



**INDIAN SCHOOL AL WADI AL KABIR**  
**PRELIMINARY EXAMINATION I (2022-2023)**  
**SET 1**  
**BIOLOGY (044)**  
**MARKING SCHEME**

**CLASS: XI**  
**DATE: 06.12.2022**

**Max. Marks: 70**  
**Time: 3 Hours**

<b>SECTION A</b>		
<b>Sl. No.</b>	<b>QUESTION</b>	<b>MARKS</b>
1	(D)	1
2	(D)	1
3	(B)	1
4	(A)	1
5	(B)	1
6	(A)	1
7	(B)	1
8	(B)	1
9	(A)	1
10	(C)	1
11	(B)	1
12	(B)	1
13	(A)	1
14	(B)	1
15	(D)	1
16	(D)	1
<b>SECTION B</b>		
17	(i) Platyhelminthes (ii) Aschelminthes (iii) Echinodermata (iv) annelids, molluscs, arthropods, echinoderms, hemichordates and chordates (any one)	2
18	1 – Endosperm 2 – Scutellum 3 – Coleoptile 4 - Coleorhiza	2
19	(a) Diagram (1) (b) Primary – necessary for metabolic reactions, examples – bio micro molecules and bio macromolecules, Secondary – excretory materials, examples – gums, resins, latex etc. (1)	2

20	Diagram (1), two labels (1)	2
21	(i) 5 (ii) RuBP (iii) Rubisco (iv) 3  <b>OR</b> Photorespiration (1), CO <sub>2</sub> is released out and energy is used up (1)	2
<b>SECTION C</b>		
22	(a) Phylum Chordata (1) (b) Notochord, dorsal hollow nerve cord, gill slits, post anal tail (2)	3
23	(a) Gametophyte of mosses (creeping stage) (1) (b) Gametophyte of pteridophytes (1) (c) Symbiotic association of fungi and roots of higher plants (1)	3
24	(a) X – sub metacentric, Y – acrocentric (1) (b) X – centromere slightly away from middle, Y – slightly away from tip (1) (c) Metacentric and telocentric - diagrams (1)	3
25	(a) G1 phase, S phase and G2 phase (1.5) (b) G1 – metabolic growth, S – DNA replication and G2 – protein synthesis (1.5)	3
26	The outer most protective layer in plants (1), Epidermis, stomata, cuticle, trichomes, root hairs (any two) (1), functions (1) <b>OR</b> Diagram (1), explanation (2)	3
27	Double helix, complimentary, antiparallel, 10 BPs per turn, distance between two base pairs is 0.34nm, complete turn – 3.4nm	3
28	Primary CO <sub>2</sub> acceptor – RuBP and PEP, first stable product - PGA & OAA, number of carbon atoms – 3 and 4, location – mesophyll & mesophyll and bundle sheath, CO <sub>2</sub> acceptor is 5C and 3C compounds, Kranz anatomy absent and present	3
<b>SECTION D</b>		
29	(a) Non – enzymatic reaction (1) (b) Temperature, pH, substrate concentration (2) (c) Definition (1) <b>OR</b> (c) Active site (1)	4
30	(a) Light, CO <sub>2</sub> , temperature, water (2) (b) Temperature (1) (c) Photorespiration (1) <b>OR</b> (c) Definition (1)	4
<b>SECTION E</b>		
31	(a) Undifferentiated and differentiated ground tissue, absence and presence of stele, closed and open vascular bundles, presence and absence of protoxylem lacunae or any other difference (2) (b) Diagram (1) (c) Diagram (1) and labels (1)	5

	<b>OR</b>	
	<p>(a) Vascular cambium – interfascicular cambium, fascicular cambium and cambial ring formation, activity – secondary xylem towards inside and phloem towards outer side, more secondary xylem (3)</p> <p>(b) Heart wood – centre, coloured, functionally inactive and resistant to microbes, Sap wood – peripheral, light coloured, active and not resistant (2)</p>	
32	<p>p – Leptotene, chromosomes are slightly visible (1)</p> <p>q – diakinesis, cross overed chromosomes separate/ terminalisation of chiasmata (1)</p> <p>r – Pachytene, crossing over (1)</p> <p>s – diplotene, chiasma (1)</p> <p>t – zygotene, synapsis (1)</p> <p style="text-align: center;"><b>OR</b></p> <p>(a) Metaphase (1), diagram (1)</p> <p>(b) Telophase (1), reasons (1)</p> <p>(c) Division of centromere and movement of daughter chromosomes to opposite poles (1)</p>	5
33	<p>(a) Cyclic – electrons will return to same pigment system, absence of photolysis, oxygen is not released, only ATP is synthesised, takes place in stroma lamellae, only PS I</p> <p>Non-cyclic - electrons will not return to same pigment system, photolysis, oxygen is released, both NADPH and ATP are synthesised, takes place in grana, both PS I and PS II (3)</p> <p>(b) Cyclic representation (2)</p> <p style="text-align: center;"><b>OR</b></p> <p>(a) Non-cyclic representation (3)</p> <p>(b) The assimilatory power for dark reaction is formed in light reaction (1), grana (1)</p>	5