FIRST YEAR HIGHER SECONDARY EXAMINATION – MARCH -2020

BIOLOGY FY - 26

SCOING KEY

BOTANY

Qn. No.	Scoring indicators	Marks
PART I	**ANSWER ANY THREE**	**3X1=3**
1.	(c) Mitochondrion	1
2.	(a) Dicot root	1
3.	Euglena	1
4.	Anaphase	1
5.	2C	1
PART I I	**ANSWER ANY NINE**	**9X2=18**
6.	(a) Facilitated diffusion (b) the movement of substances across cell membrane with the help of special protein is called facilitated diffusion.	1+1 = 2
7.	(a) pairing of homologous chromosome / synapsis / formation of synaptonemal complex (b) Pachytene (c) Diplotene (d) terminalisation of chiasmata	½ x 4 =2
8.	The technique of growing plants in nutrient solution is known as hydroponics This method help to identify the essential element for plant or Used to identify the deficiency symptoms of essential element	1+1 = 2
9.	Lysosome: d. Rich in hydrolytic enzymes Golgi apparatus: a. Made up of many flat, disc shaped sacs or cisternae Ribosome: a. Involved in protein synthesis; e. Membrane is absent	½ x 4 =2
10.	(a) non cyclic (b) one or PS I (c) two or PS I and PS II (d) absent *d - give mark to either present or absent since answer for non cyclic rn. in question is given as "absent"	½ x 4 =2
11.	(a) splitting of sugar or glucose / partial oxidation of glucose into pyruvic acid OR Glucose ⟶ 2 Pyruvic acid (b) cytoplasm	1 + 1 = 2

Qn. No.	Scoring indicators	Marks
12.	(a) A – Mesophyll cell B – Bundle sheath cell (b) Oxaloacetic acid or OAA (c) PEP carboxylase or PEPcase	½ x 4= 2
13.	(a) Incomplete breakdown of glucose in the absence of oxygen is called anaerobic respiration. /Respiratory process in the absence of oxygen (b) Pyruvic acid is converted into CO_2 and ethanol. Or Pyruvic acid → Ethanol + CO_2	1 + 1 = 2
14.	(a) Carboxylation, Reduction, Regeneration (b) The first stable compound is a C_3acid /3C compound (PGA). So it is known as C_3 cycle * Kelvin cycle in english part of question is mis leading so scheme finalizing teachers should notice it	1 + 1 = 2
15.	A – B (a) Double fertilization – (v) Angiosperm (b) Heterospory – (iv) Pteridophyte/Gymnosperm/Angiosperm (c) Protonema – (i) Bryophyte (d) Naked seeds – (iii) Gymnosperm	½ x 4= 2
16.	(a) Matthias Schleiden and Theodore Schwann (b) 1. All living organisms are composed of cells and products of cells 2. All cells are arising from the pre-existing cells	1 + 1 = 2
PART I I I	**ANSWER ANY THREE**	**3X3=9**
17.	(a) A – Twisted B – Vexillary (b) Margin of the appendage/petal overlaps regularly (c) Standard petal, Wing petals & Keel petals	1+1+1=3
18	(a) Auxins, Gibberellins & Cytokinins (b) Abscisic acid or ABA (c) 1. Involved in seed development, maturation and dormancy 2. It is involved in abscission 3. Stimulate closure of stomata 4. Inhibit plant metabolism 5. Inhibit seed germination (any two)	1+1+1=3
19.	(a) A – Reticulate venation B – Parallel venation (b) The arrangement of veins or veinlets in the leaf lamina is called venation * Figure doesn't clear to identify the venation	1+1+1=3
20.	1. The mesophyll cells are differentiated into palisade parenchyma and spongy parenchyma 2. Palisade parenchyma are made up of elongated cells 3. Palisade parenchyma are arranged vertically and parallel to each other 4. spongy parenchyma are made up of oval or round cells 5. Spongy parenchyma are loosely arranged 6. Made up of parenchyma with chloroplast (any three)	1+1+1=3

ZOOLOGY

Qn. No.	Scoring indicators	Marks
PART I	**ANSWER ANY THREE**	**3X1=3**
1.	(c) Carbonic anhydrase	1
2.	Amino acids	1
3.	(b) Sarcomere	1
4.	(b) Comb plates, Bio luminescence	1
5.	(a) Taxon	1
PART I I	**ANSWER ANY NINE**	**9X2=18**
6.	Amoeboid movement – Macrophages in tissues , Leucocytes in blood Ciliary movement – internal tubular organs lined by ciliated epithelium/ trachea/ female reproductive tract Muscular movement – limbs/jaws/ tounge (any two)	1+1= 2
7.	(a) Uremia (b) Renal Calculi (c) Kidney transplantation (d) Glomerulonephritis	½ x 4= 2
8.	Amphibia: (i) Skin is moist without scales; (iv) Can live in aquatic as well as terrestrial habitats Reptilia: (ii) Body is covered by dry and cornified skin; (iii) Shed the scales as skin cast	2
9.	The enzyme molecules are fewer in number than substrate. After saturation of enzyme there are no free enzyme molecule to bind to substrate.	2
10.	Simple diffusion depends upon concentration gradient. It doesnot require energy Active transport occurs against concentration gradient. It requires energy	1 + 1 = 2
11.	(a) IRV – Additional volume of air a person can inspire by a forcible inspiration 2500 – 3000 ml ERV – Additional volume of air a person can expire by a forcible expiration 1000 – 1100 ml (b) Tidal volume – Volume of air inspired or expired during a normal respiration 500ml Residual volume – Volume of air remaining in the lungs even after a forcible expiration. 1100 – 1200 ml * Defenition or correct volume can be selected for valuation	½ x 4= 2
12.	(a) Enzyme of gastric juice – Pepsin or Renin Enzyme of intestinal juice – Lipases (b) Pepsin – Proteolytic enzyme or convert protein into proteoses and peptones Or Renin – Proteolytic enzyme or help in digestion of milk protein in infants Lipases – lipid digesting enzyme or lipolytic enzyme	½ x 4= 2

Qn. No.	Scoring indicators	Marks

13. A) Renin B) Angiotensin I
C) Aldosterone D) Increases — ½ x 4= 2

14.

Adrenal cortex	Adrenal medulla
The hormones of adrenal cortex are called corticoids	The hormones of adrenal medulla are called emergency hormones
It secrete glucocorticoid, mineralocorticoid and androgenic steroids	It secrete adrenaline or epinephrine and noradrenaline or norepinephrine
The hormones involved in carbohydrate metabolism, electrolyte balance and growth of facial, pubic and axial hair	Hormones increase alertness, heart beat, respiration , sweating etc
(Any Two)	

1+1 = 2

15. (a) Excretory product is uric acid
(b) Malpighian tubule, nephrocytes, fat body and urecose gland (Any Two) — 1+1 = 2

16. Cartilage cells are called chondrocytes
Intercalated discs are seen in cardiac muscle — 1+1 = 2

PART I I I **ANSWER ANY THREE** **3X3 = 9**

17. (a) ECG
(b) P wave – excitation of atria/depolarization of atria
QRS wave – depolarization of ventricles
T wave – repolarization of ventricles
(c) Any deviation in ECG indicate the abnormality or disease of heart — ½ x 6 =3

18 (A) Testis
(B) Thymosin
(C) Differentiation of T-lymphocytes/help in cell-mediated immunity/Help in humoral immunity
(D) Pancreas
(E) Melatonin
(F) Regulation of diurnal (24 hour) rhythm/ influence metabolism, pigmentation etc — ½ x 6 =3

19.

(a)	(b)
A – Balanoglossus	Hemichordata
B – Nereis	Annelida
C – Liver fluke/Fasciola	Platyhelminthes

1+1+1=3

20. (a) A – Lens B* – Optic nerve
(b) It is the thinned-out portion of the retina
Only cone cells are present/densely packed
Visual activity is maximum (any one point)
(c) Cornea → Aqueous chamber →lens →Vitreous chamber →retina

* Label starting point not clear in figure

1+1+1=3

UNOFFICIAL ANSWER KEY