FIRST YEAR HIGHER SECONDARY EXAMINATION MARCH 2019
FINALIZED SCHEME OF VALUATION

Subject - Biology - Part A Botany **Code No. FY 26**

Qn.No	SUB QTN	Scoring Indicators	Split Score	Total Score
1		d) Mesosome	1	1
2		b) Rhizopus / Mucor	1	1
3		Cleavage furrow/Furrow/ Constriction/invagination/infold	1	1
4		Osmosis/Diffusion of water across the membrane Functions - active transport and passive transport, semi or selectively permeable membrane, Movement of water from high to low concentration, Facilitated diffusion Any one similar correct point - 1 score	1 1	2
5		Chlorophyll b, Xanthophyll and Carotene (Any two other than Chl a) Significance of accessory pigments 1. Absorption and tranfer of light to the reaction centre / Chl a 2. Protect the chlorophyll a from photo oxidation Any one of above response 1 score	1 1	2
6		c. Collenchyma Function - Mechanical support, Photosynthesis,strength and flexibility [Any one response - 1 score]	1 1	2
7		Aerobic respiration - with oxygen, in cytoplasm and mitochondria, complete oxidation, high energy output, end products Co2 and water/38 or 36 ATP Anaerobic respiration - without oxygen, in cytoplasm only, incomplete oxidation, low energy output, end products lactic acid or ethanol and Co2, 2 ATP, Hazardous (Similar relevant two points each 1+1) Summerised equation of aerobic and anaerobic respiration full score 2	1/2+ 1/2 1/2+1/2	2
8		A. Sporophyte / Capsule/seta and capsule/ Diploid or 2n part Peculiarities 1. Diploid (2n) structure 2. Produces haploid (n) spores 3. reproductive structure with foot, seta and capsule 4. attached to gametophyte 5. Derive food from gametophyte 6. Not free living (Similar relevant and correct one peculiarity - 1 score)	1 1	2
9		2nd - Metaphase 3rd - Anaphase Features of metaphase 1. Metaphase plate 2. All chromosomes at equeator 3. Chromosomes at maximum condensation 4. Spindle fibres attached to kinetochores (Similar relevant and correct two points of metaphase (1/2+1/2)) Diagrammatic representation with label of metaphase - 1 score	1/2 1/2 1/2 1/2	2

10	a b	Grana/Thylakoid Stroma Grana function - Light reaction / Photophosphorylation / Explanation of Light reaction / similar correct one response Stroma function - Dark reaction / Biosynthetic phase/ Carbon fixation/ Explanation of Dark reaction/ C3 Cycle/ Black man's reaction/ function of any part of chloroplast except grana / similar correct one response. **If a or b correct give full score 2**	1/2 1/2 1/2 1/2	**2**
11		Kranz anatomy/Wreath anatomy peculiarities of krans anatomy 1. two types chloroplast 2. Bundle sheath chloroplast large and agranal 3. Mesophyll chloroplast normal (granal) 4. Wreath like arrangement of dimorphic chlorotic cells 5. Closely packed bundle sheath cells 6. Thick walled bundle sheath cells impervious to gas exchange 7. Wreath like bundle sheath (Similar 2 correct peculiarities give 1 score)	1 1/2 1/2	**2**
12		Complex V/ ATP Synthase/ Oxysome/ F1-F0 particle Function - ATP synthesis ADP+Pi = ATP/Oxidative phosphorylation/ Phosphorylation/ Chemi osmosis/ Proton channel/ Similar correct one function give 1 score	1 1	**2**
13		Copper, Boron, Manganese and Chlorine	4x1/2	**2**
14		a. Reduction - iv/ Formation of Glucose b. Photolysis - i/ Formation of ooxygen c. Photorespiration - ii/ Formation of phosphoglycolate/ v./ Formation of 3 PGA d. Carboxylation - ii/ Formation of 3 PGA **Any two correct answers 2 scores**	1/2 1/2 1/2 1/2	**2**
15		Solanaceae Gynoecium - Bicarpellay, hypogynous, axile placentation, Bilocular, Syncarpous, Superior ovary, Oblique carpels, Swollen placenta, Many ovules, G(2) (Similar correct three points 1 1/2 scores) Fabaceae Gynoecium - Monocarpellary, hypogynous/Perigynous, Marginal placentation, Many ovules, Unilocular, Half inferior and Half superior, G1, G1- (Similar correct three points 1 1/2 scores)	1 1/2 1 1/2	**3**
16	a b	Apical dominance -Auxin Bolting - Gibberellin Apical dominance - Promotion of apical bud by suppressing lateral bud Bolting- Rapid stem elongation just prior to flowering in rossette plants ABA / Abscisic acid	1/2 1/2 1/2 1/2 1	**3**

17		Rhizopora - pneumatophore/Respiratory root/Breathing root/Root Function - Respiration Bougainvillea - Thorn/Stem/Bud Function - Defense, Mechanical support, Protection Pea - Leaf tendril/Leaf/Tendril Function - Mechanical support, Climbing organ	1/2 1/2 1/2 1/2 1/2 1/2	3
18		Root hair - Absorption of water and minerals Stomata - Transpiration/Respiration/Photosynthesis/gaseous exchange Bulliform cells - Rolling and unrolling of leaves to reduce surface area, When turgid they expose leaf surface and when flaccid curls.	1 1 1	3
		TOTAL SCORE	37	37

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SUBJECT : BIOLOGY - ZOOLOGY

CODE. NO: FY 26 B

Qn No	Sub Qns	Answer Key/Value Points	Score	Total
1		Carolus Linnaeus / Linnaeus	1	1
2,		Dense regular	1	1
3,		Collagen	1	1
4.		Yes,	1	
		In Vertebrates the notochord is replaced by Vertebral column. (correct justification carries full mark)	1	2
5.	a	Tidal Volume - Volume of air inspired / expired during normal respiration / approx. 500ml	½	
		Residual Volume - Volume of air remaining in the lungs even after a forcible expiration / 1100 ml to 1200 ml.	½	
	b.	Vital Capacity - Maximum vol of air a person can breathe in after a forced expiration / ERV + TV + IRV / the maximum vol of air a person can breathe out after a forced inspiration / value	½	2
		Total lung Capacity - Total vol of air accomodated in the lungs at the end of forced inspiration / RV + ERV + TV + IRV / vital capacity + residual volume / value	½	

Qn No	Sub Qns	Answer Key/Value Points	Score	Total
6	(a)	Hippocampus / Sea horse	½	2
	(b)	class osteichthyes / Bony fishes	½	
	(c)	Any two salient features of class osteichthyes	1	
7	(a)	(i) Salivary amylase / ptyaline / amylase	½	2
		(ii) lysozyme	½	
	(b)	(i) Intestine	½	
		(ii) Stomach	½	
8,	(a)	Persons with AB group can accept blood from other Blood groups / AB Blood group lacks antibodies / Presence of AB antigen only	1	2
	(b)	Any two correct disorders related with Circulatory System	1	
9,		a, Gnathostomata	½	2
		b, Cyclostomata	½	
		c, Tetrapoda	½	
		d, Osteichthyes	½	
10,	(a)	(i) Glycosuria	½	2
		(ii) Ketonuria	½	
	(b)	Diabetes melitus / Diabetes	1	
11,	(a)	A - Actin	½	2
		B - Myosin	½	
	(b)	Actin – G-actin / F-actin / Tropomyosin / Troponin	½	
		Myosin – Heavy Meromyosin (HMM) / Light meromyosin (LMM) / Meromyosin / Head / tail	½	

Qn No	Sub Qns	Answer Key/Value Points	Score	Total
12	(a)	Glucagon	1	2
	(b)	dwarfism	1	
13	(a)	A - Secondary Structure of protein B - Tertiary Structure of Protein	½ ½	2
	(b)	Primary Structure of Protein and Quaternary Structure of Protein	½ ½	
14		<table><tr><th>Ammonotelic</th><th>Ureotelic</th><th>Uricotelic</th></tr><tr><td>Bony fishes</td><td>Mammals</td><td>Reptiles</td></tr><tr><td>Aquatic amphibians</td><td>Terrestrial amphibians</td><td>Birds</td></tr></table> (Any four correct response)		2
15	(a)	odd one with correct response	1	3
	(b)	Saw fish Saw fish - class Chondrichthyes / cartilaginous fishes / Remainings are osteichthyes / Bony fishes.	½ ½	
	(c)	Sea hare Sea hare - Phylum Mollusca / Remaining ones - phylum Echinodermata (Any two correct response carries full mark)	½ ½	

Qn No	Sub Qns	Answer Key/Value Points	Score	Total
16		Brain Forebrain → Cerebrum, Thalamus, Hypothalamus Mid brain → Corpora quadrigemina Hind brain → Pons, Cerebellum, Medulla or (Any other correct response regarding six parts of brain given in the box)	6 × ½	3
17	(a)	Electrocardiograph / electrocardiogram	1	3
	(b)	P wave - Atrial depolarisation / atrial systole / electrical excitation of atrium / auricular contraction	½	
		T wave - Ventricular repolarisation, diastole / Ventricular relaxation / End of systole	½	
	(c)	Diagnosis of Heart diseases / disorders	1	
18		(a) found in the walls of blood vessels / and air sacs of lungs	½	3
		(b) cuboidal epithelium	½	
		(c) Secretion / absorption	½	
		(d) lining of stomach / Intestine	½	
		(e) ciliated epithelium	½	
		(f) Movement / transport	½	