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NEET MOLECULAR BASIS OF INHERITANCE — RNA WORLD AND PROPERTIES OF GENETIC MATERIAL — PYQS

Max. Marks: 24 **Questions:** 6

Section A (MCQ) — 6 questions

Q.1 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.2 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.

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Q.3 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

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Q.4 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

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Q.5 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

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Q.6 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

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ANSWER KEY

Ques.	1	2	3	4	5	6					
Ans.	**3**	**4**	**4**	**1**	**2**	**3**					