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SSC-I NATIONAL BOOK FOUNDATION FBISE

BIOLOGY TEST - CHAPTER 3: CELL

Name:		Roll No.		Section:

Total Time: 2:30 Hour
Time Allowed: 150 Minutes

Total Marks: 150

PAPER OBJECTIVE
SECTION-A (MARKS 150)

NOTE: Section-A is compulsory. All parts of this section are to be answered on these pages and handed over to the center superintendent. Deleting / overwriting is not allowed. Do not use lead pencil.

Q.1 Fill the relevant bubble for each part. All parts carry one mark.

Questions	A	B	C	D	A B C D
1. The basic unit of structure and function of all living organisms is the:	organ	nucleus	tissue	cell	○○○●
2. Who discovered the cell in 1665 by examining a thin slice of cork?	Robert Brown	Robert Hooke	Anton van Leeuwenhoek	Camillo Golgi	○●○○
3. Hooke observed cork cells as:	empty chambers with thick coverings	branched fibres	tiny green granules	living nucleated units	●○○○
4. Hooke examined the cork tissue under a:	dissecting microscope	electron microscope	compound microscope	hand lens only	○○●○
5. The cell nucleus was discovered in:	1665	1900	1700	1831	○○○●
6. The discovery of nucleus and organelles was due to:	improved microscope lenses	chemical stains only	computer imaging	use of X-rays	●○○○
7. Cell wall is secreted and deposited:	inside the nucleus	within the vacuole	inside the cytoplasm	outside the cell membrane	○○○●
8. How many layers does a plant cell wall have?	one	two	three	four	○○●○
9. Which layer of the plant cell wall is made of calcium and magnesium pectates?	middle lamella	secondary wall	plasma membrane	primary wall	●○○○
10. The sticky layer that holds neighbouring plant cells together is the:	secondary wall	cell membrane	middle lamella	tonoplast	○○●○
11. The primary cell wall is thin, flexible and contains:	lignin only	cellulose fibres in criss-cross	peptidoglycan	chitin	○●○○
12. Secondary cell wall is thick and rigid due to the presence of:	keratin	pectin	lignin	chitin	○○●○
13. Secondary wall is formed inside the primary wall in cells like:	root hair cells	xylem vessels	mesophyll cells	guard cells	○●○○
14. Cytoplasmic connections between neighbouring plant cells are called:	cisternae	plasmodesmata	tonoplasts	cristae	○●○○

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Questions	A	B	C	D	A B C D
15. Plasmodesmata pass through tiny pores of the:	mitochondrial matrix	cell wall	thylakoid	nuclear envelope	○●○○
16. The cell wall of fungi is made of:	lignin	chitin	cellulose	peptidoglycan	○●○○
17. The cell wall of prokaryotes is made of:	peptidoglycan	pectin	chitin	cellulose	●○○○
18. The cell wall of algae contains:	cellulose	peptidoglycan	chitin	keratin	●○○○
19. Cell wall is absent in:	fungi	bacteria	algae	animal cells and protozoa	○○○●
20. Turgor pressure can develop in plant cells due to the presence of:	lysosomes	centrioles	cilia	cell wall	○○○●
21. Which is NOT a function of the cell wall?	Synthesis of proteins	Gives shape to cell	Supports the plant	Protects the cell	●○○○
22. The thin sheet-like covering of the cell is the:	tonoplast	cell wall	nuclear envelope	cell membrane	○○○●
23. Protein content of the cell membrane is about:	20-40%	60-80%	90%	10-20%	○●○○
24. Phospholipids make about what percentage of the cell membrane?	60-80%	1-5%	20-40%	90%	○○●○
25. Which is present only in traces in the cell membrane?	cholesterol	phospholipids	carbohydrates	proteins	○○●○
26. The structure of cell membrane is explained by the:	lock and key model	cell theory	sliding filament model	fluid mosaic model	○○○●
27. According to the fluid mosaic model, the membrane has a:	double layer of DNA	phospholipid bilayer with proteins	single protein layer	cellulose network	○●○○
28. In fluid mosaic model, proteins float like icebergs in a sea of:	lignin	cytoplasm	cellulose	phospholipids	○○○●
29. Which part of the membrane represents the 'fluid' component?	phospholipid bilayer	protein molecules	carbohydrate chains	cholesterol only	●○○○
30. Which part of the membrane represents the 'mosaic' component?	proteins	water	nucleoplasm	cytoplasm	●○○○
31. Cholesterol in eukaryotic cell membranes prevents:	synthesis of ATP	protein synthesis	entry of water	stiffening of membrane	○○○●

Questions	A	B	C	D	A B C D
32. Cholesterol is required for the fusion of:	chloroplasts with wall	two nuclei	secretory vesicles with membrane	ribosome subunits	○○●○
33. Carbohydrates in the cell membrane are linked with:	proteins or lipids	DNA only	cellulose	RNA only	●○○○
34. The cell membrane is described as semipermeable because:	only water is blocked	some molecules pass, others are blocked	all molecules pass freely	nothing can pass	○●○○
35. The cell membrane acts as:	power house	control centre	protein factory	barrier and gatekeeper	○○○●
36. The aqueous substance between cell membrane and nucleus is the:	matrix	stroma	cytoplasm	nucleoplasm	○○●○
37. Cytoplasm is about how much water?	70%	99%	50%	90%	○○○●
38. Which is a role of cytoplasm?	Controls heredity	Forms spindle	Site for many biochemical processes	Makes ATP exclusively	○○●○
39. A network of channels throughout the cytoplasm of eukaryotic cells is the:	endoplasmic reticulum	centrosome	Golgi apparatus	cytoskeleton	●○○○
40. Flattened membrane sacs of endoplasmic reticulum are called:	cristae	grana	cisternae	thylakoids	○○●○
41. Rough ER is rough because of attached:	lysosomes	mitochondria	vesicles	ribosomes	○○○●
42. Which ER takes part in protein synthesis?	Golgi only	rough ER	both lack role	smooth ER	○●○○
43. Steroids and other lipids are synthesized by:	lysosomes	ribosomes	smooth ER	rough ER	○○●○
44. Detoxification of harmful substances is a function of:	centrioles	rough ER	smooth ER	vacuole	○○●○
45. In muscle cells, smooth ER plays an important role in:	photosynthesis	contraction	digestion	DNA copying	○●○○
46. Proteins make up about what share of a cell's dry weight?	90%	15%	55%	5%	○○●○
47. Protein synthesis is carried out by:	centrioles	ribosomes	lysosomes	vacuoles	○●○○
48. Ribosomes are found in:	only plant cells	both prokaryotic and eukaryotic cells	only prokaryotic cells	only eukaryotic cells	○●○○

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Questions	A	B	C	D	A B C D
49. Ribosomes are composed of:	protein and rRNA	cellulose and RNA	DNA and protein	lipid and protein	●○○○
50. Which is true about ribosomes?	They contain cristae	They are not bound by a membrane	They have single membrane	They have double membrane	○●○○
51. Compared to eukaryotic ribosomes, prokaryotic ribosomes are:	smaller	larger	membrane bound	identical	●○○○
52. Each ribosome consists of:	one small and one large subunit	only one unit	three equal subunits	two small subunits	●○○○
53. The two ribosomal subunits join when the ribosome:	has to perform its function	is formed in Golgi	divides	is being destroyed	●○○○
54. Golgi apparatus was discovered by:	Camillo Golgi	Schleiden	Robert Hooke	Robert Brown	●○○○
55. Golgi apparatus differs from ER because its cisternae are:	stacked over each other	absent in eukaryotes	double membraned	covered with ribosomes	●○○○
56. In Golgi apparatus, vesicles break off from:	one end of the stack	mitochondria	the cell wall	the nucleolus	●○○○
57. Which organelle stores, modifies and packs materials for secretion?	Golgi apparatus	chloroplast	centriole	ribosome	●○○○
58. Products secreted by glands such as enzymes, hormones and mucus are packed by:	mitochondria	nucleolus	lysosomes	Golgi apparatus	○○○●
59. In plant cells, the Golgi apparatus also forms:	cell wall materials	tonoplast only	chlorophyll	ATP	●○○○
60. Lysosomes are synthesized and processed in:	ER and Golgi apparatus	mitochondria	chloroplast	nucleolus	●○○○
61. Lysosomes contain a variety of:	DNA strands	pigments	digestive enzymes	ribosomal RNA	○○●○
62. Lysosomes are bounded by:	no membrane	a single membrane	two membranes	a cell wall	○●○○
63. Breakdown of materials taken in by the cell is called:	cytokinesis	photosynthesis	intracellular digestion	osmosis	○○●○
64. Digestion of unwanted cell organelles by lysosomes is called:	diffusion	phagocytosis	autophagy	pinocytosis	○○●○
65. The process breaking down organic food to release energy is:	photosynthesis	digestion	cellular respiration	transpiration	○○●○

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Questions	A	B	C	D	A B C D
66. Aerobic respiration takes place in:	Golgi bodies	lysosomes	chloroplasts	mitochondria	○○○●
67. Mitochondria are bounded by:	a single membrane	a cell wall	a double membrane	no membrane	○○●○
68. The finger-like projections of inner mitochondrial membrane are:	cisternae	cristae	grana	thylakoids	○●○○
69. Cristae increase the surface area for:	respiration	protein digestion	photosynthesis	cell division	●○○○
70. The fluid inside a mitochondrion is called:	cell sap	matrix	nucleoplasm	stroma	○●○○
71. Which organelles have their own DNA and ribosomes?	ER and vacuoles	mitochondria and chloroplasts	centrioles and ribosomes	lysosomes and Golgi	○●○○
72. Mitochondria produce energy in the form of:	DNA	glucose	ATP	starch	○○●○
73. Mitochondria are called the power house because they:	produce ATP energy	make proteins	store food	digest wastes	●○○○
74. Plastids are found in:	plants and algae	animals and fungi	bacteria only	all eukaryotes	●○○○
75. Which is NOT a type of plastid?	chloroplast	chromoplast	leucoplast	lysosome	○○○●
76. Chloroplasts are usually:	oval in structure	branched	cubical	rod shaped	●○○○
77. Hollow coin-like membranous structures in chloroplast are:	cisternae	microtubules	cristae	thylakoids	○○○●
78. A stack of thylakoids is called a:	crista	stroma	matrix	granum	○○○●
79. The fluid part of chloroplast is called:	cell sap	matrix	lumen	stroma	○○○●
80. Light-dependent phase of photosynthesis occurs in:	cristae	stroma	thylakoid membranes	matrix	○○●○
81. Light-independent phase of photosynthesis takes place in:	cytoplasm	stroma	nucleus	thylakoid membranes	○●○○
82. Chlorophyll is anchored in the:	cell wall	stroma	outer envelope	thylakoid membranes	○○○●

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Questions	A	B	C	D	A B C D
83. Coloured plastids other than green are:	chromoplasts	lysosomes	chloroplasts	leucoplasts	●○○○
84. Chromoplasts in petals help to attract insects for:	pollination	seed dispersal	respiration	digestion	●○○○
85. Chromoplasts in ripe fruits attract animals that help in:	pollination	fertilization	seed dispersal	photosynthesis	○○●○
86. Non-pigmented food-storing plastids are:	chloroplasts	tonoplasts	leucoplasts	chromoplasts	○○●○
87. Leucoplasts are usually found in:	leaves	roots, bulbs and tubers	flower petals	ripe fruit walls	○●○○
88. Leucoplasts can store:	only chlorophyll	only DNA	only water	carbohydrates, proteins or lipids	○○○●
89. A vacuole is a:	membrane bound fluid filled sac	non-membranous granule	double membrane organelle	hollow cylinder	●○○○
90. Contractile vacuoles are found in:	plant roots	human liver cells	red blood cells	amoeba and sponges	○○○●
91. Contractile vacuoles function to:	pump out excess water	make proteins	store starch	produce ATP	●○○○
92. Food vacuoles in animal cells:	form spindle	pump out water	make chlorophyll	digest and store food	○○○●
93. The membrane of a plant vacuole is called:	cristae	plasmalemma	envelope	tonoplast	○○○●
94. The liquid inside a plant vacuole is:	stroma	nucleoplasm	cell sap	matrix	○○●○
95. The primary role of the central vacuole is to maintain:	protein synthesis	DNA replication	body temperature	turgor pressure	○○○●
96. A large central vacuole is formed by joining of:	mitochondria	Golgi vesicles only	chloroplasts	small vacuoles	○○○●
97. Centrioles are found in:	animal cells	bacterial cells	plant cells	fungal cells	●○○○
98. Each centriole consists of nine triplets of:	microtubules	microfilaments	thylakoids	cellulose fibres	●○○○
99. Centrioles help in formation of:	chloroplast	ribosome	cell wall	spindle apparatus	○○○●

Questions	A	B	C	D	A B C D
100. Besides spindle, centrioles are involved in forming:	cell sap	lysosomes	cilia and flagella	cristae	○○●○
101. Collectively, fibrous proteins in the cytoplasm form the:	cell sap	cell wall	cytoskeleton	nucleoplasm	○○●○
102. Cytoskeletal fibres are of how many types?	five	four	two	three	○○○●
103. Microtubules are made up of:	keratin	actin	vimentin	tubulin	○○○●
104. Microfilaments consist mainly of:	cellulose	actin	keratin	tubulin	○●○○
105. Cytoplasmic streaming is brought about by:	microfilaments	cristae	microtubules	cell wall	●○○○
106. Intermediate filaments include proteins such as:	actin and tubulin	keratin and vimentin	cellulose and lignin	histone and RNA	○●○○
107. Which cytoskeletal fibres give rise to spindle fibres?	microfilaments	microtubules	chromatin fibres	intermediate filaments	○●○○
108. Which fibres fix cells with each other in tissues?	intermediate filaments	microfilaments	microtubules	spindle fibres	●○○○
109. Short hair-like extensions on eukaryotic cells are:	flagella	cristae	microvilli only	cilia	○○○●
110. Long whip-like extensions of a cell are called:	flagella	cisternae	cilia	plasmodesmata	●○○○
111. Cilia and flagella are made of:	microtubules	lipids	microfilaments	cellulose	●○○○
112. The function of cilia and flagella is:	storage	photosynthesis	protein synthesis	movement	○○○●
113. The control centre of the cell is the:	ribosome	vacuole	nucleus	Golgi body	○○●○
114. The nucleus acts as control centre because it contains:	lysosomes	ATP	chlorophyll	DNA	○○○●
115. The nuclear envelope is made of:	a cell wall	two membranes	one membrane	three membranes	○●○○
116. Nuclear pores are formed where:	chromatin coils	both membranes fuse	ER meets Golgi	ribosomes attach	○●○○

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Questions	A	B	C	D	A B C D
117. Which leave the nucleus through nuclear pores?	nucleoli only	ribosomes and mRNA	chromosomes	DNA and histones	○●○○
118. The fluid inside the nucleus is called:	stroma	nucleoplasm	matrix	cytoplasm	○●○○
119. The nucleolus is the site for synthesis of:	DNA	ATP	rRNA	lipids	○○●○
120. The nucleolus combines rRNA with proteins to form:	centrioles	ribosomes	chromosomes	lysosomes	○●○○
121. During cell division the nucleolus:	becomes cell wall	forms the spindle	doubles in size	disappears for some time	○○○●
122. Chromatin consists of DNA fibres coiled on:	tubulin	histone proteins	cellulose	actin	○●○○
123. During cell division chromatin condenses into:	chromosomes	nucleoli	cristae	ribosomes	●○○○
124. Which statement about plant cells is correct?	They lack vacuoles	They have no plastids	Cell wall allows them to become turgid	They have centrioles	○○●○
125. An advantage of plant cell wall is:	no need of water	engulfing food	support so plants grow tall	faster movement	○○●○
126. Animal cells lack cell wall, so their support comes from:	lignin	chitin	skeletal systems and tissues	cellulose	○○●○
127. The process by which daughter cells become specialized is:	fertilization	differentiation	diffusion	respiration	○●○○
128. Daughter cells which undergo differentiation are formed by:	digestion	osmosis	mitosis	fertilization	○○●○
129. Epidermal cells of plants form:	food storage	protective covering	photosynthetic tissue	transport tubes	○●○○
130. Root hair cells absorb:	light	oxygen from air	sugars	water and minerals	○○○●
131. Guard cells regulate the opening and closing of:	xylem	root hair	nuclear pores	stomata	○○○●
132. Mesophyll cells are specialized for:	photosynthesis	protection	conduction	absorption	●○○○
133. Mesophyll cells are rich in:	chromoplasts	leucoplasts	centrioles	chloroplasts	○○○●

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Questions	A	B	C	D	A B C D
134. Red blood cells transport oxygen using:	chlorophyll	haemoglobin	actin	keratin	○●○○
135. RBCs are biconcave to provide more:	nuclear volume	surface area	cell wall	mitochondria	○●○○
136. Mature red blood cells lack:	cell membrane	haemoglobin	cytoplasm	nucleus and mitochondria	○○○●
137. Average life span of red blood cells is:	60 days	365 days	12 days	120 days	○○○●
138. Neurons conduct impulses to the cell body through:	cilia	flagella	dendrites	axons	○○●○
139. Axons conduct messages:	towards the cell body	away from the cell body	between RBCs	only within nucleus	○●○○
140. Muscle cells are filled with actin and associated:	lipid droplets	cell walls	contractile proteins	digestive enzymes	○○●○
141. Which is a type of muscle cell?	neuron	cardiac	epidermal	mesophyll	○●○○
142. Which cells are metabolically most active in the body?	RBCs	epidermal cells	liver cells	muscle cells	○○●○
143. A function of liver cells is storing:	cell sap	glycogen, iron and vitamins	haemoglobin	chlorophyll	○●○○
144. Within a cell, different organelles doing assigned jobs is:	division of labour	differentiation	fertilization	mutation	●○○○
145. A group of cells performing the same function is a:	organ	tissue	organelle	system	○●○○
146. Cells of a multicellular organism originate from the same:	bacterium	spore	zygote	gamete	○○●○
147. A cell which gives rise to cells of other types is the:	stem cell	neuron	guard cell	red blood cell	●○○○
148. Stem cells are:	always muscle cells	unspecialized cells	fully specialized	dead cells	○●○○
149. The basic stem cell that can produce all cell types is the:	sperm	neuron	zygote	RBC	○○●○
150. About how many cell types are identified in the human body?	50	22	220	2200	○○●○