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SSC-I NATIONAL BOOK FOUNDATION FBISE

BIOLOGY TEST - CHAPTER 9: PLANT REPRODUCTION

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 ability of organisms to produce new young ones is called	growth	excretion	respiration	reproduction	○○○●
2. How many parents are involved in asexual reproduction?	One	Two	Three	Four	●○○○
3. Offspring produced by asexual reproduction are genetically	identical to the parent	different from the parent	half like each parent	highly variable	●○○○
4. Which structure is NOT needed in asexual reproduction?	Vegetative structures	A single parent	Mitotic cell division	Gametes	○○○●
5. Genetically identical offspring of one parent are called	zygotes	gametes	hybrids	clones	○○○●
6. Which process shuffles genetic material to produce variation?	Budding	Spore formation	Binary fission	Meiosis	○○○●
7. Which of these is a method of asexual reproduction?	Cross pollination	Pollination	Double fertilization	Budding	○○○●
8. Binary fission is commonly seen in	mosses	pine trees	ferns	bacteria	○○○●
9. Protozoa are	one-celled organisms	seed plants	multicellular algae	filamentous fungi	●○○○
10. In bacterial binary fission, the first step is	growth of a bud	copying of the DNA	pollen formation	formation of spores	○●○○
11. During binary fission, the two DNA copies move to	the cytoplasmic membrane only	opposite ends of the cell	the same end	the cell wall	○●○○
12. Binary fission in bacteria finally results in	eight gametes	two new bacteria	one large cell	four spores	○●○○
13. Yeast, which reproduces by budding, is a	protozoan	multicellular alga	single-celled fungus	bacterium	○○●○
14. In yeast budding, the parent nucleus divides by	meiosis	mitosis	spore formation	fertilization	○●○○

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Questions	A	B	C	D	A B C D
15. The small outgrowth that forms on a yeast cell is the	bud	gamete	cyst	spore	●○○○
16. A chain of yeast cells forms when	buds stay attached to the parent	spores germinate	the cell wall dissolves	gametes fuse	●○○○
17. In higher plants, vegetative buds give rise to	new branches and leaves	seeds	pollen grains	flowers	●○○○
18. Floral buds in higher plants develop into	leaves	roots	flowers	runners	○○●○
19. Spores of fungi like Rhizopus are generally	motile with flagella	large and multicellular	diploid gametes	small, unicellular and non-motile	○○○●
20. In Rhizopus, spores are produced inside a	cyst only	bud	fruiting seed	sporangium	○○○●
21. The stalk that bears the sporangium in Rhizopus is the	style	filament	pedicel	sporangiophore	○○○●
22. The tough protective shell of a spore is called	testa	calyx	hilum	cyst	○○○●
23. Actinomycetes are	single-celled algae	filamentous bacteria	bryophytes	flowering plants	○●○○
24. Bacterial spores formed outside the parent cell are called	endospores	microspores	exospores	megaspores	○○●○
25. Spores formed inside bacterial cells are called	exospores	megaspores	endospores	zoospores	○○●○
26. Microspores of seed plants are not asexual reproduction because	they are motile	they are very large	they have no wall	meiosis is involved in their formation	○○○●
27. Parthenogenesis is the development of offspring from	vegetative buds	unfertilized eggs	pollen grains	fertilized eggs	○●○○
28. In plants, parthenogenesis is also known as	double fertilization	apomixis	amphimixis	germination	○●○○
29. In apomixis, the seed is formed from	a fertilized zygote	the stigma	pollen grains	maternal tissues of the ovule	○○○●
30. Apomixis avoids which two processes?	Meiosis and fertilization	Pollination and growth	Mitosis and budding	Mitosis and growth	●○○○
31. Parthenogenesis is asexual because	it uses pollen	it involves meiosis	no gametes fuse	it needs two gametes	○○●○

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Questions	A	B	C	D	A B C D
32. Reproduction in plants without flowers or seeds is called	germination	fertilization	pollination	vegetative propagation	○○○●
33. Vegetative propagation done with human help is called	artificial vegetative propagation	natural vegetative propagation	budding	parthenogenesis	●○○○
34. Compact, thick, vertical underground stem with fleshy leaves is a	runner	stem tuber	bulb	rhizome	○○●○
35. Which plant reproduces by bulbs?	Onion	Ginger	Potato	Strawberry	●○○○
36. In a bulb, adventitious roots sprout from	the upper shoot	the scale leaves	the flower	beneath the base	○○○●
37. A bulb differs from a corm because a bulb is	enveloped by fleshy leaves	a horizontal stem	without any buds	an above-ground stem	●○○○
38. Which plant reproduces by corms?	Ginger	Tulip	Colocasia	Strawberry	○○●○
39. In a corm, new shoots arise from	adventitious leaves	the lower roots	buds at the top	the scale leaves	○○●○
40. Flat, horizontal underground stems with scale leaves are	corms	rhizomes	suckers	bulbs	○●○○
41. Which plant propagates by rhizomes?	Potato	Onion	Bryophyllum	Ginger	○○○●
42. In a rhizome, adventitious roots grow from the	upper side	lower side	scale leaves	flower	○●○○
43. Stem tubers are	leaf plantlets	root suckers	swollen tips of underground stems	horizontal above-ground stems	○○●○
44. The 'eyes' on a potato are	seeds	clusters of buds	roots	scale leaves	○●○○
45. Which plant reproduces by stem tubers?	Rose	Grass	Lily	Potato	○○○●
46. Which of these reproduces by stolons or runners?	Strawberry	Yam	Onion	Tulip	●○○○
47. Runners (stolons) grow	horizontally along the ground	inside the seed	deep into the soil	vertically upward	●○○○
48. Runners have scale-like leaves with	short internodes only	no buds at all	thick fleshy leaves	long sections between nodes	○○○●

Questions	A	B	C	D	A B C D
49. A new plant forms on a runner at the	tip of the root	points where leaves are present	root cap	flower base	○●○○
50. Suckers emerge as small shoots from	fruits	underground parts or base of the stem	leaf margins	flowers	○●○○
51. Suckers are a common method in	onion	lawn grass	Bryophyllum	potato	○●○○
52. Plantlets along leaf edges are produced by	Rhizopus	Bryophyllum	ginger	yeast	○●○○
53. Plantlets of Bryophyllum grow into new plants after	double fertilization	spore release	falling onto the soil	pollination	○○●○
54. A part used in vegetative propagation is called a	zygote	gamete	spore mother cell	vegetative propagule	○○○●
55. Two common methods of artificial vegetative propagation are	stem cuttings and grafting	runners and suckers	bulbs and corms	budding and fission	●○○○
56. A stem cutting must have at least	one flower	one node	one seed	one fruit	○●○○
57. Which hormone is applied to cut ends to stimulate rooting?	Somatotrophin	Auxin	Abscisic acid	Ethene	○●○○
58. Covering a stem cutting with plastic or a jar helps to	prevent root growth	reduce water loss	supply sunlight only	increase pollination	○●○○
59. Stem cuttings are often used to propagate	wheat	roses	yeast	maize	○●○○
60. Joining two plant parts so they grow as one is	cloning	pollination	grafting	budding	○○●○
61. In grafting, the upper part with desired traits is the	callus	explant	scion	rootstock	○○●○
62. In grafting, the part providing the root system is the	scion	rootstock	plumule	explant	○●○○
63. After a graft heals, flowers and fruits show the traits of the	rootstock	neighbouring plant	scion	soil	○○●○
64. Grafting is commonly used for	bacteria	fruit trees	mosses	algae	○●○○
65. Cuts in scion and rootstock are made at angles to	kill the cambium	reduce water uptake	maximize contact between them	remove the buds	○○●○

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Questions	A	B	C	D	A B C D
66. Cloning in plants refers to	tissue culture	seed germination	grafting	pollination	●○○○
67. Tissue culture is carried out under	dry conditions	open field conditions	aseptic conditions	dark and cold only	○○●○
68. Another name for tissue culture is	apomixis	macropropagation	micropropagation	hybridization	○○●○
69. The first cell or tissue piece used in tissue culture is the	plantlet	propagule	scion	explant	○○○●
70. Explant grows on nutrient medium to form an undifferentiated mass called	callus	embryo	stolon	plantlet	●○○○
71. Substances added to callus to make shoots and roots are	fertilizers only	insecticides	antibiotics only	plant growth hormones	○○○●
72. A young plant produced by tissue culture is called a	plantlet	bulbil	scion	sucker	●○○○
73. Plants produced by tissue culture are	genetically identical to the parent	all haploid	always sterile	genetically different	●○○○
74. Sexual reproduction in plants involves	spore formation only	budding	mitosis only	fusion of gametes	○○○●
75. Sperms of bryophytes and pteridophytes need which medium to swim?	Insects	Soil	Wind	Water	○○○●
76. Seed plants are also known as	pteridophytes	protozoa	thallophytes	spermatophytes	○○○●
77. The plant life cycle with haploid and diploid generations alternating is	asexual	haplo-diplontic	haplontic	diplontic	○●○○
78. The gamete-producing plant body is the	explant	sporophyte	gametophyte	scion	○○●○
79. The spore-producing generation is the	sporophyte	zygote	gametophyte	gamete	●○○○
80. Gametophyte is	tetraploid	diploid	haploid	triploid	○○●○
81. In bryophytes, the dominant generation is the	zygote	gametophyte	seed	sporophyte	○●○○
82. In angiosperms, the main plant body is the	explant	gametophyte	sporophyte	gamete	○○●○

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Questions	A	B	C	D	A B C D
83. The stalk of a flower is the	hilum	style	pedicel	filament	○○●○
84. The swollen top of the pedicel is the	thalamus	ovary	stigma	anther	●○○○
85. The outermost whorl of a flower is the	gynoecium	androecium	calyx	corolla	○○●○
86. Calyx is made up of green leaves called	sepals	carpels	stamens	petals	●○○○
87. The corolla consists of	sepals	ovules	petals	anthers	○○●○
88. Androecium is the	outer protective whorl	female part of the flower	male part of the flower	flower stalk	○○●○
89. The male parts of a flower are called	sepals	carpels	ovules	stamens	○○○●
90. Gynoecium consists of	carpels or pistil	stamens	petals	sepals	●○○○
91. Calyx and corolla are called accessory whorls because they	are not directly reproductive	make pollen	form the seed	produce gametes	●○○○
92. Which whorls are the essential whorls?	Calyx and androecium	Corolla and gynoecium	Androecium and gynoecium	Calyx and corolla	○○●○
93. A stamen consists of a filament and a	stigma	ovary	bilobed anther	style	○○●○
94. Pollen sacs in the anther are	embryo sacs	ovules	microsporangia	megasporangia	○○●○
95. Pollen grains are	triploid cells	embryos	diploid megaspores	haploid microspores	○○○●
96. The three parts of a carpel are	filament, anther, style	ovary, style and stigma	ovule, anther, stigma	sepal, petal, ovary	○●○○
97. The swollen tip of the style is the	hilum	thalamus	stigma	anther	○○●○
98. Ovules are also called	megasporangia	microsporangia	pollen sacs	sporangiophores	●○○○
99. An ovule contains how many spore mother cells?	Two	Eight	Four	One	○○○●

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Questions	A	B	C	D	A B C D
100. Meiosis of the megaspore mother cell produces	four megaspores	two megaspores	four pollen grains	eight megaspores	●○○○
101. How many of the four megaspores normally survive?	One	Three	Four	Two	●○○○
102. Transfer of pollen from anther to stigma is	fertilization	budding	pollination	germination	○○●○
103. Pollen is carried by wind, insects or	roots	other animals	sepals	soil bacteria	○●○○
104. Pollination within the same flower or same plant is	cross pollination	self pollination	apomixis	double fertilization	○●○○
105. Pollination between flowers of separate plants is	self pollination	vegetative propagation	parthenogenesis	cross pollination	○○○●
106. Which pollination gives more genetic variability?	Cross pollination	Neither	Both equally	Self pollination	●○○○
107. The pollen grain germinates on the surface of the	sepal	anther	stigma	ovary wall	○○●○
108. The pollen nucleus first divides into tube and	egg nuclei	polar nuclei	generative nuclei	antipodal nuclei	○○●○
109. The tube nucleus controls formation of the	endosperm	seed coat	embryo sac	pollen tube	○○○●
110. The generative nucleus divides to form	two polar nuclei	two egg cells	two sperm nuclei	four megaspores	○○●○
111. The pollen tube grows down through the	petal	pedicel	style	filament	○○●○
112. The male gametophyte of angiosperms is the	anther	embryo sac	ovule	germinated pollen grain	○○○●
113. Insect-pollinated flowers have petals that are	absent	brightly coloured	green or dull	very small and hanging	○●○○
114. Pollen of wind-pollinated flowers is	few in number	heavy and sticky	produced in nectar	light, in large numbers	○○○●
115. Wind-pollinated flowers have stigmas that are	feathery	pinhead shaped	small and sticky	enclosed inside petals	●○○○
116. The functional megaspore nucleus divides by mitosis how many times?	Two	Three	Four	Once	○●○○

Questions	A	B	C	D	A B C D
117. Mitotic divisions of the megaspore nucleus produce how many nuclei?	Two	Six	Four	Eight	○○○●
118. The female gametophyte of angiosperms is the	anther	stigma	embryo sac	pollen tube	○○●○
119. How many antipodal cells are found in the embryo sac?	Two	Three	One	Four	○●○○
120. The two nuclei resting in the center of the ovule are	sperm nuclei	polar nuclei	synergids	antipodals	○●○○
121. Polar nuclei may fuse to form the	haploid egg	sperm nucleus	diploid secondary nucleus	tube nucleus	○○●○
122. One sperm nucleus fuses with the egg to form a	haploid pollen	diploid zygote	triploid endosperm	synergid	○●○○
123. The second sperm nucleus fuses with polar nuclei to form	triploid endosperm nucleus	embryo	diploid zygote	haploid egg	●○○○
124. Endosperm nucleus is	tetraploid (4N)	triploid (3N)	diploid (2N)	haploid (N)	○●○○
125. Fusion of two sperm nuclei with different cells is called	apomixis	double fertilization	budding	self pollination	○●○○
126. After fertilization, the ovule becomes the	seed	pollen tube	flower	fruit	●○○○
127. A seed is defined as a	ripened anther	ripened stigma	ripened ovary	ripened ovule	○○○●
128. A fruit is defined as a	ripened ovary	ripened petal	ripened embryo	ripened ovule	●○○○
129. The embryo of a seed develops from the	endosperm only	zygote	ovary wall	seed coat	○●○○
130. The endosperm in a seed serves as a	food storage tissue	protective cover	root system	hormone	●○○○
131. The seed coat develops from the	ovary wall	outer covering of the ovule	zygote	polar nuclei	○●○○
132. The scar on the seed coat where it attached to the plant is the	hilum	radicle	micropyle	plumule	●○○○
133. The small pore on the seed coat for water entry is the	micropyle	hilum	stigma	style	●○○○

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Questions	A	B	C	D	A B C D
134. Embryonic root of a seed is the	radicle	plumule	cotyledon	epicotyl	●○○○
135. The seed leaves are called	cotyledons	scales	bracts	sepals	●○○○
136. The embryonic stem above cotyledon attachment is the	hilum	hypocotyl	radicle	epicotyl	○○○●
137. The embryonic stem below cotyledon attachment is the	plumule	epicotyl	micropyle	hypocotyl	○○○●
138. Seed germination begins when the seed absorbs	light only	water	nitrogen	pollen	○●○○
139. The first structure to emerge in germination is the	hilum	cotyledon	radicle	plumule	○○●○
140. In epigeal germination, cotyledons	become roots	come above the ground	remain underground	fall as pollen	○●○○
141. In epigeal germination, which part elongates and forms a hook?	Hypocotyl	Epicotyl	Micropyle	Radicle only	●○○○
142. Which seed shows epigeal germination?	Pea	Bean	Maize	Coconut	○●○○
143. In hypogeal germination, which part elongates?	Epicotyl	Hilum	Radicle	Hypocotyl	●○○○
144. Which seed shows hypogeal germination?	Bean	Cotton	Maize	Papaya	○○●○
145. In hypogeal germination, the cotyledons	rise above soil	stay underground	form roots	turn into fruit	○●○○
146. Which of these is NOT an external requirement for germination?	Suitable temperature	Water	Oxygen	Living embryo	○○○●
147. Water in germination helps to	create gametes	form flowers	make pollen	break down stored food	○○○●
148. Oxygen is needed by germinating seeds for	cellular respiration	fertilization	pollination	photosynthesis	●○○○
149. The best temperature for most seeds to germinate is	45-50°C	0-5°C	60-65°C	25-30°C	○○○●
150. Overuse of insecticides by farmers harms	soil water only	seed coats	insect pollinators	gametophytes of ferns	○○●○

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