Yakeen NEET 2.0 2026

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Cell - The Unit of Life

DPP: 9

Q1 Perinuclear space is a fluid space
(A) Surrounding the nuclear envelope
(B) Lying as an inner rim surrounded by the nuclear envelope
(C) Enveloping the nucleolus
(D) Between the two membranes of the nuclear membrane

Q2 Nuclear envelope is a derivative of
(A) Microtubules
(B) Rough endoplasmic reticulum
(C) Smooth endoplasmic reticulum
(D) Membrane of Golgi complex

Q3 Both the nuclear membranes are separated by_____in perinuclear space
(A) 10 to 50 $\AA$
(B) 1 to 5 $\AA$
(C) 10 to 50 nm
(D) 1 to 5 nm

Q4 The nuclear pores in the nuclear membrane allows the passage of
(A) proteins inside the nucleus
(B) ribosomal components out of the nucleus
(C) mRNA inside nucleus
(D) All of the above

Q5 The cells that lack nucleus are
(A) erythrocytes of many mammals
(B) sieve tube cells of vascular plants
(C) lymphocytes of mammals
(D) Both A and B

Q6 The content of nucleolus is continuous with the rest of the nucleoplasm as
(A) it is the site of active rRNA synthesis
(B) It is spherical
(C) It is membraneless
(D) It is associated with NOR of certain chromosome

Q7 Cells actively carrying out protein synthesis have
(A) Smaller and single nucleolus
(B) Smaller and more numerous nucleoli
(C) Large and more numerous nucleoli
(D) Larger and single nucleolus

Q8 The main site of synthesis of ribosomal RNA is:
(A) Nucleolus (B) Mitochondria
(C) Nuclear lamina (D) Cytoplasm

Q9 Chromatin is stained by
(A) Acidic dye
(B) Basic dye
(C) Chromatin can never be stained
(D) Crystal violet

Q10 Directions: In the following questions, a statement of Assertion is followed by a statement of Reason.
Assertion (A): Nucleolus is a site for active ribosomal RNA synthesis.
Reason (R): Larger and more numerous nucleoli are present in cells actively carrying out lipid synthesis.
Mark the **correct** choice as:
(A) both Assertion (A) and Reason (R) are True and the Reason (R) is a correct explanation of the Assertion (A).
(B) both Assertion (A) and Reason (R) are True but Reason (R) is not a correct explanation of the Assertion (A).

(C) Assertion (A) is True but the Reason (R) is False.
(D) Assertion (A) is False but the Reason (R) is True.

Q11 Match **List-I** with **List-II** to find out the **correct** option.

List-I		**List-II**	
(A)	Perinuclear space	(I)	Forms the core of the cilia and flagella
(B)	Axoneme	(II)	Material of the nucleus stained by the basic dyes
(C)	Chromatin	(III)	Forms a barrier between the materials present inside the nucleus and that of the cytoplasm
(D)	Centrosome	(IV)	Forms spindle fibres during cell division

(A) A -I, B-III, C-II, D-IV
(B) A -I, B-IV, C-II, D-III
(C) A -II, B-III, C-I, D-IV
(D) A -III, B-I, C-II, D-IV

Q12 The total length of DNA molecules of 46 chromosomes in a human cell is about ..... whereas a typical cell is $10\ \mathrm{m}$ in length
(A) 2 mm (B) 2 cm
(C) 0.2 mm (D) 2 m

Q13 The centromere lies slightly away from the middle of the chromosome resulting in one shorter arm and one longer arm. This type of chromosome is called
(A) Acrocentric (B) Submetacentric
(C) Metacentric (D) Subtelocentric

Q14 The shorter and longer arms of a submetacentric chromosome are referred to as
(A) s-arm and l-arm respectively
(B) p-arm and q-arm respectively
(C) q-arm and p-arm respectively
(D) m-arm and n-arm respectively

Q15 Part of chromosome after secondary constriction is called:
(A) Chromomere
(B) Telomere
(C) Satellite
(D) Primary constriction

Q16 The chromosome which has a terminal centromere is:
(A) Metacentric
(B) Telocentric
(C) Acrocentric
(D) Sub-metacentric

Q17 Kinetochore is
(A) Attached to centriole
(B) Large in size
(C) Disc like structure
(D) All of the above

Q18 In which type of chromosome, the centromere is situated at the middle point of chromosome?
(A) Metacentric
(B) Isobrachial
(C) Heterobrachial
(D) More than one is true

Q19 Which of the following chromosome has a very long and a very short arm?
(A) Acrocentric (B) Telocentric
(C) Metacentric (D) Submetacentric

Q20 Match the List-I with List-II.

List-I		List-II	
A.	Cristae	I.	Primary constriction in chromosome
B.	Thylakoids	II.	Disc-shaped sacs in Golgi apparatus
C.	Centromere	III.	Infoldings in mitochondria
D.	Cisternae	IV.	Flattened membranous sacs in stroma of plastids

Choose the correct answer from the options given below.

(A) (A)-(I); (B)-(IV); (C)-(III); (D)-(II)

(B) (A)-(III); (B)-(IV); (C)-(I); (D)-(II)

(C) (A)-(II); (B)-(III); (C)-(IV); (D)-(I)

(D) (A)-(IV); (B)-(III); (C)-(II); (D)-(I)

Q21 Match the lists and select the correct option:

List-I		List-II	
A.	Centriole	P.	Primary constriction of chromosome
B.	Endoplasmic reticulum	Q.	Maintain shape and provide mechanical support to the cell
C.	Cytoskeleton	R.	Basal body of cilia and flagella
D.	Centromere	S.	Protein and lipid synthesis

(A) A-(P); B-(R); C-(S); D-(Q)

(B) A-(R); B-(P); C-(S); D-(Q)

(C) A-(P); B-(R); C-(Q); D-(S)

(D) A-(R); B-(S); C-(Q); D-(P)

Q22 Match the lists and select the correct option:

List-I		List-II	
A.	Lysosomes	P.	Protein synthesis
B.	Ribosomes	Q.	Hydrolytic activity
C.	Smooth endoplasmic reticulum	R.	Synthesis of steroid hormones
D.	Centriole	S.	Glycolytic activity
E.	Chromosomes	T.	Genetic information
		U.	Formation of spindle apparatus

(A) A-(Q); B-(P); C-(R); D-(U); E-(T)

(B) A-(U); B-(R); C-(S); D-(T); E-(P)

(C) A-(P); B-(S); C-(R); D-(U); E-(P)

(D) A-(S); B-(R); C-(P); D-(Q); E-(T)

Answer Key

Q1	(D)
Q2	(B)
Q3	(C)
Q4	(A)
Q5	(D)
Q6	(C)
Q7	(C)
Q8	(A)
Q9	(B)
Q10	(C)
Q11	(D)
Q12	(D)
Q13	(B)
Q14	(B)
Q15	(C)
Q16	(B)
Q17	(C)
Q18	(D)
Q19	(A)
Q20	(B)
Q21	(D)
Q22	(A)