

NEET CELL CYCLE AND CELL DIVISION — CELL CYCLE: PHASES (G₁, S, G₂, M) AND REGULATION — PYQS

Max. Marks: 92

Questions: 23

Section A (MCQ) — 23 questions

Q.1 Match **List I** with **List II** : [NEET (UG) 2026]

List-I (Phase of cell cycle)		List-II (Activity)	
A.	G ₁ phase	I.	Actual cell division occurs
B.	S phase	II.	Cell is metabolically active and continuously grows but does not replicate its DNA
C.	G ₂ phase	III.	Synthesis of DNA occurs and the amount of DNA per cell doubles
D.	M phase	IV.	Proteins are synthesized while cell growth continues

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

Scan or tap for the full solution 

Q.2 The correct sequence of adult cell cycle phases is _____.

[RE-NEET (UG) 2026]

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

Scan or tap for the full solution 

Q.3 Following are the stages of cell division :

- A. Gap 2 phase B. Cytokinesis
C. Synthesis phase D. Karyokinesis
E. Gap 1 phase

Choose the correct sequence of stages from the options given below :

[NEET (UG) 2024]

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

Scan or tap for the full solution 

Q.4 Match **List-I** with **List-II**.

List-I		List-II	
A.	Cells are metabolically active and proliferate	I.	G ₂ phase
B.	DNA replication takes place	II.	G ₁ phase

List-I		List-II	
C.	Proteins are synthesised	III.	G ₀ phase
D.	Quiescent stage with metabolically active cells	IV.	S phase

Choose the correct answer from the options given below:

[RE-NEET (UG) 2024]

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

Scan or tap for the full solution 

Q.5 Among eukaryotes, replication of DNA takes place in :

[NEET (UG) 2023]

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

Scan or tap for the full solution 

Q.6 Match **List I** with **List II**:

List I		List II	
A.	M Phase	I.	Proteins are synthesized
B.	G ₂ Phase	II.	Inactive phase
C.	Quiescent stage	III.	Interval between mitosis and initiation of DNA replication
D.	G ₁ Phase	IV.	Equational division

Choose the correct answer from the options given below :

[NEET (UG) 2023]

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

Scan or tap for the full solution 

Q.7 Given below are two statements:

Statement-I: During G₀ phase of cell cycle, the cell is metabolically inactive.

Statement-II: The centrosome undergoes duplication during S phase of interphase.

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

[NEET (UG) 2023]

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

Scan or tap for the full solution 

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

List-I		List-II	
a.	S phase	i.	Proteins are synthesized
b.	G ₂ phase	ii.	Inactive phase
c.	Quiescent stage	iii.	Interval between mitosis and initiation of DNA replication
d.	G ₁ phase	iv.	DNA replication

Choose the correct answer from the options given below.

[NEET (UG) 2021]

- (1) (a)-(ii), (b)-(iv), (c)-(iii), (d)-(i)
 (2) (a)-(iii), (b)-(ii), (c)-(i), (d)-(iv)
 (3) (a)-(iv), (b)-(ii), (c)-(iii), (d)-(i)
 (4) (a)-(iv), (b)-(i), (c)-(ii), (d)-(iii)

Scan or tap for the full solution 

Q.9 The fruit fly has 8 chromosomes (2n) in each cell. During interphase of Mitosis if the number of chromosomes at G₁ phase is 8, what would be the number of chromosomes after S phase?

[NEET (UG) 2021]

- (1) 32 (2) 8 (3) 16 (4) 4

Scan or tap for the full solution 

Q.10 The centriole undergoes duplication during :

[NEET (UG) 2021]

- (1) G₂ phase (2) S-phase
 (3) Prophase (4) Metaphase

Scan or tap for the full solution 

Q.11 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

[NEET (UG) 2020]

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

Scan or tap for the full solution 

Q.12 Identify the correct statement with regard to G₁ phase (Gap 1) of interphase

[NEET (UG) 2020]

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

Scan or tap for the full solution 

Q.13 Cells in G₀ phase:

[NEET (UG) 2019]

- (1) suspend the cell cycle
 (2) terminate the cell cycle
 (3) exit the cell cycle
 (4) enter the cell cycle

Scan or tap for the full solution 

Q.14 The correct sequence of phases of cell cycle is:

[NEET (UG) 2019]

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

Scan or tap for the full solution 

Q.15 During cell growth, DNA synthesis takes place on

[NEET 2016 (Phase 2)]

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

Scan or tap for the full solution 

Q.16 When cell has stalled DNA replication fork, which checkpoint should be predominantly activated?

[NEET 2016 (Phase 2)]

- (1) G₁/S (2) G₂/M
 (3) M (4) Both G₂/M and M

Scan or tap for the full solution 

Q.17 A somatic cell that has just completed the S phase of its cell cycle, as compared to gamete of the same species, has

[AIPMT 2015 (Cancelled)]

- (1) twice the number of chromosomes and four times the amount of DNA
 (2) four times the number of chromosomes and twice the amount of DNA
 (3) twice the number of chromosomes and twice the amount of DNA
 (4) same number of chromosomes but twice the amount of DNA.

Scan or tap for the full solution 

Q.18 During which phase(s) of cell cycle, amount of DNA in a cell remains at 4C level if the initial amount is denoted as 2C? [AIPMT 2014]

- (1) G₀ and G₁ (2) G₁ and S
(3) Only G₂ (4) G₂ and M

Scan or tap for the full solution



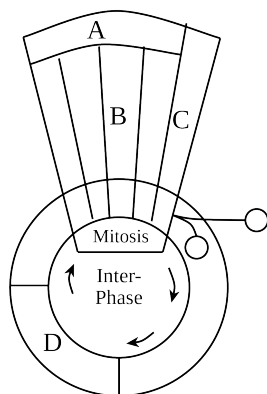
Q.19 In 'S' phase of the cell cycle [AIPMT 2014]

- (1) amount of DNA doubles in each cell
(2) amount of DNA remains same in each cell
(3) chromosomes number is increased
(4) amount of DNA is reduced to half in each cell.

Scan or tap for the full solution



Q.20 Given below is a schematic break-up of the phases/stages of cell cycle. Which one of the following is the correct indication of the stage/phase in the cell cycle? [AIPMT 2009]



- (1) C - karyokinesis (2) D - synthetic phase
(3) A - cytokinesis (4) B - metaphase

Scan or tap for the full solution



Q.21 At what stage of the cell cycle are histone proteins synthesized in a eukaryotic cell? [AIPMT 2005]

- (1) During G₂ stage of prophase
(2) During S-phase
(3) During entire prophase
(4) During telophase

Scan or tap for the full solution



Q.22 In the somatic cell cycle [AIPMT 2004]

- (1) in G₁ phase DNA content is double the amount of DNA present in the original cell
(2) DNA replication takes place in S phase
(3) a short interphase is followed by a long mitotic phase
(4) G₂ phase follows mitotic phase

Scan or tap for the full solution



Q.23 In which stage of cell cycle, DNA replication occurs? [AIPMT 2000]

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

Scan or tap for the full solution



ANSWER KEY

Ques.	1	2	3	4	5	6	7	8	9	10	11
Ans.	4	4	4	4	1	2	3	4	2	2	1
Ques.	12	13	14	15	16	17	18	19	20	21	22
Ans.	1	3	2	1	1	1	3	1	2	2	2
Ques.	23										
Ans.	2										