

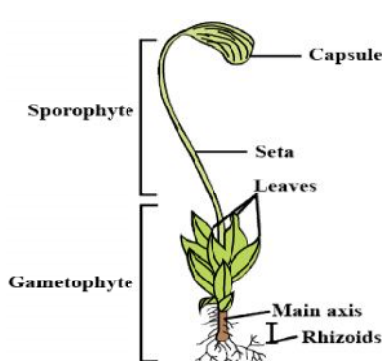
DAV PUBLIC SCHOOLS, ODISHA ZONE


NAME OF THE EXAM. HALF YEARLY EXAM (2023-24),

SUBJECT: BIOLOGY (044)

CLASS : XI

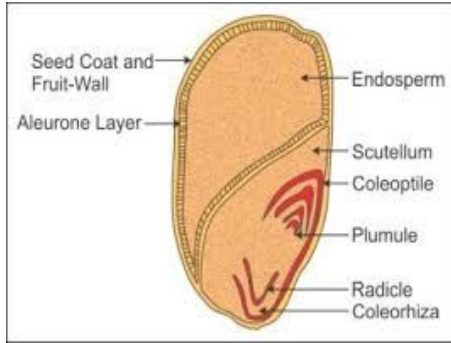
MARKING SCHEME

Q.NO	Value Points	Fractional marks allotted	Marks Allotted	PAGE NO. OF NCERT /TEXT BOOK
1	d - Division.	1	1	10
2	c - Chitinous cell wall and absence of chloroplast	1	1	17
3	c - Monera	1	1	19
4	a - Spore formation	1	1	36
5	c - Monkey, Chimpanzee, Man	1	1	60
6	b - Endodermis	1	1	91
7	a - Sorghum	1	1	93
8	b - Copulatory pad	1	1	116
9	d - The Golgi complex modifies and packages proteins that are produced in the rough ER	1	1	133
10	b - Inulin is a polymer of fructose	1	1	148
11	d - Quaternary	1	1	150
12	d- both a and b	1	1	163
13	B- Both Assertion and Reason are true, but the reason is not the correct explanation of assertion	1	1	20
14	A- Both Assertion and Reason are true, and the reason is the correct explanation of assertion.	1	1	73
15	C- Assertion is true but Reason is false.	1	1	73
16	C- Assertion is true but Reason is false.	1	1	129
17	<ul style="list-style-type: none"> T.O. Diener & M.W. Beijerinck Viroids are found to be a free RNA; it lacks the protein coat that is found in viruses. 	$\frac{1}{2} + \frac{1}{2}$ 1	2	26,27
18	<p>The 4 beneficial aspects of ascomycetes are</p> <p>a. The saccharomyces (yeast) is used in making bread and beverages like wine and beer.</p> <p>b. The morels and truffles are edible and used as food.</p> <p>c. Antibiotic penicillin is made from penicillium.</p> <p>d. Neurospora is extensively used in biochemical and genetic studies.</p> <p style="text-align: center;">OR</p>  <p style="text-align: center;">Diagram-1 Gametophyte-$\frac{1}{2}$ Sporophyte-$\frac{1}{2}$.</p>	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$	2	23,24

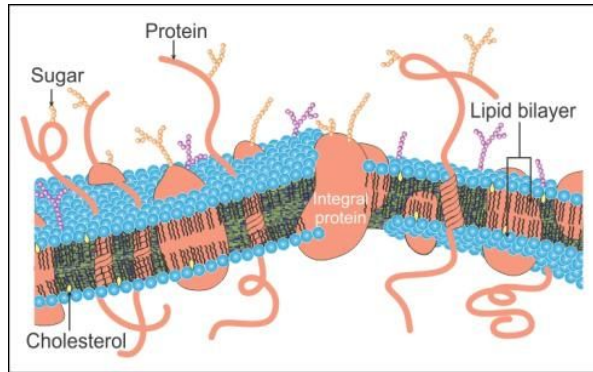
19	<p>a.</p> <ul style="list-style-type: none"> Increasing substrate concentration also increases the rate of reaction to a certain point . Once, All the active sites of enzyme have bound, any further increase in substrate will have no effect on the rate of reaction, as the available active sites of enzyme will be saturated. <p>b.</p> <ul style="list-style-type: none"> Low temperature preserves the enzyme in a temporarily inactive state. High temperature destroys enzymatic activity because enzymes or proteins are denatured by high temperature. 	<p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2</p>	2	157,158
20	<p>(a) Anaphase I- 46</p> <p>(b) At the end of TelophaseI- 23</p> <p>(c) Anaphase II- 23</p> <p>(d) Metaphase I- 46</p>	<p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2</p>	2	165, 166, 168, 169
21	<ul style="list-style-type: none"> Cytokinesis is a process by which the separation of cytoplasm takes place following karyokinesis to form two daughter cells. In plant cells, cytokinesis is initiated with the formation of a cell plate that represents the middle lamella in the middle of the cell leading to formation of cell wall. Cytokinesis in animal cells occurs by formation of furrow in the plasma membrane which gradually deepens and ultimately joins in the centre divides the cell cytoplasm into two daughter cells. 	<p>1</p> <p>1/2</p> <p>1/2</p>	2	166
22	<p>a. Euglena:</p> <ul style="list-style-type: none"> Flagella- one short and one long Cell wall- A protein outer layer called pellicle Dinoflagellates: <p>Flagella- one transverse and one longitudinal</p> <p>Cell wall- Cellulose plates</p> <p>b. The cilia helps in steering the water laden with food into the gullet of the protozoan.</p>	<p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1/2</p> <p>1</p>	3	21,22
23	<p>a. Proboscis gland</p> <p>b. Nephridia</p> <p>c. Malpighian Tubule</p> <p>d. Flame cells</p> <p>e. Gills</p> <p>f. Kidneys</p>	1/2 x 6	3	54,52,53,51, 56
24	<p>i. Solanaceae</p> <p>ii. $\oplus \text{♀} \text{K}_{(5)} \text{C}_{(5)} \text{A}_5 \text{G}_{(2)}$</p> <p>iii.</p> 	<p>1</p> <p>1</p> <p>1</p>	3	80

25	<p>i) The testes are adhered to the upper part of kidney by a double fold of peritoneum, called mesorchium.</p> <p>ii) The Bidders canal opens into the ureter and transfers the sperms, since the ureter carries urine as well as sperms, it is called urinogenital duct.</p> <p>iii)</p> <ul style="list-style-type: none"> • Vasa efferentia arise from testes. • They enter the kidney and open into Bidders canal. 	<p>1</p> <p>1</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p>	3	119
26	<p>(a)</p> <p>A- Metacentric chromosomes.</p> <p>B- Telocentric chromosomes.</p> <p>C- Acrocentric chromosomes.</p> <p>(b) The position of Centromere in the chromosome forms the basis for such a classification.</p> <p>(c) Kinetochores are disc shaped structure present on the sides of the centromere.</p> <p style="text-align: center;">OR</p> <p>A-Granum</p> <p>B- Thylakoid</p> <p>C- Stroma lamella</p> <p>D-Matrix</p> <p>'D' contains a single circular DNA molecule and 70s ribosomes.</p>	<p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>1</p> <p>$\frac{1}{2} \times 4$</p> <p>$\frac{1}{2} + \frac{1}{2}$</p>	3	136,139
27	<p>i)</p> <ul style="list-style-type: none"> • Co-enzymes are organic compounds, which are transiently associated with the apoenzyme during the course of catalysis. • Prosthetic groups are organic compounds which are tightly bound to the apoenzyme and is a part of the active site of the enzyme. <p>ii) a. Hydrolase</p> <p>b. Ligase</p>	<p>1</p> <p>1</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p>	3	158,159
28	<p>(a) Zygotene of prophase I</p> <p>(b) Pachytene of prophase I</p> <p>(c) Pachytene of prophase I</p> <p>(d) Diakinesis of prophase I</p> <p>(e) Diplotene</p> <p>(f) Zygotene of prophase I</p>	<p>$\frac{1}{2} \times 6$</p>	3	168

29	<p>(i) (a) A- Hippocampus (b) C- Crocodilus</p> <p>(ii) A- Hippocampus and B-Rana</p> <p>(iii) (a) A-Hippocampus / C- Crocodilus/D-Ornithorhynchus (any one) (b) B- Rana (Frog)</p> <p>(iv) In 'B' the body is divided into head and trunk, (neck and tail are absent) / skin is without scales (any one) In 'C' the body is divided into head, neck, trunk and tail / body covered by epidermal scales or scutes.(any one)</p> <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> • Poikilothermous: The animals who lack the capacity to regulate their body temperature. • Homoithermous: Animals who are able to regulate their constant body temperature. 	<p>1/2 1/2 1/2+1/2 1/2 1/2 1/2 1/2 1/2</p>	4	57,58
30	<p>a. A-Pinnately compound leaf B- Palmately compound leaf</p> <p>b. A- Neem B- Silk cotton</p> <p>c. In pinnately compound leaves(A) the leaflets are arranged all along the length of rachis. In palmately compound leaves (B) the leaflets are attached at a common point in the tip of rachis.</p> <p>d. In Alstonia phyllotaxy is whorled as more than two leaves arise at a node.</p> <p style="text-align: center;">OR</p> <p>a. Alternate b. Opposite</p>	<p>1/2 1/2 1/2 1/2 1/2 1 1/2 1/2</p>	4	70,71
31	<p>a. Marchantia. Bryophytes. b. Gemma cup produce gemmae, which detach from parent and grow in to new individuals.</p> <p>c.</p> <ul style="list-style-type: none"> • archegoniophore – produce female gametes • antheridiophore– produce male gametes <p>d. They need water for transport of gametes and grow in marshy areas.</p> <p>e. Since they form dense mats on the soil, reduce the impact of the falling of rain and prevent soil erosion.</p> <p style="text-align: center;">OR</p> <p>(a) A- Fucus B-Dictyota (b) (i) They belong to pheophyceae</p>	<p>1/2 +1/2 1/2 +1/2 1/2 1/2 1 1 1/2 1/2 1/2</p>	5	31,35

	<p>(ii) Fucoxanthin gives the characteristic brown colour</p> <p>(c) Laminarin and mannitol</p> <p>(d) (i) The plant body is attached to the substratum by a holdfast</p> <p>(ii) Frond is a leaf like structure and hence photosynthetic in function.</p>	<p>$\frac{1}{2}$</p> <p>$\frac{1}{2}+\frac{1}{2}$</p> <p>1</p> <p>1</p>		31
32	<p>(i) (a) Free central, (b) Axile</p> <p>(ii) Mango- fleshy Coconut- fibrous</p> <p>iii)</p>  <p>(a) Aleurone layer,</p> <p>(b) Coleoptile,</p> <p>(c) Coleorhiza,</p> <p>(d) seed coat</p> <p style="text-align: center;">OR</p> <p>a. A- conjoint, open vascular bundle in dicot stem. B- Conjoint, closed vascular bundles in monocot stem. C- radial vascular bundles in dicot and monocot roots.</p> <p>b. 'A'- can contribute to secondary growth because it has cambium which has the ability to form secondary xylem and secondary phloem tissues.</p> <p>c.</p> <ul style="list-style-type: none"> • Bundle sheath cells • Conjoint type 	<p>$\frac{1}{2}+\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>Dia-1</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}+\frac{1}{2}$</p> <p>$\frac{1}{2}+\frac{1}{2}$</p> <p>$\frac{1}{2}+\frac{1}{2}$</p> <p>$\frac{1}{2}+\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p>	5	75,77
33	<p>a) Vinblastin, Curcumin</p> <p>b) GLUT-4 – Enables glucose uptake into cells.</p> <p>c)</p> $\begin{array}{c} \text{COOH} \\ \\ \text{H}-\text{C}-\text{NH}_2 \\ \\ \boxed{\text{CH}_2-\text{OH}} \\ \text{Serine} \end{array}$ <p>d) RNA- Ribose sugar</p> <p>e) DNA- Deoxyribose sugar</p> <p>f) The cell when disrupted, the cell membrane and other membranes are broken into pieces, form vesicles which are not water soluble, get separated along with the acid insoluble pool.</p> <p style="text-align: center;">OR</p> <p>a. Fluidity refers to the nature of lipid that enables lateral movement of proteins within the overall lipid bilayer .</p>	<p>$\frac{1}{2}+\frac{1}{2}$</p> <p>1</p> <p>1</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>1</p>	5	145,146,147,148,149

- b.
- i. Formation of intercellular junctions.
 - ii. Cell growth.
 - iii. Endocytosis
 - iv. Cell division
 - v. Secretion
- (Any four)
- c.



FLUID MOSAIC MODEL OF PLASMA MEMBRANE

$\frac{1}{2} \times 4$

Dia-1
Any two
labelling-
 $\frac{1}{2} + \frac{1}{2}$

131, 132