

Cell Cycle and Cell Division

NEET previous year questions · Biology

7 questions from the official papers: NEET 2026 (1), Re-NEET 2026 (2), NEET 2020 (4). Each is followed by its answer and a worked solution written by BrainIt. Generated on 23 October 2026.



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1. NEET 2026 · Q101

Match List-I with List-II

List I (Phase of cell cycle)	List II (Activity)
P) G_1 phase	I) Actual cell division occurs
Q) S phase	II) Cell is metabolically active and continuously grows but does not replicate its DNA
R) G_2 phase	III) Synthesis of DNA occurs and the amount of DNA per cell doubles
S) M phase	IV) Proteins are synthesized while cell growth continues

choose the correct answer from the options given below:

- (1) P-IV, Q-I, R-II, S-III (2) P-I, Q-II, R-III, S-IV
(3) P-III, Q-IV, R-I, S-II (4) P-II, Q-III, R-IV, S-I

Answer (4)

Sol. In G_1 phase the cell is metabolically active and grows but does not replicate DNA; in S phase DNA is synthesised and the DNA per cell doubles; in G_2 phase proteins are synthesised in preparation for mitosis while growth continues; and in M phase the actual cell division takes place. This gives P-II, Q-III, R-IV, S-I.

2. Re-NEET 2026 · Q128

The correct sequence of adult cell cycle phases is _____.

- (1) G_1 - G_2 -S-M (2) G_1 -M- G_2 -S
(3) G_1 -S- G_2 -M (4) S-M- G_2 - G_1

Answer (3)

Sol. Interphase runs G_1 , then S, then G_2 , and only then does the cell enter M phase to divide. The logic is that DNA must be replicated in S phase before the gap phase G_2 allows the cell to check the copy and

prepare for mitosis; dividing before replication would be fatal. NCERT Class 11, Cell Cycle and Cell Division.

3. Re-NEET 2026 · Q131

Given below are two statements :

Statement I: Chromosomes are fully condensed at the end of prophase I.

Statement II: Meiosis I resembles mitosis.

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

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

Answer (3)

Sol. Prophase I is the longest and most complex phase of meiosis, running through leptotene, zygotene, pachytene, diplotene and diakinesis; by diakinesis the chromosomes have reached maximum condensation, so Statement I holds. Statement II names the wrong division: it is MEIOSIS II that resembles mitosis, since sister chromatids separate and no pairing or crossing over occurs. Meiosis I is the reductional division, with homologues pairing, recombining and then separating - none of which happens in mitosis. NCERT Class 11, Cell Cycle and Cell Division.

4. NEET 2020 · Q25

Match the following with respect to meiosis and select the correct option.

List I	List II
P) Zygotene	I) Terminalization
Q) Pachytene	II) Chiasmata
R) Diplotene	III) Crossing over
S) Diakinesis	IV) Synapsis

- (1) P-IV, Q-III, R-II, S-I (2) P-I, Q-II, R-IV, S-III
 (3) P-II, Q-IV, R-III, S-I (4) P-III, Q-IV, R-I, S-II

Answer (1)

Sol. Synapsis occurs in zygotene, crossing over in pachytene, chiasmata become visible in diplotene, and terminalization occurs in diakinesis. Thus P-IV, Q-III, R-II, S-I. Chapter: Cell Cycle and Cell Division.

5. NEET 2020 · Q65

Some dividing cells exit the cell cycle and enter vegetative inactive stage. This is called quiescent stage (G₀). This process occurs at the end of

- (1) G₁ phase (2) S phase
 (3) G₂ phase (4) M phase

Answer (1)

Sol. Cells can exit the cell cycle and enter the quiescent stage (G₀) at the end of the G₁ phase. Chapter: Cell Cycle and Cell Division.

6. NEET 2020 · Q69

Dissolution of the synaptonemal complex occurs during

- (1) Zygotene (2) Diplotene
 (3) Leptotene (4) Pachytene

Answer (2)

Sol. The synaptonemal complex dissolves during diplotene, leading to the separation of homologous chromosomes while they remain connected at chiasmata. Chapter: Cell Cycle and Cell Division.

7. NEET 2020 · Q75

Identify the correct statement with regard to G₁ phase (Gap 1) of interphase.

- (1) Reorganisation of all cell components takes place.
 (2) Cell is metabolically active, grows but does not replicate its DNA.
 (3) Nuclear Division takes place.
 (4) DNA synthesis or replication takes place.

Answer (2)

Sol. During the G₁ phase, the cell is metabolically active and grows, but DNA replication does not occur.
 Chapter: Cell Cycle and Cell Division.

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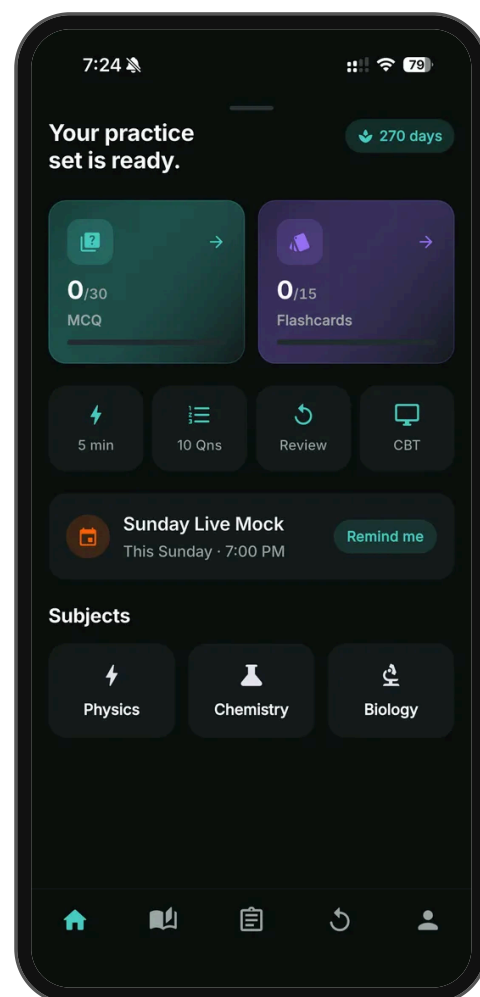
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