FIRST YEAR HIGHER SECONDARY IMPROVEMENT EXAMINATION JULY 2017

SUBJECT : BIOLOGY (BOTANY) **CODE. NO: 817 A**

Qn No	Sub Qns	Answer Key/Value Points	Score	Total
1		Ten, diadelphous		1
2		Kingdom Fungi		1
3	a)	• Crossing over	1	2
	b)	• Bolting	1	
4		RUBISCO / RuBP Carboxylase Oxygenase		1
5		Protonema • It is a creeping, green, filamentous branched structure develops directly from a spore of moss/ Bryophyte OR • First gamatophytic stage of moss	1	2
		Prothallus • Photosynthetic gamatophye of Pteridophyte / fern (Heart shaped structure – ½, sex organ bearing structure – ½)	1	
6		• Hypogynous Flower • Eg:- mustard / china rose / brinjal or any other related Flower	½ ½ } 1	2
		• Epigynous Flower • Eg:- guava / cucumber or any other related Flower	½ ½ } 1	
		OR		

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		Racemose • Main axis grow Continuously • Flowers are borne in an acropetal/ older flowers arranged at the bottom and young flowers arranged at the top **Cymose** • Main axis terminate in a flower • Flowers are borne in a basi-petal order (Diagramatic representation give ½ score each)	½ ½ } 1 ½ ½ } 1	2
7		Mechanical Support / Rigidity		1
8		**Dicot Stem** / **Monocot Stem** (B) Collenchymatous Hypodermis / (A) Sclerenchymatous hypodermis (D) Vascular bundles are arranged in a ring. / (C) Vascular bundles are conjoint, closed (Alphabet related to correct answer give full score)	½+½ ½+½	2
9		• It ensure the conservation of specific chromosome number • It cause variation of genetic character (Reduction division / Diploid cell become haploid / gamates are formed / responsible for Evolution) Any one Point from bracket give one score)	1 1	2

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10		• Plasmolysis • Water molecules move out of the cell / Exosmosis • Cell membrane become shrink away from cell wall / Temporary withdrawel of Protoplasm from cell wall	1 ½ ½	2
11		• Fruit ripening • Promote Senescence • Break seed dormancy • It initiate Flowering (Any Four related responses give Full score)	½ ½ ½ ½	2
12		• Reductive amination • Transamination (correct definition or equation of both give Full Score)	1 1	2
13		• Cytoplasm • Pyruvic acid / Pyruvate / PA	1 1	2
14		A - Citric acid / TCA B - α-Ketoglutaric acid C - Malic acid D - Oxalo Acetic Acid / OAA	½ ½ ½ ½	2
15	a)	• Metacentric • Sub Metacentric • Acrocentric • Telocentric	½ ½ ½ ½ } 2	3
	b)	• (Any one figure give 1 score)	1	

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16	a)	Cyclic Photophosphoreletion Non-Cyclic Photophosphoreletion	½ ½	
	b)	<u>Cyclic</u> • only one Pigment System is involved • Cyclic flow of Election takesplace • ATP only formed (Any two related reasons give 1 score)	½ ½	3
		<u>Non-Cyclic</u> • Both the Pigment Systems (PS-I, PS-II) are involved • Electrons never return back to the same reaction centre. • ATP and NADPH are formed • Water Splitting (Photolysis of water) • Oxygen is released (Any two reasons give 1 score)	½ ½	
		OR • Chemi Osmotic Hypothesis • Due to the splitting of water inside the lumen, H^+ ions are accumulated in the lumen • As e^- move through the Photosystem H^+ are transported from the Stroma to the lumen • NADP reductase enzyme located on the Stroma side reduces $NADP^+$ to $NADPH^+ + H^+$ • This Process Create a Proton gradient between lumen and Stroma • Protons are transported from the lumen to Stroma through Fo of ATPase • ATP Synthase Convert ADP to ATP in the Stroma (Any Four Points related to Chemi osmotic hypothesis give 2 score)	1 ½x4 }2	3

1. Mani. I.C, HSST, GHSS, Peruva
Kottayam

2. GOPAKUMAR.S
T.V.M
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3. A.S. Paristhraben mol
SN HSS chithara
Kollam.

4, Paul. T. Thazhatha

5, Bralhajachandram
T.D.H.S.S Alpy

6) Shibu. C George
GHSS, Kallil, Methala