which one of the following pairs of nitrogenous bases of nucleic acids is wrongly matched with the category mentioned against it? [AIPMT 2008]
(1) Thymine, Uracil — Pyrimidines
(2) Guanine, Adenine — Purines
(3) Uracil, Cytosine — Pyrimidines
(4) Adenine, Thymine — Purines

Solution

Q.126 Which one of the following pairs of codons is correctly matched with their function or the signal for the particular amino acid? [AIPMT 2008]
(1) UUA, UCA — Leucine
(2) AUG, ACG — Start/Methionine
(3) UAG, UGA — Stop
(4) GUU, GCU — Alanine

Solution

Q.127 One gene-one enzyme hypothesis was postulated by - [AIPMT 2006]
(1) A. Garrod (2) Hershey and Chase
(3) Beadle and Tatum (4) R. Franklin

Scan or tap for the full solution

Q.128 Antiparallel strands of a DNA molecule means that- [AIPMT 2006]
(1) The phosphate groups at the start of two DNA strands are in opposite position (pole)
(2) One strand turns anti-clockwise
(3) One strand turns clockwise
(4) The phosphate groups of two DNA strands, at their ends, share the same position

Scan or tap for the full solution

Q.129 Which antibiotic inhibits interaction between tRNA and mRNA during bacterial protein synthesis? [AIPMT 2006]
(1) Neomycin (2) Erythromycin
(3) Tetracycline (4) Streptomycin

Scan or tap for the full solution

Q.130 Amino acid sequence, in protein synthesis is decided by the sequence of - [AIPMT 2006]
(1) cDNA (2) mRNA (3) tRNA (4) rRNA

Scan or tap for the full solution

Q.131 *E. coli* cells with a mutated z gene of the lac operon cannot grow in medium containing only lactose as the source of energy because - [AIPMT 2005]
(1) They cannot transport lactose from the medium into the cell
(2) They cannot synthesize functional β-galactosidase
(3) In the presence of glucose, *E. coli* cells do not utilize lactose
(4) The lac operon is constitutively active in these cells

Scan or tap for the full solution

Q.132 Telomerase is an enzyme which is a - [AIPMT 2005]
(1) RNA (2) Repetitive DNA
(3) Simple protein (4) Ribonucleoprotein

Scan or tap for the full solution

Q.133 Protein synthesis in an animal cell occurs - [AIPMT 2005]
(1) On ribosomes present in the nucleolus as well as in cytoplasm
(2) On ribosomes present in cytoplasm as well as in mitochondria
(3) Only on the ribosomes present in cytosol
(4) Only on ribosomes attached to the nuclear envelope and endoplasmic reticulum

Scan or tap for the full solution

Q.134 Which one of the following makes use of RNA as a template to synthesize DNA - [AIPMT 2005]
(1) Reverse transcriptase
(2) DNA dependent RNA polymerase
(3) RNA polymerase
(4) DNA polymerase

Scan or tap for the full solution

Q.135 During transcription holoenzyme RNA polymerase binds to a DNA sequence and the DNA assumes a saddle like structure at the point. What is the sequence called? [AIPMT 2005]

(1) TATA box (2) GGTT box
(3) CAAT box (4) AAAT box

Scan or tap for the full solution

Q.136 Production of a human protein in bacteria by genetic engineering is possible because [AIPMT 2005]

(1) The human chromosome can replicate in bacterial cell
(2) The genetic code is universal
(3) Bacterial cell can carry out the RNA splicing reactions
(4) The mechanism of gene regulation is identical in humans and bacteria

Scan or tap for the full solution

Q.137 During replication of a bacterial chromosome DNA synthesis starts from a replication origin site and [AIPMT 2004]

(1) RNA primers are involved
(2) is facilitated by telomerase
(3) moves in one direction of the site
(4) moves in bi-directional way

Scan or tap for the full solution

Q.138 Which form of RNA has a structure resembling clover leaf ? [AIPMT 2004]

(1) r-RNA (2) m-RNA
(3) t-RNA (4) hn-RNA

Scan or tap for the full solution

Q.139 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 - [AIPMT 2004]

(1) UAUGC (2) TCTGG
(3) UATGC (4) TATGC

Scan or tap for the full solution

Q.140 The following ratio is generally constant for a given species :- [AIPMT 2004]

(1) $\frac{A+C}{T+G}$ (2) $\frac{G+C}{A+T}$ (3) $\frac{A+G}{C+T}$ (4) $\frac{T+C}{G+A}$

Scan or tap for the full solution

Q.141 DNA fingerprinting refers to :- [AIPMT 2004]

(1) Techniques used for molecular analysis of different specimens of DNA
(2) Analysis of DNA samples using imprinting devices
(3) Molecular analysis of profiles of DNA samples
(4) Techniques used for identification of fingerprints of individuals

Scan or tap for the full solution

Q.142 The telomeres of eukaryotic chromosomes consist of short sequences of [AIPMT 2004]

(1) Adenine rich repeats
(2) Cytosine rich repeats
(3) Thymine rich repeats
(4) Guanine rich repeats

Solution

Q.143 What would happen if in a gene encoding a polypeptide of 50 amino acids, 25th codon (UAU) is mutated to UAA? [AIPMT 2003]

(1) A polypeptide of 49 amino acids will be formed
(2) A polypeptide of 25 amino acids will be formed
(3) Two polypeptides of 24 and 25 amino acids will be formed
(4) A polypeptide of 24 amino acids will be formed

Scan or tap for the full solution

Q.144 What does "lac" refer to in what we call the lac operon? [AIPMT 2003]

(1) The number 1,00,000
(2) Lac insect
(3) Lactase
(4) Lactose

Solution

Q.145 During translation initiation in prokaryotes, a GTP molecule is needed in: [AIPMT 2003]

(1) Association of 30S-mRNA with formyl-met-tRNA
(2) Formation of formyl-met-tRNA
(3) Association of 50S subunit of ribosome with initiation complex
(4) Binding of 30S subunit of ribosome with mRNA

Scan or tap for the full solution

Q.146 Which one of the following triplet codes, is correctly matched with its specificity for an amino acid in protein synthesis or as 'start' or 'stop' codon? [AIPMT 2003]

(1) UUU – Stop (2) UAC – Tyrosine
(3) UGU – Leucine (4) UCG – Start

Scan or tap for the full solution

Q.147 During transcription, the DNA site at which RNA polymerase binds is called: [AIPMT 2003]

(1) Receptor (2) Regulator
(3) Enhancer (4) Promoter

Scan or tap for the full solution

Q.148 Degeneracy of a genetic code is attributed to the: [AIPMT 2003]

(1) Second member of a codon
(2) Third member of a codon
(3) First member of a codon
(4) Entire codon

Solution

Q.149 In the genetic code dictionary, how many codons are used to code for all the 20 amino acids: [AIPMT 2003]

(1) 64 (2) 20 (3) 60 (4) 61

Scan or tap for the full solution

Q.150 In a DNA percentage of thymine is 20% then what is the percentage of guanine : - [AIPMT 2002]

(1) 40% (2) 20% (3) 30% (4) 60%

Scan or tap for the full solution

Q.151 Transformation experiment was first performed on which bacterium : - [AIPMT 2002]

(1) *Diplococcus pneumoniae*
(2) *Pasteurella pestis*
(3) *E. coli*
(4) *Salmonella*

Solution

Q.152 Jacob and Monod studied lactose metabolism in *E. coli* and proposed operon concept. Operon concept is applicable for : [AIPMT 2002]

(1) All prokaryotes and all eukaryotes
(2) All prokaryotes and some protozoans
(3) All prokaryotes
(4) All prokaryotes and some eukaryotes

Scan or tap for the full solution

Q.153 In *E. coli*, during lactose metabolism repressor binds to : - [AIPMT 2002]

(1) Promoter gene (2) Operator gene
(3) Structural gene (4) Regulator gene

Scan or tap for the full solution

Q.154 Out of 64 codons, 61 codons code for 20 types of amino acids; it is called : - [AIPMT 2002]

(1) Wobbling of codon
(2) Universality of codons
(3) Overlapping of gene
(4) Degeneracy of genetic code

Solution

Q.155 Types of RNA polymerase required in nucleus for RNA synthesis : - [AIPMT 2001]

(1) 2 (2) 3 (3) 1 (4) 4

Scan or tap for the full solution

Q.156 Which of the following reunites the exon segments after RNA splicing ? [AIPMT 2002]

(1) RNA polymerase (2) RNA proteases
(3) RNA primase (4) RNA ligase

Scan or tap for the full solution

Q.157 Exon parts of mRNA have code for : - [AIPMT 2002]

(1) Lipid (2) Protein
(3) Phospholipid (4) Carbohydrate

Scan or tap for the full solution

Q.158 m-RNA is synthesised on DNA template in which direction : - [AIPMT 2001]

(1) Any (2) Both (3) and (4)
(3) 5' → 3' (4) 3' → 5'

Scan or tap for the full solution

Q.159 In Negative operon : - [AIPMT 2001]

(1) cAMP has negative effect on lac operon
(2) Co-repressor binds with inducer
(3) Co-repressor binds with repressor
(4) Co-repressor does not bind with repressor

Scan or tap for the full solution

Q.160 Gene and cistron words are sometimes used synonymously because : - [AIPMT 2001]

(1) One gene contains one cistron
(2) One cistron contains many genes
(3) One gene contains no cistron
(4) One gene contains many cistrons

Scan or tap for the full solution

Q.161 A mutant strain of T4 bacteriophage, R-II, fails to lyse *E. coli*, but when two strains R-IIX and R-IIY are mixed, they lyse *E. coli*. What may be the possible reason? [AIPMT 2001]

(1) Both strains have different cistrons
(2) Both strains have similar cistrons
(3) It is not mutated
(4) Bacteriophage transforms into wild type

Scan or tap for the full solution

Q.162 Method of DNA replication in which two strands of DNA separate and synthesize new strands [AIPMT 2000]

(1) Conservative (2) Non conservative
(3) Dispersive (4) Semiconservative

Scan or tap for the full solution

Q.163 Which of the following is initiation codon? [AIPMT 2000]

(1) AUC (2) CCU (3) UAG (4) AUG

Scan or tap for the full solution

Q.164 Anticodon occurs in: [AIPMT 2000]

(1) DNA (2) r-RNA (3) t-RNA (4) m-RNA

Scan or tap for the full solution

Q.165 Length of one loop of B-DNA: [AIPMT 2000]

(1) 20 nm. (2) 10 nm. (3) 3.4 nm. (4) 0.34 nm.

Scan or tap for the full solution

Q.166 In three dimensional view the molecule of t-RNA is: [AIPMT 2000]

(1) E-shaped (2) L-shaped
(3) S-shaped (4) Y-shaped

Scan or tap for the full solution

Q.167 Similarity in DNA and RNA: [AIPMT 2000]

(1) Both have similar sugar
(2) Both are genetic material
(3) Both have similar pyrimidine
(4) Both are polymer of nucleotides

Solution

Q.168 Which is the most important factor for continuity of a species from evolutionary point of view? [AIPMT 2000]

(1) Formation of gametes
(2) Synthesis of proteins
(3) Replication of genetic material
(4) None of these

Solution

ANSWER KEY

Ques.	1	2	3	4	5	6	7
Ans.	**4**	**4**	**2**	**4**	**2**	**3**	**1**
Ques.	8	9	10	11	12	13	14
Ans.	**1**	**4**	**3**	**2**	**3**	**3**	**1**
Ques.	15	16	17	18	19	20	21
Ans.	**3**	**4**	**4**	**2**	**1**	**4**	**1**
Ques.	22	23	24	25	26	27	28
Ans.	**3**	**4**	**1**	**1**	**1**	**4**	**4**
Ques.	29	30	31	32	33	34	35
Ans.	**1**	**4**	**3**	**2**	**1**	**3**	**2**

Ques.	36	37	38	39	40	41	42
Ans.	**1**	**1**	**3**	**3**	**2**	**2**	**3**
Ques.	43	44	45	46	47	48	49
Ans.	**4**	**4**	**1**	**3**	**4**	**3**	**3**
Ques.	50	51	52	53	54	55	56
Ans.	**3**	**4**	**1**	**3**	**3**	**1**	**4**
Ques.	57	58	59	60	61	62	63
Ans.	**3**	**4**	**2**	**4**	**3**	**2**	**1**
Ques.	64	65	66	67	68	69	70
Ans.	**1**	**2**	**4**	**1**	**1**	**1**	**3**
Ques.	71	72	73	74	75	76	77
Ans.	**4**	**4**	**3**	**3**	**1**	**3**	**1**
Ques.	78	79	80	81	82	83	84
Ans.	**1**	**3**	**3**	**1**	**1**	**2**	**2**
Ques.	85	86	87	88	89	90	91
Ans.	**3**	**4**	**3**	**1**	**1**	**2**	**1, 2**
Ques.	92	93	94	95	96	97	98
Ans.	**1**	**3**	**3**	**2**	**1**	**3**	**4**
Ques.	99	100	101	102	103	104	105
Ans.	**3**	**1**	**4**	**2**	**4**	**4**	**2**
Ques.	106	107	108	109	110	111	112
Ans.	**2**	**1**	**2**	**4**	**4**	**1**	**1**
Ques.	113	114	115	116	117	118	119
Ans.	**4**	**3**	**3**	**2**	**3**	**1**	**1**
Ques.	120	121	122	123	124	125	126
Ans.	**4**	**3**	**2**	**2**	**2**	**4**	**3**
Ques.	127	128	129	130	131	132	133
Ans.	**3**	**1**	**4**	**2**	**2**	**4**	**2**
Ques.	134	135	136	137	138	139	140
Ans.	**1**	**1**	**2**	**4**	**3**	**1**	**2**
Ques.	141	142	143	144	145	146	147
Ans.	**3**	**4**	**4**	**4**	**1**	**2**	**4**
Ques.	148	149	150	151	152	153	154
Ans.	**2**	**4**	**3**	**1**	**4**	**2**	**4**
Ques.	155	156	157	158	159	160	161
Ans.	**2**	**4**	**2**	**3**	**3**	**1**	**1**
Ques.	162	163	164	165	166	167	168
Ans.	**4**	**4**	**3**	**3**	**2**	**4**	**3**