DIRECTORATE OF GOVERNMENT EXAMINATIONS,CHENNAI-06
HIGHER SECONDARY FIRST YEAR PUBLIC EXAMINATIONS - MARCH 2018
BOTANY KEY ANSWER

Note:

1. **Answers written only in BLACK or BLUE should be evaluated.**
2. **In Section – I choose the correct answer and write the option code with corresponding answer.**
3. **Mark shall also be awarded either for the correct option code or for the correct corresponding answer alone. (This year only)**
4. **If one of them (option or answer) is wrong, then award zero mark only.**

Maximum Marks: 70

SECTION I						15×1=15
TYPE-A			TYPE-B			
S. NO	OPTION	ANSWER	S. NO	OPTION	ANSWER	
1	a	Reciprocal cross	1	d	Virus	
2	b	Cistron	2	b	Cell eating	
3	b	Syngamy	3	b	Copper	
4	b	Cell eating	4	a	Ovule	
5	b	Racemose inflorescence	5	d	John Ray	
6	a	Growth	6	d	Coal	
7	a	Ovule	7	a	Growth	
8	a	It is changing its form continuously	8	a	Reciprocal cross	
9	b	Victoria regia	9	b	Racemose Inflorescence	
10	d	Virus	10	b	Victoria regia	
11	d	Coal	11	a	It is changing its form continuously	
12	b	Copper	12	b	Cyathium	
13	b	capillary water	13	b	Syngamy	
14	d	John Ray	14	b	Capillary Water	
15	b	Cyathium	15	b	Cistron	

SECTION -II			
Answer any Six of the following. Q.No. 22 is compulsory			**6x2=12**
16.	The Cancer causing Viruses Example : SV40/(Simian virus) / Retro virus	**1** **1**	**2**
17.	i) Chiasmata ii) Segments of non-sister chromatids of the homologous chromosomes are exchanged iii) Meiosis / Pachytene stage	**½** **1** **½**	**2**
18.	i) Plants growing in Marshy places ii) Erect roots arise from the ordinary roots iii) Example : Avicennia	**½** **1** **½**	**2**
19.	i) Diagram ii) Parts	**1** **1**	**2**
20.	F_1 hybrid is crossed with recessive parent dominant and recessive phenotype will appear in equal proportions		**2**
21.	Upward movement of water through xylem		**2**
22.	The Scattering of a beam of light by the particles of a colloid is termed Tyndall effect		**2**
23.	1. Ovary – fruit 2. Ovary wall _Pericarp 3. Ovule – Seed 4. Funicle – Stalk of the seed 5. Hilum – Hilum 6. Nucellus – Perisperm 7. Outer integument – testa } seed coat 8. Inner integument – tegmen } 9. Micropyle – Micropyle 10. Fertilized egg – Embryo 11. Secondary nucleus – Endosperm 12. Antipodals, synergid - Degenerate Any Two		**2**
24.	i) Hydrophytes ii) Xerophytes iii) Mesophytes		**2**
SECTION -III			
Answer any Six of the following. Q.No. 27is compulsory			**6x3=18**
25.	i) It is a valuable fuel like coal ii) Mosses like Sphagnum which got compacted and fossilized over the past thousands of years have become peat.	**1** **2**	**3**
26.	i) Diagram ii) Parts	**2** **1**	**3**
27.	i) It controls all the metabolic activities of the cell	**1**	**3**

	ii) Controls the inheritance of characters from parents to offspring iii) Controls cell division	1 1	
28.	i) Homologous chromosomes come together and lie side by side throughout their length is called synapsis ii) Zygotene stage	2 1	3
29.	i) Definition – Aestivation ii) 1) Valvate aestivation 2) Twisted aestivation 3) Descending imbricate 4) Ascending imbricate 5) Quincuncial **(Any 3 Types)**	1½ 1½	3
30.	The sequence of three nucleotides that code for an amino acid is called codon		3
31.	The particles of the protoplasm show an erratic zig-zag movement. This random motion caused by the uneven bombardment of particles is called Brownian movement.		3
32.	i) Causing yellow spot disease of citrus ii) Whiptail disease in cauliflower iii)Causing narrowing of leaf bladder	1 1 1	3
33.	i) Plants which grow in dry habitats or Xeric conditions ii) a) Physically dry habitats b) Physiological dry habitats c) Physical and Physiological dry habitats	1 ½ 1 ½	3

SECTION -IV

Answer All the following questions **5x5=25**

34		Gymnosperms	Angiosperms		
	i)	No Vessels in Xylem , only tracheids	Xylem has vessels	1	5
	ii)	No Companion cells in phloem	Phleom contains companion cells	1	
	iii)	Usually have cones	Produce flowers	1	
	iv)	Seeds are naked	Seeds are enclosed	1	
	v)	No fruits because no ovary	Ovary develops into fruit.	1	
		OR			
	i) ii) iii) iv) iv)	Diagram with parts Aim , materials required Procedure Observation Inference		1 1 1 1 1	5

35	i) Interphase – diagram ii) The changes in the cell in interphase (Explanation) iii) G_1 Phase iv) S phase v) G_2 phase	1 1 1 1 1	5
	OR		
	i) Klinostat – diagram and parts ii) Explanation.	2 3	5
36	i. Monotrichous ii. Lophotrichous iii. Amphitrichous iv. Peritrichous v. Atrichous vi. Diagrams	½ ½ ½ ½ ½ 2½ (5×½)	5
	OR		
	i. Definition ii. Parent , gamete and F1 iii. Checker board iv. Phenotypic ratio and genotype	1 1 2 1	5
37	i) Monadelphous ii) Diadelphous iii) Polyadelphous iv) Syngenesious v) Synandrous vi) Polyandrous (Explanation) Diagrams	2½ 2½	5
	OR		
	i) Explanation ii) One example iii) Diagram and parts	3 1 1	5
38	i) Ammonifying Bacteria (Explanation) Example ii) Nitrifying bacteria (Explanation) Example iii) Nitrogen fixing bacteria Example	1 1 ½ ½ 1 1	5
	OR		
	i. Free floating hydrophytes Ex:Eichhornia/Pistia/Wolffia / Lemna ii. Floating but rooted hydrophytes Ex: Victoria regia /Nymphaea/ Nelumbium / Marsilea iii. Submerged hydrophytes (Floating) Ex: Ceratophyllum / Utricularia iv. Submerged hydrophytes (Rooted) Ex:Vallisneria/Potamogeton v. Amphibious Hydrophytes Ex:Limnophylla heterophylla/Typha/Sagittaria	½ ½ ½ ½ ½ ½ ½ ½ ½ ½	5