Chapter-1: Lesson on Life

Read the chapter properly & write down the answer of following creative questions:

Creative Question: 01 *



Fig: A

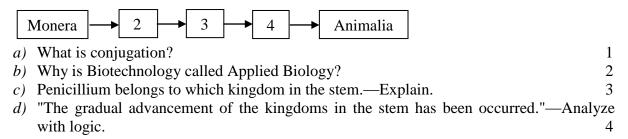
a)	What is conjugation?	1
b)	What do you mean by classification?	2
c)	Which branch of biology may the Fig-A indicate? Explain with reason.	3
d)	Why are Fig: A and Fig-B not included in the same kingdom?—Analyze with logic.	4

Creative Ouestion: 02

Mr. Haque, the Biology teacher observed the surrounding trees of school with his students. Later he discussed about a topic showing various trees. Father of that topic is Carolus Linnaeus. At last he analyzes the system of binomial nomenclature introduced by above mentioned scientist.

- a) What is taxa? 1 2 b) The members of Kingdom-Fungi cannot prepare food.—Explain. c) Describe the aim of the subject-matter discussed by the teacher. 3
- d) In the case of naming of man, is the invented system of stem mentioned scientist reflected or not?—Analyze. 4

Creative Question: 03



Chapter-2: Cells and Tissues of Organisms

Read the chapter properly & write down the answer of following creative questions:

Creative Question: 01



Fig: A

- a) What is microvilli?
- b) Write down the difference between somatic cell and gametic cell.
- c) Explain the structural characteristics of Fig: A.
- d) How is energy produced in Fig: A?—Analyze with logic.

Creative Question: 02



Fig: A

- *a)* What is cristae?
- b) Write down the difference between cell wall and cell membrane.
- c) Explain the structural characteristics of Fig: A.
- d) Analyze and state your opinion if the above figure does not exist in plant.

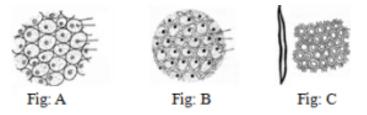
Creative Question: 03



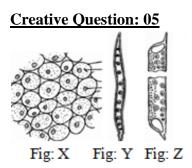
Fig: A

- *a*) What is oxysome?
- b) What is meant by centrosome?
- c) Explain the structural characteristics of 'X' marked part of Fig: A.
- *d*) X marked part of Fig: A in the stem controls all the biological activities of the cell.— Evaluate it.

Creative Question: 04



- *a*) What is true cell?
- b) What is meant by Golgi body?
- c) Explain the structural characteristics of Fig: C.
- *d*) Analyze the structural and functional similarities and dissimilarities of Fig: A and Fig: B and Fig: C of the stem



- *a*) What is stone cell?
- b) What is meant by cell vacuole?
- c) Explain the structural characteristics of Fig: X.
- *d*) Analyze the structural and functional similarities and dissimilarities of Fig: Y and Fig: Z of the stem.

Creative Question: 06

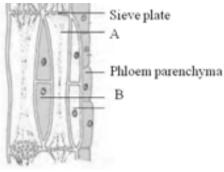
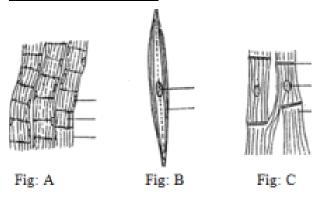


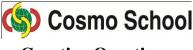
Fig: X

- *a)* What is aerenchyma?
- *b*) What do you mean by protoxylem and metaxylem.
- *c)* Explain the location and structure of 'A' and 'B' marked part in above figure.
- d) "Fig: X has a great economic importance."—Analyze

Creative Question: 07



- *a*) What is lymph?
- b) What are the functions of lysosome?
- c) Write down the differences between Fig: A and Fig: B mentioned above stem.
- *d*) "Although the tissue 'A' and 'C' as mentioned in the stem are structurally similar, they are functionally different."—Analyze.



Creative Questions Chapter Three Cell Division

Name :	Date:
Class : IX	Subject: Bíology

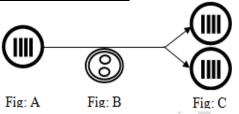
* Creative Question:



Fig: X

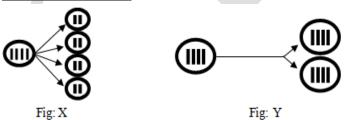
- *a)* What is karyokinesis?
- b) What is meant by interphase?
- c) Draw a labeled diagram of the next stage of the stem.
- d) Justify whether the cell division process in which the Fig: X included is equational division or not. 4

* Creative Question:



- a) What is spindle apparatus?
- b) Write down the difference between prophase and telophase.
- c) Explain the role of Fig: B in the change of Fig: A to Fig: C.
- d) Write down the importance of above process.

* Creative Question:



a) What are kinetochores?
b) What is meant tumour and cancer?
c) How Fig: X plays role in the flow of generation explain.
d) Write down the comparison between Fig: X and Fig: Y.

1 2

3

1 2

3

4



Multiple Choice Questions Chapter One Lesson on Life

Л	ame :	
Cl	Fass : IX	Subject: Biology
1.	From which word is the term 'biology'	10. Genetic engineering associated with—
	derived?	<i>i</i> . gene
	a) Latin b) Greek	<i>ii.</i> heredity
	c) Indian d) Arabic	<i>iii</i> . gene technology
2.	In which region was biology not practiced	Which one is correct?
	form the beginning of the civilization?	a) i b) iii
	a) India b) Egypt	c) i and iii d) i, ii and iii
	c) America d) Middle East	11. A survey report has been published that there
3.	Living organisms are constituted of—	are 200 tigers in the Sundarbans. It is the
	<i>i</i> . living things	subject matter of—
	<i>ii</i> . nonliving things	a) Forestry b) Wildlife
	<i>iii</i> . both living and nonliving things	c) Biostatistics d) Biogeography
	Which one is correct?	12. Evolution deals with—
	a) i b) ii	<i>i</i> . origin of life
	c) i and ii d) i, ii and iii	<i>ii.</i> development of zygote
4.	$CO_2 + 12H_2O \rightarrow C_6H_{12}O_6 + 6H_2O + 6O_2$. It is	<i>iii.</i> gradual development of life
	discussed in—	Which one is correct?
	a) Cytology b) Histology	a) i and ii b) i and iii
~	c) Physiology d) Morphology	c) ii and iii d) i, ii and iii
э.	Embryology discusses—	13. What is not discussed in endocrinology?
	<i>i</i> . the origin of life	a) Insulin b) Glucose
	<i>ii.</i> the origin of gamete	c) Thyroxin d) Gonadotropin
	<i>iii.</i> the development of embryo Which one is correct?	14. Entomology deals with— <i>i</i> . birds
	a) ii b) iii	<i>ii.</i> mosquito
	c) ii and iii d) i, ii and iii	<i>iii.</i> honey bee
6.		Which one is correct?
0.	prehistoric life forms?	a) ii b) iii
	a) Cytology b) Evolution	c) ii and iii $d)$ i, ii and iii
	c) Histology d) Palaeontology	15. What is not discussed in medical science?
7.	Physical branch of biology includes—	a) Diseases b) Medicine
	<i>i</i> . Biogeography	c) Treatment d) Analysis of cancer
	<i>ii.</i> Biotechnology	16. Applied branch of biology includes—
	iii. Bioinformatics	<i>i</i> . Fisheries
	Which one is correct?	ii. Agriculture
	a) i and ii b) i and iii	iii. Endocrinology
	c) ii and iii d) i, ii and iii	Which one is correct?
8.	Which science deals with the industry of	a) i b) ii
	medicine?	c) i and ii d) i, ii and iii
	a) Pharmacy b) Microbiology	17. Which one is not the subject of applied branch
	c) Biotechnology d) Medical science	of biology?
9.	, 6	a) Biochemistry b) Biotechnology
	<i>i</i> . Parasitology	c) Biogeography d) Genetic Engineering
	ii. Microbiology	18. The aim of classification—
	<i>iii</i> . Medical Science	<i>i</i> . to classify the living world easily
	Which one is correct?	<i>ii.</i> to know the living world accurately
	a) i b) ii	<i>iii.</i> to describe the history the living world
	c) i and ii d) i, ii and iii	Which one is correct?

a) i b) ii d) i, ii and iii c) i and ii 19. How many plant species have been discovered so far? *a*) 3 billion b) 4 billion d) 5 million c) 4 million 20. How many animal species have been discovered so far? *a*) 13 billion b) 13 billion c) 14 million d) 15 million 21. Carolus Linnaeus was*i*. botanist ii. zoologist iii. physician Which one is correct? *a*) i b) ii c) i and ii d) i, ii and iii 22. In which subject did Carolus Linnaeus receive his doctoral degree from the University of Uppsala in 1735? b) Zoology a) Botany d) Taxonomy *c*) Medicine 23. Into how many kingdoms did Carolus Linnaeus classify the living world? *a*) 2 *b*) 4 *c*) 6 *d*) 8 24. The basis of classification of R H Whittaker*i*. mode of nutrition ii. type of DNA and RNA iii. features and number of cells Which one is correct? b) iii *a*) i c) i and iii d) i, ii and iii 25. Who divided the living world into two super kingdoms? a) Margulis b) Linnaeus c) Caviler Smith d) R H Whittaker 26. The blue green algae *i*. is prokaryotic ii. is filamentous iii. contains photosynthetic pigment Which one is correct? a) ii b) iii d) i, ii and iii c) i and iii Observe the stem and answer the question nos. 27 and 28. Fig: B

- 27. Which one falls in the kingdom of Fig: A?
 - b) Nostoc a) Diatom d) Paramecium
 - c) Spyrogyra

28. Both the organisms of Fig: A and Fig: B*i*. unicellular *ii.* filamentous iii. photosynthetic Which one is correct? *a*) i b) ii c) i and ii d) ii and iii 29. Which one does not accomplish its asexual reproduction by the process of mitosis? a) Amoeba b) Diatom c) Spyrogyra d) Bacterium 30. Penicillium *i*. is constituted of mycelium ii. reproduces by haploid spore iii. reproduces through conjugation Which one is correct? a) i and ii b) i and iii c) ii and iii d) i, ii and iii 31. Which organism contains chitinous cell wall? a) Yeast b) Nostoc c) Diatom d) Amoeba 32. Into how many divisions is the Kingdom-Plantae divided? *a*) 2 *b*) 3 *c*) 4 *d*) 5 Observe the stem and answer the question nos. 33 and 34. Ρ 0 R S Diatom Yeast Cycas Tiger 33. Sexual reproduction of which organism is conjugation?

- *a*) P *b*) Q *c*) **R** *d*) S
- 34. Both R and S
 - *i*. develop embryo
 - ii. have advanced tissue system

iii. have cell with cell wall, vacuole etc.

- Which one is correct?
- *a*) i b) i and ii
- c) ii and iii d) i, ii and iii
- 35. Which one is autotrophic
 - b) Amoeba
 - d) Paramecium c) Mushroom
- 36. Sexual reproduction of which organism is anisogamous?
 - a) Tiger

c) Amoeba

a) Nostoc

- b) Yeast
- *d*) Jackfruit Tree
- 37. Who renamed the Kingdom-Monera as the kingdom of bacteria?
 - a) Margulis b) Linnaeus
 - *c*) Caviler Smith d) R H Whittaker
- 38. Family of human being includes
 - *i*. gorilla
 - ii. monkey

iii. chimpanzee Which one is correct? *a*) i b) ii d) i, ii and iii c) iii 39. Which one does not fall in the Order-Primate? b) Gorilla a) Man d) Monkey c) Hyena 40. Homo sapiens *i*. has thin skull ii. has wide forehead iii. developed eye sight Which one is correct? a) ii b) iii c) ii and iii d) i, ii and iii 41. Which one of the following contains more number of organisms? a) Class b) Order c) Family d) Phylum 42. Solanum tuberosum is the scientific name ofb) Ginger a) Maize c) Potato d) Tobacco 43. The aim of binomial nomenclature is *i*. to classify the organisms ii. to describe every organism easily iii. to unambiguously identify every organism Which one is correct? *a*) i b) iii c) i and iii d) i, ii and iii 44. Who defined the term genus and species? a) Margulis b) Linnaeus

c) Caviler Smith *d)* R H Whittaker

- 45. In which book did Carolus Linnaeus begin his task with the modern system of naming of organism effectively?
 - *a*) Systema Naturae
 - *b*) Origin of Species
 - c) Species Plantarum
 - d) Philosophia Botanica
- 46. Which of the following scientific name is correct?
 - a) Katla katla b) Panthera lio
 - c) Oryza sativa d) Labao rohita
- 47. Who is the founder of the Zoology Department of Dhaka University?
 - a) Md. Zakir b) Kazi Zakir
 - c) Kazi Zakaria d) Kazi Zaker Hossain
- 48. What is the scientific name of the frog which is only found in Dhaka?
 - a) Zakiriana dacca b) Kazirana dhaka
 - c) Zakerana dhaka d) Zacirena dacca
- 49. The scientific name, Oryza sativa *i*. is a Latin name
 - *ii.* is given by Carolous Linnaeus
 - *iii.* should be italic when handwritten
 - Which one is correct?
 - *a*) i *b*) ii
 - \vec{d} , i, ii and iii
- 50. Scientific name of which organism has been changed?
 - a) Tiger

c) i and ii

- *b*) Honey bee
- c) Asian toad d) Oriental magpie



Multiple Choice Questions Chapter Two Cells and Tissues of Organisms

	ame : ass :IX	Date: Subject: Biology
1.	When did scientists, Loey and Siekevitz	10. A bacterial cell wall is composed of—
	describe a cell? In—	<i>i</i> . lipid
	a) 1919 b) 1959	<i>ii</i> . protein
	c) 1969 d) 1979	iii. polysaccharide
2.	According to Loey and Siekevitz, a cell-	Which one is correct?
	<i>i</i> . is the unit of living activity	a) i b) ii
	<i>ii.</i> is surrounded by a selectively permeable	c) i and ii d) i, ii and iii
	membrane	11. Which one is the component of a fungal cell
	iii. can exactly duplicate itself without any	wall?
	different living medium	a) Lipid b) Chitin
	Which one is correct?	c) Protein d) Cellulose
	a) i and ii b) i and iii	12. What are formed in the cell wall to exchange
	c) ii and iii d) i, ii and iii	materials with adjacent cells?
3.	How many types of cells are there on the basis	a) Pits b) Lamella
	of the organization of the nucleus?	c) Microvilli d) Plasmodesmata
	a) 2 b) 3	13. Protoplasm is—
4	$\begin{array}{c} c \\ d \\$	<i>i.</i> translucent
4.	Which cell organelle is present in a	<i>ii.</i> surrounded by cell wall
	prokaryotic cell?	<i>iii.</i> contains all the cell organelles
	a) Ribosome b) Lysosome	Which one is correct?
5	c) Golgi body d) Mitochondria	a) i and ii b) i and iii
э.	In the cell of blue green algae—	c) ii and iii d) i, ii and iii
	<i>i</i> . all cell organelles except ribosome are	14. What are called the foldings of a cell
	<i>ii.</i> chromosomal structure consists of	membrane? (h) Strome
	unwrapped DNA	 a) Cristae b) Stroma c) Microvilli d) Plasmodesmata
	<i>iii.</i> nuclear materials are not surrounded by	15. Plasmalemma is composed of—
	nuclear membrane	<i>i</i> . lipid
	Which one is correct?	<i>ii.</i> chitin
	a) i and ii b) i and iii	<i>iii.</i> protein
	c) ii and iii d) i, ii and iii	Which one is correct?
6.	How many types of cells are there on the basis	a) i and ii b) i and iii
	of function?	c) ii and iii d) i, ii and iii
	a) 2 b) 3	16. Through which process the cell membrane
	c) 3 d) 4	controls the movement of water and minerals?
7.	Somatic cell—	a) Osmosis b) Diffusion
	<i>i</i> . divides through mitotic	c) Respiration d) Imbibitions
	<i>ii.</i> divides through binary fission	17. Cytoplasm is—
	<i>iii.</i> takes part in the development of embryo	<i>i</i> . semi-fluid
	Which one is correct?	<i>ii.</i> surrounded by cell wall
	a) i b) ii	<i>iii.</i> contains all the cell organelles
	c) i and ii d) i, ii and iii	Which one is correct?
8.	By which process is a gametic cell divided?	a) i b) ii
	a) Mitosis b) Meiotic	c) iii d i, ii and iii
	c) Amitosis d) Binary fission	18. When did Carl Benda first coin the term
9.	By which process is a zygote divided?	mitochondria? In
	a) Mitosis b) Meiotic	<i>a</i>) 1898 <i>b</i>) 1961
	c) Amitosis d) Binary fission	c) 1965 d) 1998

19. The membrane of a mitochondrion is composed of*i*. lipid ii. protein iii. phospholipids Which one is correct? a) i and ii b) i and iii c) ii and iii d) i, ii and iii 20. What is called the infoldings of mitochondria? b) Stroma *a*) Cristae c) Microvilli d) Plasmodesmata 21. What is called the round body studded with the cristae? a) Ribosome b) Oxysome d) Centrosome c) Lysosome 22. What does an oxysome contain? b) Pectin a) Lipid *c*) Enzyme d) Cellulose 23. In how many stages is aerobic respiration occurred? *a*) 2 *b*) 3 *c*) 4 *d*) 5 24. In mitochondria i. Glycolysis occurs ii. Kreb's cycle occurs iii. Acetyl-CoA formation occurs Which one is correct? a) i and ii b) i and iii d) i, ii and iii c) ii and iii 25. In which stage of aerobic respiration is maximum energy produced? a) Glycolysis b) Kreb's cycle c) Acetyl-CoA formation d) Electron transport sytem which of the following 26. In cell is mitochondrion present? In*a*) Sperm b) Bacterium d) Monocercomonoides c) Trichomonus 27. How many types of plastids are there in plant? *b*) 3 *a*) 2 d) 5 *c*) 4 28. Grana of plastid*i*. captures solar energy ii. helps to produce carbohydrate iii. converts solar energy into chemical energy Which one is correct? b) i and iii a) i and ii c) ii and iii d) i, ii and iii 29. What is absent in chromoplast? *a*) Carotene b) Chlorophyll d) Phycoerythrin *c*) Xanthophyll 30. In which part of plant is leucoplast absent? b) Leaf a) Root

c) Ovary d) Embryo

31. In which cell organelle is stroma found? a) Plastid b) Nucleus c) Golgi body d) Mitochondria 32. Golgi body *i*. stores protein ii. plays role in metabolic activities iii. is involve in secretion of some hormones Which one is correct? b) i and iii a) iii d) i, ii and iii c) ii and iii 33. Which cell organelle transport enzymes for other cells? b) Golgi body a) Nucleus d) Endoplasmic reticulum c) Mitochondria 34. Which cell organelle plays role in the development of mitochondria, vacuole etc.? *a*) Nucleus b) Lysosome c) Golgi body d) Endoplasmic reticulum 35. Cell vacuole contains*i*. pigment ii. inorganic salt iii. inorganic acid Which one is correct? *a*) i b) ii c) i and ii d) i, ii and iii Observe the following figure and answer the question nos. 36 and 37. 36. Which cell organelle does the above figure indicate? a) Ribosome b) Lysosome d) Mitochondria *c*) Centrosome 37. The organelle mentioned in the above figure *i*. produces enzyme ii. protects cells from germ iii. destroys other organelles due to lack of O₂ Which one is correct? *a*) i b) ii c) ii and iii d) i, ii and iii 38. Which one of the following is not a nonmembranous organelle of a cell? *a*) Ribosome b) Lysosome *c*) Centrosome d) Cytoskeleton 39. Which one is not the structural component of the fibers of cytoskeleton? a) Actin b) Myosin c) Tubulin d) Globulin 40. Cytoskeleton*i*. shapes the cell ii. holds the organelles in place

iii. is located beneath the plasmalemma

Which one is correct?

a) i b) ii	Which one is correct?
c) i and ii d) i, ii and iii	a) ii b) iii
41. Which organelle is found in all types of cells?	c) ii and iii d) i, ii and iii
a) Ribosome b) Lysosome	Observe the following figure and answer the
c) Golgi body d) Mitochondria	question nos. 52 and 53.
42. Which organelle carries out the bondage in	Pellicle
polypeptide chains?	Secondary
a) Nucleus b) Ribosome	constriction II
c) Lysosome d) Mitochondria	Matrix
43. Centrosome—	Satellite
<i>i</i> . contains centrosphere	Secondary constriction I
<i>ii.</i> contains two centrioles	Pellicle Secondary constriction II Matrix Satellite Secondary constriction I Chromonemata
<i>iii.</i> is found in most animal cells a) i b) ii	Primary constriction
c) i and ii d) i, ii and iii	(centromere)
44. Which one constructs spindle apparatus at the	52. What does the figure indicate?
time of cell division?	<i>a)</i> Ribosome <i>b)</i> Lysosome
a) Nucleus b) Centriole	c) Centrosome d) Chromosome
<i>c)</i> Lysosome <i>d)</i> Mitochondria	53. The above figure—
45. Nucleus of a cell—	<i>i.</i> contains genes
<i>i.</i> stores protein	<i>ii.</i> carries the units of heredity
<i>ii.</i> synthesizes protein	<i>iii.</i> is fixed in numbers in a specific species
<i>iii.</i> transfers heredity traits	Which one is correct?
Which one is correct?	a) i and ii b) i and iii
a) ii b) iii	c) ii and iii d) i, ii and iii
\vec{c} i and ii \vec{d} i, ii and iii	54. How many types of simple tissue are there?
46. Which part of nucleus controls the transport	a) 2 b) 3
system from nucleus to cytoplasm?	c) 4 d) 5
a) Nucleolus b) Nucleoplasm	55. Which one is not the characteristic of a
c) Nuclear membrane d) Chromatin reticulum	parenchyma cell?
47. Nuclear membrane is composed of—	a) Thin walled b) Isodiametric
<i>i</i> . lipids	<i>c)</i> Lignified wall <i>d)</i> Turgid with protoplasm
<i>ii.</i> proteins	56. Which one is not the function of a parenchyma
iii. phospholipids	tissue?
Which one is correct?	a) Store food b) Produce food
a) ii b) iii	<i>c)</i> Transport food <i>d)</i> Provide rigidity
c) i and ii d) i, ii and iii	57. In which plant are aerenchyma cells found?
48. What does nucleoplasm not contain?	a) Grass b) Maize
a) Lignin b) Protein	c) Sugarcane d) Water hyacinth
c) Enzyme d) Nucleic acid	58. Which one is not the characteristic of a
49. Nucleolus is composed of—	collenchyma cell?
i. RNA	a) Elongated
<i>ii</i> . lipids	b) Oblique bordered cell
iii. proteins	c) Regular thickened wall
Which one is correct?	d) Turgid with protoplasm
a) i and ii b) i and iii	59. The cells of collenchyma tissue—
c) ii and iii d) i, ii and iii 50 Which part of makes a price the part of	<i>i</i> . stores food
50. Which part of nucleus carries the units of	<i>ii.</i> produces food
heredity?	<i>iii.</i> provides mechanical support Which one is correct?
a) Nucleolus b) Nucleoplasm	
<i>c)</i> Nuclear membrane <i>d)</i> Chromatin reticulum 51. Nucleolus of nucleus—	a) ii b) iii c) ii and iii d) i, ii and iii
	c) ii and iii d) i, ii and iii 60. Which one is called stone cell?
<i>i</i> . produces enzymes <i>ii</i> . synthesizes protein	<i>a)</i> Fiber <i>b)</i> Sclereids
<i>iii.</i> stores nucleic acids	<i>a)</i> Fiber <i>b)</i> Sciereids <i>c)</i> Parenchyma <i>d)</i> Collenchyma
m. stores increacions	c_j ratenenyma a_j contentinyma

Observe the following figure and answer the question nos. 61 and 62.

1					
	Fig: A	Fig: B			
61. W	here is Fig: A	A found	?		
	Tip of root			Coat of seed	
	Peel of fruit	t		Vein of leaves	
,	issue of Fig: I		/		
	is of two type				
	provides me		l sup	oport	
	. composed o		-	•	
	hich one is co				
a	ii		b)	iii	
c)	ii and iii		d)	i, ii and iii	
63. In	to how many	/ types	are	the complex tissues	
gr	ouped?			-	
a	2		b)	3	
<i>c)</i>	4		d)		
64. H	ow many type	es of pri	mar	y xylem are there?	
	2	-	b)		
<i>c)</i>	4		d)	5	
65. W	hich one is n	ot found	l in	xylem?	
a	Vessels		b)	Tracheids	
<i>c)</i>	Sieve cell		d)	Xylem fiber	
66. W	here is trache	eids not	fou	nd? In—	
a)	Fern		b)	Moss	
c)	Angiospern	n	<i>d</i>)	Gymnosperm	
67. X	ylem vessels-	-			
	short and tub				
	slender and s				
	i. walls differe	-	cke	ned	
	hich one is co	orrect?			
	i and ii			i and iii	
,	ii and iii			i, ii and iii	
		is xylen		ssel much longer?	
	Grass			Maize	
	Creeper			Sugarcane	
	-	ry type		vessel found? In—	
	Grass			Maize	
/	Gnetum		d)	Sugarcane	
	ylem vessel—	-			
	transports pre	-		1	
	transports wa				
	-	-	W1t	h proper rigidity	
	hich one is co	orrect?	1		
,	i and ii			i and iii	
,	ii and iii			i, ii and iii	
	hich one lack	s nucle		D	
,	Sieve cell			Parenchyma	
<i>c)</i>	Phloem fib	re	d)	Companion cell	

72. Companion cell is*i*. thick walled ii. turgid with protoplasm *iii.* parenchyma type of cell Which one is correct? *a*) i and ii b) i and iii c) ii and iii d) i, ii and iii 73. What type of cell is the fiber of jute? a) Parenchyma b) Collenchyma c) Sclerenchyma d) Chlorenchyma 74. In which branch of biology are the different types of tissues discussed? *a*) Genetics b) Cytology *d*) Embryology *c*) Histology 75. How many types of animal tissue are there? *b*) 3 *a*) 2 *d*) 5 *c*) 4 76. What is not the function of epithelial tissue? a) Digestion of food materials *b*) Secretion of waste products c) Absorption of water and nutrients d) Transcellular transport of specific materials 77. How many types of epithelial tissue are there on the basis of the size of cell, the location in the animal body and the nature of work? *a*) 2 *b*) 3 c) 4 *d*) 5 78. The epithelial tissue found in kidney is*i*. cuboidal epithelial tissue *ii.* columner epithelial tissue iii. squamous epithelial tissue Which one is correct? *a*) i b) i and iii c) ii and iii d) i, ii and iii 79. What is not the function of epithelial tissue which is found in the internal wall of intestine of vertebrates? *a*) Secretion b) Digestion *d*) Absorption c) Protection 80. How many types of epithelial tissue are there on the basis of the cell layers arranged on the base membrane? *a*) 2 *b*) 3 *d*) 5 *c*) 4 81. Where is pseudo-stratified epithelial tissue found? *a*) Kidney b) Trachea c) Intestine *d*) Wall of stomach 82. The wall of trachea is composed of*i*. simple epithelial tissue ii. ciliated epithelial tissue iii. pseudo-stratified epithelial tissue Which one is correct? a) i and ii b) i and iii d) i, ii and iii c) ii and iii

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83. Where is flagellated epithelial tissue found? a) Hydra b) Amoeba c) Spongilla d) Round worm 84. In connective tissue *i*. matrix is more ii. cells are less in number iii. cells are more in number Which one is correct? b) i and iii a) i and ii *c*) ii and iii d) i, ii and iii 85. How many types of connective tissue are there? *a*) 2 *b*) 3 *d*) 5 *c*) 4 86. Where is mast cell found? In*a*) Glandular tissue b) Fluid connective tissue c) Fibrous connective tissue d) Skeletal connective tissue 87. Fibrous connective tissue is found i. sparsely in muscle *ii.* in the lymphatic gland *iii.* below the body-integument Which one is correct? a) i and ii b) i and iii c) ii and iii d) i, ii and iii 88. How many types of skeletal tissue are there? *a*) 2 *b*) 3 *c*) 4 *d*) 5 89. Where is lacunae found? In the cell of *a*) Bone b) Blood c) Cartilage d) Integument 90. Cartilage is found in*i*. nose *ii.* pinna of ear *iii.* end of femur Which one is correct? a) ii b) iii d) i, ii and iii c) ii and iii 91. What is the color of plasma? a) Bluish b) Reddish d) Yellowish c) Colorless 92. What type of compound is haemoglobin? *b*) Zinc compound a) Iron compound c) Iodine compound d) Copper compound 93. With what does haemoglobin mix easily? *a*) H₂ *b*) N₂

c) O_2 d) CO_2

94. Lymph is—	
<i>i</i> . yellowish	
ii. slightly salty	
iii. slightly alkaline	
Which one is correct?	
a) i and ii	b) i and iii
c) ii and iii	d) i, ii and iii $\frac{1}{2}$
95. How many types of multiple a 2	b) 3
(a) 2 (c) 4	<i>d</i>) 5
96. Muscular tissue—	u) 5
<i>i</i> . almost lacks matrix	
ii. originates from mes	oderm
iii. capable of contract	ing and expanding
Which one is correct?	
a) i and ii	b) i and iii
c) ii and iii $Charge the following the fol$	d) i, ii and iii figure and answer the
question nos. 97 and 9	g figure and answer the
question nos. 37 and 5	
	LKC .
	1971 <u>9</u> 119
Fig: A Fig	: B
97. Where is tissue of Fig:	
<i>a)</i> Vein	b) Heart
c) Stomach	d) Intestine
98. Fig: B in the stem—	,
<i>i</i> . has transverse striation	ons
ii. intercalated discs ar	-
<i>iii</i> . structure is similar	to smooth muscle
Which one is correct?	7 \ • 1••
a) iii $a \rightarrow iii$	b) i and ii d) i ii and iii
<i>c</i>) ii and iii99. What is absent in nerve	d) i, ii and iii $cell$
a) Centriole	b) Ribosome
c) Golgi body	d) Mitochondria
100. Which one is not	
system?	
a) Larynx	b) Rectum
c) Duodenum	d) Esophagus

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Multiple Choice Questions Chapter Three Cell Division

${\mathcal N}$	ame :	
Cl	ass : IX	Subject: Biology
1.	Which one is not a unicellular organism?	From the figure below, answer question nos.
	a) Hydra b) E. coli	12 and 13.
	c) Amoeba d) Plasmodium	
2.	From what are most of the multi-cellular	₩ *m
	organisms originated?	\mathbf{O}
	a) Ovum b) Zygote	Fig: Y
•	c) Sperm d) Gamete	12. In how many phases does the process of Fig:
3.	How many types of cell divisions are found in	Y take place?
	living organisms?	a) 2 b) 4 c) 5 d) 6
	a) 2 b) 3 c) 4 d) 5	13. In the process of Fig: Y_{-}
4	· · · · · · · · · · · · · · · · · · ·	<i>i</i> . nucleus is divided only once
4.	In the process of amitosis— <i>i</i> . nucleus becomes shorter	<i>ii.</i> nucleus becomes dumbbell shaped
	<i>ii.</i> nucleus becomes dumbbell shaped	<i>iii.</i> two identical daughter cells are produced
	<i>iii.</i> a depression forms in the middle of the cell	Which one is correct?
	Which one is correct?	a) i and ii b) i and iii
	a) i and ii b) i and iii	c) ii and iii d) i, ii and iii
	c) ii and iii d) i, ii and iii	14. Into how many stages is karyokinesis divided?
5.	What type of cell division is occurred in	a) 3 b) 4
	yeast?	c) 5 d) 6
	a) Mitosis b) Meiosis	15. At which stage of mitosis can the chromosome
	c) Amitosis d) Caryokinesis	be seen with a compound microscope?
6.	In which of the following is amitosis cell	a) Prophase b) Anaphase
	division not occurred?	c) Telophase d) Metaphase
	a) Yeast b) Obelia	16. Which stage of mitosis takes long time?<i>a</i>) Prophase<i>b</i>) Anaphase
_	c) Amoeba d) Bacterium	<i>c)</i> Telophase <i>d)</i> Metaphase
1.	How many times does the nucleus of the	17. In which stage of mitosis cell division the
	mother cell divide in mitosis?	nucleus becomes bigger in size?
	a) 1 c) 3 b) 2 d) 4	a) Prophase b) Metaphase
8.	How many identical daughter cells are	c) Telophase d) Pro-metaphase
0.	produced through mitosis?	18. In which stage is each chromosome divided
	a) 2 b) 4	longitudinally into two chromatids?
	c) 8 d) 16	a) Prophase b) Metaphase
9.	Which one of the following is called	c) Anaphase d) Pro-metaphase
	equational division?	19. Which one of the following is a very short
	a) Meiosis b) Mitosis	phase of mitosis cell division?
	c) Amitosis d) Cytokinesis	a) Prophase b) Metaphase
10	. Mitosis cell division occurs—	<i>c)</i> Anaphase<i>d)</i> Pro-metaphase20. In which stage of mitosis, spindle apparatus
	<i>i</i> . in the somatic cells of animal	made of microtubules of cytoskeleton is
	<i>ii.</i> in the meristematic tissue of plant	formed?
	<i>iii.</i> in asexual reproduction of lower organisms	a) Prophase b) Metaphase
	Which one is correct?a) i and iib) i and iii	c) Anaphase d) Pro-metaphase
	$\begin{array}{c} a) & \text{i and ii} \\ c) & \text{ii and iii} \\ \end{array} \qquad \begin{array}{c} b) & \text{i and iii} \\ d) & \text{i, ii and iii} \\ \end{array}$	21. Kinetochores—
11	. Where is mitosis not occurred? In—	<i>i</i> . are protein structures
11	a) Bud b) Carpel	<i>ii.</i> assemble on centromeres
	c) Radicle d) Plumule	iii. link chromosomes with mitotic spindles
	, , , , , , , , , , , , , , , , , , , ,	

Which one is correct?

- a) iii
- b) i and iii
- *c*) ii and iii d) i, ii and iii
- 22. In which stage of mitosis is aster ray radiated in animal cell?
 - *a*) Prophase
 - b) Telophase c) Anaphase d) Pro-metaphase
- 23. Which one radiates astral ray at prometaphase of mitosis in animal cell?
 - a) Chromatic reticulum
 - b) Endoplasmic reticulum
 - c) Centriole of centrosome
 - d) Microtibules of Cytoskeleton
- 24. In which stage of mitosis do the nuclear membrane and nucleolus start to disappear?
 - *a*) Prophase b) Telophase
 - d) Pro-metaphase c) Anaphase
- 25. At metaphase
 - *i*. chromosomes come at the equator
 - ii. chromosomes look short and thick
 - iii. repulsion between chromatids increases
 - Which one is correct?
 - a) ii b) i and iii
 - c) ii and iii d) i, ii and iii
- 26. In which stage do the nuclear membrane and nucleolus disappear completely?
 - b) Anaphase *a*) Prophase
 - d) Pro-metaphase c) Metaphase

From the figure below, answer question nos. 27, 28 and 29.

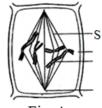


Fig: A

- 27. In which stage of mitosis is 'S' formed?
 - a) Prophase b) Metaphase
 - c) Anaphase d) Pro-metaphase
- 28. Which stage of mitosis cell division is shown in the Fig: A?
 - a) Prophase b) Metaphase
 - c) Anaphase d) Pro-metaphase
- 29. In the next stage of the stage of Fig: A*i*. chromatids become chromosomes
 - ii. chromosomes look V, L, J or I shaped
 - *iii.* chromosomes move to the respective poles Which one is correct?
 - b) iii a) ii
 - c) ii and iii d) i, ii and iii
- 30. Which stage of mitosis cell division creates daughter chromosomes?
 - *a*) Prophase b) Metaphase
 - c) Anaphase *d*) Pro-metaphase

- 31. At the end of which stage of mitosis is cytokinesis started?
 - *a*) Prophase b) Telophase
 - c) Anaphase d) Metaphase
- 32. In which stage of mitosis are chromatin fibers formed?
 - a) Prophase b) Telophase
 - c) Anaphase d) Metaphase
- 33. In telophase
 - *i*. chromosomes get elongated
 - ii. spindle apparatus disintegrated
 - *iii.* nucleolus and nuclear membrane reappear
 - Which one is correct?
 - b) i and iii a) i and ii
 - d) i, ii and iii c) ii and iii
- 34. Which stage of mitosis is a reversal of the prophase
 - a) Anaphase b) Telophase
 - c) Metaphase d) Prometaphase
- 35. At the end of telophase
 - *i*. two identical daughter cells are developed
 - ii. equal distribution of cytoplasmic organelles is occurred
 - iii. cell plate is formed with some small parts of endoplasmic reticulum

b) i and iii

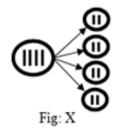
- Which one is correct?
- a) i and ii
- c) ii and iii d) i, ii and iii
- 36. How many cells does a human body have?
 - *a*) 10 billion *b*) 20 trillion
 - c) 30 billion d) 30 trillion
- 37. If each cell division takes one day to complete, how many days will the number of cells necessary for a human being take to create?
 - *a*) 10-20 days b) 20-30 days
 - c) 30-40 days *d*) 40-50 days
- 38. Through mitosis
 - *i*. growth in organisms place takes systematically
 - ii. qualitative features of the living world remain unchanged
 - iii. the balance between the nucleus and cytoplasm of a cell is maintained
 - Which one is correct?
 - *a*) i b) iii
 - c) i and iii d) i, ii and iii
- 39. What is the result of mitotic errors or irregular or uncontrolled cell division?
 - a) Gamete b) Tumour
 - c) Zygote *d*) Haploid cell
- 40. Which two genes of papilloma virus produce a chemical substance that displaces two protein molecules which control cell division?
 - a) E_1 and E_2 b) E_5 and E_6
 - d) CysE and CysM c) E_6 and E_7

- 41. Which one of the following is called reduction division?
 - a) Meiosis b) Mitosis
 - d) Cytokinesis c) Amitosis
- 42. Meiosis takes place in
 - *i.* growing leaves, buds, etc.

ii. the testes and ovary of higher animals iii. the stamen and carpel of flowering plants

- Which one is correct?
- a) i and ii b) i and iii
- c) ii and iii d) i, ii and iii
- 43. How many daughter cells are produced through meiosis?
 - *a*) 2 *b*) 4
 - *d*) 16 *c*) 8

From the figure below, answer question nos. 44 and 45.



- 44. In how many successive phases is the process mentioned in Fig: X completed?
 - *a*) 2 *b*) 3
 - *c*) 4 *d*) 5
- 45. In the process of Fig: X
 - *i*. the number of chromosomes decreases
 - ii. nucleus divides twice and chromosome once
 - iii. both the nucleus and chromosomes divide only once

b) i and iii

- Which one is correct?
- a) i and ii
- c) ii and iii d) i, ii and iii
- 46. In which phase of cell division does the number of chromosomes in the daughter cell become half of the number of chromosomes of mother cell?
 - b) Anaphse a) Meiosis-I
 - d) Meiosis-II c) Telophase
- 47. Which cell division helps to retain heredity?
 - b) Meiosis a) Mitosis

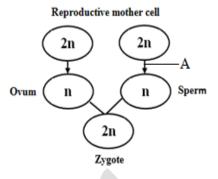
c) Amitosis *d*) Mitosis and meiosis

- 48. Through meiosis
 - *i*. exchange of genes occurs
 - *ii.* the features in the species stay same
 - iii. chromosome number remain constant in organism

Which one is correct?

- a) i and ii b) i and iii
- d) i, ii and iii c) ii and iii

From the figure below, answer question nos. 49 and 50.



- 49. What is the process 'A' mentioned in the stem? *a*) Mitotic b) Meiotic
 - d) Cytokinesis c) Amitosis
- 50. The process mentioned in the stem
 - *i*. produces diploid zygote
 - ii. produces haploid gametes
 - iii. maintains the continuity of heredity trait
 - Which one is correct?
 - a) i and ii b) i and iii
 - c) ii and iii d) i, ii and iii
- 51. Zygote is the
 - *i*. features of mitosis division
 - ii. result of the union of two gametes
 - iii. state of the union of two haploid cells Which one is correct?
 - a) i and ii
 - b) i and iii
 - c) ii and iii d) i, ii and iii
- 52. Which process creates variation among the organisms of same species?
 - a) Mitosis b) Meiosis
 - c) Amitosis d) Interphase
- 53. In which of the following the number of chromosomes of somatic cell gets changed?
 - a) Potato b) Tomato
 - c) Pineapple d) Cucumber
- 54. Which one was created when the chromosome set of Xenopus tropicalis was doubled?
 - a) Xenopus laevis
 - b) Xenopus indica
 - c) Xenopus equatorial
 - d) Xenopus falciparum
- 55. The process of meiosis
 - *i*. creates genetic diversity in any species
 - ii. keeps the qualitative features of living world intact
 - iii. increases the possibility of survival of organisms
 - Which one is correct?
 - a) i and ii b) i and iii
 - c) ii and iii d) i, ii and iii