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HSSC-I NATIONAL BOOK FOUNDATION FBISE

BIOLOGY TEST - CHAPTER 8: PLANTAE

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 kingdom Plantae is also called the:	protist kingdom	fungal kingdom	plant kingdom	animal kingdom	○○●○
2. In the beginning, plants were restricted to:	dry land	aquatic conditions	deserts	air	○●○○
3. The migration of plants to land started about:	4 million years ago	400 million years ago	4000 years ago	40 billion years ago	○●○○
4. The closest relatives of land plants are the freshwater green algae called:	Charophyceae	Phaeophyceae	Rhodophyceae	Chlorophyceae	●○○○
5. An example of a charophycean alga is:	Ulothrix	Spirogyra	Volvox	Chara	○○○●
6. Plants are well protected from drying in air by their:	cell wall only	roots	cuticle	chlorophyll	○○●○
7. The cuticle of plants is formed from a waxy substance called:	lignin	suberin	chitin	cutin	○○○●
8. The vascular tissues of plants are:	epidermis and cuticle	xylem and phloem	cortex and pith	xylem and cambium only	○●○○
9. The cell walls of plants are rich in:	peptidoglycan	chitin	cellulose	lignin only	○○●○
10. Plants show alternation of:	generations	habitat	nutrition	fertilisation	●○○○
11. The diploid generation of a plant that produces haploid spores by meiosis is the:	sporophyte	zygote	gametophyte	embryo	●○○○
12. The haploid generation that produces gametes is the:	spore mother cell	zygote	sporophyte	gametophyte	○○○●
13. The flagellated sperm of plants closely resembles that of:	diatoms	charophycean algae	red algae	brown algae	○●○○
14. Comparisons of nuclear and chloroplast genes agree that the closest relatives of land plants are:	phaeophyceae	rhodophyceae	cyanobacteria	charophyceae	○○○●

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Questions	A	B	C	D	A B C D
15. Charophycean algae are not the ancestors of plants, but both evolved from a:	single common ancestor	fungal ancestor	separate ancestors	bacterial ancestor	●○○○
16. In the phylogenetic classification, the Kingdom Plantae is divided into two main groups: bryophytes and:	pteridophytes	angiosperms	gymnosperms	tracheophytes	○○○●
17. Bryophytes are:	seed plants	non-vascular plants	flowering plants	vascular plants	○●○○
18. Tracheophytes are:	vascular plants	algae	fungi	non-vascular plants	●○○○
19. The two primary sister groups of tracheophytes are lycophytes and:	hornworts	euphyllophytes	bryophytes	charophytes	○●○○
20. Lycophytes, ferns and horsetails are collectively known as:	pteridophytes	thallophytes	spermatophytes	bryophytes	●○○○
21. Seed plants are divided into gymnosperms and:	bryophytes	pteridophytes	lycophytes	angiosperms	○○○●
22. The pteridophytes are described as a:	single species	polyphyletic group	paraphyletic group	monophyletic group	○○●○
23. The seed plants (spermatophytes) are a:	extinct group	paraphyletic group	monophyletic group	polyphyletic group	○○●○
24. The division Bryophyta includes liverworts, mosses and:	hornworts	ferns	horsetails	club mosses	●○○○
25. Bryophytes mostly live in:	deserts only	wet areas	ice only	oceans only	○●○○
26. Water is crucial for the reproduction of bryophytes because their male gametes are:	swimming (motile)	insect carried	wind borne	non-motile	●○○○
27. Bryophytes are sometimes called:	aerial plants	marine plants	desert plants	amphibious plants	○○○●
28. The main plant body of bryophytes is the:	embryo	sporophyte	seed	gametophyte	○○○●
29. The gametophytes of bryophytes are:	green and manufacture their own food	underground only	colourless and parasitic	brown and non-photosynthetic	●○○○
30. The sporophyte of bryophytes is usually:	a vascular plant	dependent on the gametophyte	dominant and independent	a large tree	○●○○
31. The three subdivisions of bryophytes are Hepaticopsida (liverworts), Bryopsida (mosses) and:	Anthocerotopsida (hornworts)	Psilopsida	Sphenopsida	Lycopsida	●○○○

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Questions	A	B	C	D	A B C D
32. Marchantia is an example of a:	fern	moss	liverwort	hornwort	○○●○
33. Polytrichum is an example of a:	moss	fern	liverwort	hornwort	●○○○
34. The sex organ that produces male gametes in bryophytes is the:	ovule	archegonium	sporangium	antheridium	○○○●
35. The sex organ that produces the egg in bryophytes is the:	anther	archegonium	sporangium	antheridium	○●○○
36. The swollen basal portion of the archegonium is called the:	venter	jacket	capsule	neck	●○○○
37. The archegonium has a long tube-like:	stalk	jacket only	rhizoid	neck	○○○●
38. In Polytrichum, the antheridia and archegonia are found on separate plants, so the plant is:	sterile	dioecious	hermaphrodite	monoecious	○●○○
39. In Funaria, the sex organs may occur on the same plant, so it is:	diploid	sterile	monoecious	dioecious	○○●○
40. The male gametes reach the archegonial neck through a thin film of:	soil	water	sap	air	○●○○
41. Many bryophytes help to hold the soil in place and prevent:	photosynthesis	germination	erosion	transpiration	○○●○
42. Peat moss when added to sandy soils acts as a:	soil conditioner	herbicide	growth hormone	pesticide	●○○○
43. Spores in the sporophyte of mosses are formed by:	meiosis	fission	budding	mitosis	●○○○
44. The spore of a moss is the first cell of the:	sporophytic generation	embryo	gametophytic generation	zygote	○○●○
45. The spore of a moss germinates into an alga-like structure called the:	prothallus	protonema	rhizoid	thallus	○●○○
46. Vascular plants have xylem and phloem for the conduction of:	pollen	air only	water, minerals and organic solutes	oxygen only	○○●○
47. The main plant body of tracheophytes is the:	gamete	sporophyte	gametophyte	protonema	○●○○
48. The adaptation of a pollen tube allows male gametes to reach female gametes:	only through water	independent of water	through soil	only in rain	○●○○

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Questions	A	B	C	D	A B C D
49. The life cycle of tracheophytes involves:	only a haploid phase	no alternation of generations	heteromorphic alternation of generations	isomorphic alternation only	○○●○
50. The simplest vascular plants are the:	Psilopsida	Lycopsida	Sphenopsida	Pteropsida	●○○○
51. Psilopsida are generally referred to as:	tree ferns	club mosses	horsetails	whisk ferns	○○○●
52. Whisk ferns lack true roots but have underground stems called:	stolons	rhizomes	bulbs	tubers	○●○○
53. Aerial stems of whisk ferns have very small green scales that serve as sites for:	reproduction	absorption	storage	photosynthesis	○○○●
54. The gametophyte of whisk ferns lives beneath the soil and contains a:	bacterium	fungus	alga	virus	○●○○
55. Lycopsida include club mosses, spike mosses and:	horsetails	quillworts	tree ferns	whisk ferns	○●○○
56. Lycopodium and Selaginella are chiefly grown as:	timber plants	fibre plants	food plants	ornamental plants	○○○●
57. Sphenopsida are commonly known as:	whisk ferns	horsetails	ferns	club mosses	○●○○
58. The only surviving genus of Sphenopsida is:	Equisetum	Lycopodium	Pteris	Psilotum	●○○○
59. The spores of Equisetum are produced in rings of sporangia arranged in:	flowers	cones	sori	fruits	○●○○
60. Pteropsida can be split into how many classes?	2	5	3	4	○○●○
61. Ferns belong to the class:	Sphenopsida	Lycopsida	Filicinae	Psilopsida	○○●○
62. Ferns are most abundant in:	warm and moist tropical regions	deserts	polar regions	oceans	●○○○
63. A tree fern may have a trunk more than:	2 metres tall	240 metres tall	24 metres tall	0.2 metres tall	○○●○
64. Except a few, all ferns are:	homosporous	flowering	seed bearing	heterosporous	●○○○
65. The leaves of ferns are called:	fronds	bracts	spathes	needles	●○○○

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Questions	A	B	C	D	A B C D
66. The stem of Dryopteris is an underground:	bulb	corm	tuber	rhizome	○○○●
67. The rhizome of Dryopteris is covered with brownish scales known as:	rachis	sori	indusia	ramenta	○○○●
68. Young fern leaves are called fiddleheads because they show:	parallel venation	reticulate venation	dichotomous branching	circinate vernation	○○○●
69. The main stalk of a fern leaf is the:	frond tip	pinna	rachis	pinnule	○○●○
70. The first-order leaflets of a fern frond are called:	pinnae	sori	pinnules	fronds	●○○○
71. The second-order leaflets of a fern frond are called:	rachis	pinnules	sori	pinnae	○●○○
72. The clusters of sporangia in ferns are called:	indusia	cones	sori	strobili	○○●○
73. Sori are protected by the bent margin of the leaflet forming a:	annulus	false indusium	ramentum	true indusium	○●○○
74. A mature fern sporangium consists of a stalk and an upper swollen:	sorus	capsule	annulus	stomium	○●○○
75. The portion of the sporangium wall made of thick-walled cells is the:	intine	stomium	annulus	exine	○○●○
76. The weak region of the fern sporangium where it bursts is the:	capsule	stalk	annulus	stomium	○○○●
77. The two layers of a fern spore wall are:	annulus and stomium	exine and intine	cutin and suberin	testa and tegmen	○●○○
78. Seed-bearing vascular plants are called:	thallophytes	spermatophytes	pteridophytes	bryophytes	○●○○
79. The two classes of spermatophytes are gymnosperms and:	bryophytes	lycophytes	pteridophytes	angiosperms	○○○●
80. The word gymnosperm means:	naked seed	enclosed seed	double seed	no seed	●○○○
81. In gymnosperms, seeds are borne openly on:	sporophylls within cones	flowers	fruits	roots	●○○○
82. In angiosperms, seeds are enclosed within:	cones	leaves	fruits	scales	○○●○

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Questions	A	B	C	D	A B C D
83. In gymnosperms, xylem consists of tracheids and:	xylem parenchyma	wood fibres	vessels	companion cells	●○○○
84. Vessels are generally absent in gymnosperms, except in:	Pinus	Taxus	Gnetales	Cycas	○○●○
85. Companion cells are absent in the phloem of:	monocots	dicots	angiosperms	gymnosperms	○○○●
86. The drug ephedrine, used for relief of asthma, is obtained from:	Cycas	Ephedra	Cedrus	Pinus	○●○○
87. Conifers are a source of:	cotton	jute	soft wood	hard wood	○○●○
88. Pine trees generally have a:	taproot system	fibrous root system	no roots	adventitious roots only	●○○○
89. The spore-producing parts of conifers are called:	fruits	cones or strobili	sori	flowers	○●○○
90. The male cone is also called the:	sorus	staminate strobilus	carpel	ovulate strobilus	○●○○
91. The female cone is also called the:	staminate strobilus	stamen	anther	ovulate strobilus	○○○●
92. The male cones are:	larger (6 to 12 inches)	woody	absent	smaller (less than an inch)	○○○●
93. Each male cone consists of spirally arranged:	megasporophylls	carpels	microsporophylls	petals	○○●○
94. Microspores are produced in:	ovules	megasporangia	microsporangia	ovaries	○○●○
95. The female cones are about:	one millimetre	one metre	6 to 12 inches	less than an inch	○○●○
96. The scales of the female cone are called:	stamens	megasporophylls	petals	microsporophylls	○●○○
97. The megasporangia of gymnosperms are called:	ovules	anthers	sori	pollen sacs	●○○○
98. The megaspore mother cell divides meiotically to produce how many haploid megaspores?	8	1	4	2	○○●○
99. Out of the four megaspores, how many survive as the functional megaspore?	3	1	4	2	○●○○

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Questions	A	B	C	D	A B C D
100. The migration of microspores from male cone to female cone is called:	pollination	fertilisation	germination	dispersal of seeds	●○○○
101. The microspores of pine have:	no wall	spines	hooks	wings	○○○●
102. In gymnosperms, the microspore germinates into the male gametophyte within the:	ovule	seed	microsporangium (endosporic)	megasporangium	○○●○
103. In the male gametophyte of gymnosperms, the generative nucleus divides to form:	one sperm nucleus	four sperm nuclei	two sperm nuclei	a tube nucleus only	○○●○
104. The growth of the pollen tube is by the:	prothallial nucleus	tube nucleus	sperm nucleus	antheridial nucleus	○●○○
105. The female gametophyte of gymnosperms is called the:	prothallus	pollen tube	embryo sac (multicellular female gametophyte)	protonema	○○●○
106. The female gametophyte of gymnosperms contains one to several:	antheridia	anthers	stigmas	archegonia	○○○●
107. Angiosperms are also called:	naked-seed plants	seedless plants	flowering plants	cone-bearing plants	○○●○
108. The adult angiospermic plant is a:	diploid gametophyte	diploid sporophyte	haploid sporophyte	haploid gametophyte	○●○○
109. A flower is essentially a modified:	root	shoot	fruit	leaf	○●○○
110. The stalk of a flower is called the:	pedicel	style	filament	thalamus	●○○○
111. The central part of a flower to which floral whorls are attached is the:	thalamus (torus)	pedicel	ovary	stigma	●○○○
112. The essential whorls of a flower are the androecium and the:	gynoecium	calyx	corolla	pedicel	●○○○
113. The androecium consists of:	petals	sepals	carpels	stamens	○○○●
114. The gynoecium consists of:	sepals	stamens	petals	carpels (pistil)	○○○●
115. Each stamen consists of a filament and a bilobed:	anther	style	stigma	ovary	●○○○
116. Pollen sacs are:	carpels	microsporangia	ovules	megasporangia	○●○○

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Questions	A	B	C	D	A B C D
117. Each carpel consists of an ovary, a style and a:	petal	filament	stigma	anther	○○●○
118. The male gametophyte of angiosperms is formed from a:	megaspore	zygote	ovule	microspore	○○○●
119. In the ovule, the functional megaspore nucleus undergoes how many rounds of mitosis?	4	3	2	1	○●○○
120. The mature embryo sac has how many nuclei?	6	16	4	8	○○○●
121. In the embryo sac, three nuclei become the egg and two:	endosperm nuclei	polar nuclei	synergids	antipodals	○○●○
122. The three nuclei at the opposite end of the embryo sac are the:	polar nuclei	egg cells	antipodals	synergids	○○●○
123. The two nuclei that remain at the centre of the embryo sac are the:	egg	synergids	antipodals	polar nuclei	○○○●
124. The fusion of one sperm nucleus with the egg forms a diploid:	zygote (oospore)	seed coat	endosperm	embryo sac	●○○○
125. The fusion of the other sperm nucleus with the polar nuclei forms a triploid:	zygote	endosperm nucleus	testa	embryo	○●○○
126. The event in which one male gametophyte contributes two sperm nuclei is called:	self-pollination	pollination	dispersal	double fertilisation	○○○●
127. The endosperm is a:	conducting tissue	meristem	nutritive tissue	protective tissue	○○●○
128. After fertilisation, the integuments of the ovule transform into the:	fruit	endosperm	embryo	seed coat (testa and tegmen)	○○○●
129. After fertilisation, the ovary wall develops into the:	fruit	seed	testa	endosperm	●○○○
130. The two sub-classes of angiosperms are dicotyledonae and:	monocotyledonae	bryopsida	pteropsida	gymnospermae	●○○○
131. Dicots have how many cotyledons?	three	one	none	two	○○○●
132. Monocots have how many cotyledons?	none	three	one	two	○○●○
133. Floral parts of monocots are usually in multiples of:	three	two	four or five	six only	●○○○

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Questions	A	B	C	D	A B C D
134. Floral parts of dicots are usually in multiples of:	two	three	six only	four or five	○○○●
135. Veins of monocot leaves are usually:	dichotomous	reticulate	pinnate	parallel	○○○●
136. Dicots usually have a:	no root	adventitious root system	fibrous root system	tap root system	○○○●
137. Monocots usually have a:	no root	stilt root	tap root system	fibrous root system	○○○●
138. Vascular bundles of monocots are:	scattered	arranged in a ring	absent	absent in stem	●○○○
139. Vascular bundles of dicots are:	scattered	arranged in a ring	absent	only in leaves	○●○○
140. Brassicaceae was previously called:	Fabaceae	Poaceae	Solanaceae	Cruciferae	○○○●
141. The common name of the family Brassicaceae is:	pea family	potato family	grass family	mustard or cabbage family	○○○●
142. The flowers of Brassicaceae have four petals in a:	cross-like (cruciform) arrangement	bell shape	spiral arrangement	tubular arrangement	●○○○
143. The typical fruit of Brassicaceae is a:	legume	berry	silique	caryopsis	○○●○
144. Members of Brassicaceae produce pungent compounds called:	alkaloids	resins	glucosinolates	tannins	○○●○
145. The family Solanaceae is also called the:	rose family	night shade or potato family	grass family	mustard family	○●○○
146. Many members of Solanaceae contain toxic:	alkaloids	tannins	latex only	glucosinolates	●○○○
147. Nicotine is obtained from:	tomato	potato	tobacco	brinjal	○○●○
148. The family Poaceae is the:	mustard family	potato family	grass family	pea family	○○●○
149. Poaceae includes wheat, oats, maize, rice, barley and:	mustard	tobacco	tomato	rye	○○○●
150. Sugar is obtained from:	Saccharum officinarum (sugarcane)	Oryza sativa	Zea mays	Triticum	●○○○

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