INDIAN SCHOOL MUSCAT

ANNUAL EXAMINATION

FEBRUARY 2020

SET A

CLASS XI

Marking Scheme – BIOLOGY [THEORY]

Q.NO.	Answers	Marks (with split up)
1.	c] *Mangifera indica*	1
2.	d] Mycoplasma OR c] Pteridophytes	1
3.	b] gemmae	1
4.	a] *Planaria* OR c] Aves	1
5.	d] Isomerases	1
6.	a) Mycorrhiza – for absorption of nutrients/ protection(1) b) Corolloid roots – for N2 fixation (1) OR Megaspore ½ – cells – three-celled egg apparatus – one egg cell and two synergids, three antipodal cells and two polar nuclei. Any three cells 1 ½	2
7.	One example each 4 X ½	2
8.	Maize/ sugar cane and adventitious roots at nodes near ground. 1+1	2
9.	Primary meristerm- Tissues found in shoot apex and root apex,intercalary meristem 1 Second meristem - interfascicular cambium, intercalary meristem, 1	2
10.	Squamous- walls of blood vessels and air sacs of lungs forming a diffusion Boundary 1 adipose tissue - beneath the skin. to store fats. 1	2
11.	Rudolf Virchow 1 and theory 1	2
12.	Deuteromycetes/ sexual reproduction in unknown 1+1	2
13.	Hypogynous/perigynous/epigynous 1 m each OR Mango, coconut 1 m each/ parthenocarpic fruit – seedless fruit/formed without fertilization/ guava has seeds- formed after fertilization. 1+1	3
14.	a) Uric acid as nitrogenous wastes1 b) b/w foregut and midgut/ involved in digestion 2	3
15.	a) Glucose – respiratory substrate; ribose- sugar in nucleic acid 2 b) Biomolecule – higher molecular weight 1 OR $E + S \_\_\_\_\_ ES \longrightarrow EP \longrightarrow E + P$ 4 X ½ , decreases activation energy 1	3
16.	G1/S/G2 PHASE- cardiac muscles 2; Any two relevantsignificance - 1	3
17.	Pressure and solute potential/ zero/ plasma membrane and vacuolar membrane1+1+1	3
18.	4 categories – 2 m; cysteine and methionine 1	3

19.	Correct diagram with labelling 2 m; r- growth rate	3
20.	J M nephron- long loop of Henle; counter current mechanism 1+2	3
21.	Pulmonary- man ; cutaneous – earthworm 1 m; b) prevent the entry of food into air passage. C) damage to alveolar wall 1+1+1	3
22.	Chemiosmosis/ nitrate reductase- outer surface of membrane/ any two methods 1+1+1	3
23.	Sarcomere/ troponin/ tropomyosin/ actin/sliding filament theory 1 +1+1	3
24.	Portal circulation ½ /oxytocin and vasopressin 1/ hypothalamus1/2 / function of each 1	3
25.	Diagram with 4 labelling – 3 marks ; Nicolson and singer 1; description – 1m OR Leptotene/ zygotene/pachytene/diplotene/ diakinesis with one event 2 ½ + 2 ½	5
26.	EMP Pathway/ scientists name/ flow chart 2+3 OR Bundle sheath arrangement around vein – 1 mark / steps – 4 marks	5
27.	Valves / blood collection in a chambers/ blood vessels involved/ 3 marks Lub and dub – 2 m OR Diagram – 3marks ; difference – 2 m	5

SET – B

Answer for Uncommon Questions

1	c] Taxon	1
2	b] fix atmospheric nitrogen OR c] potato spindle tuber disease	1
3	c] green, thalloid, photosynthetic gametophyte of ferns	1
4	c] amino acids	1
5	c] Nephridia OR d] Cyclostomes	1
6	Due to presence of screrenchyma/ screides -1 ; corner thickenings – 1	2
13	Low resolution with many images – 1; midgut and hind gut- excretion - 2	3
15	To maintain the chromosome number – 1m ; prophase, metaphase, anaphase and telophase 4X ½	3
19	Neural system involved in urination-1m; mechanism – 2m	3

25 a)	Mitochondria diagram – 3 m ; explanation – 2m	5
27 a)	Kreb's cycle /TCA cycle – 1m; matric of mitochondria – 1 m events – 3 ma	5

SET-C

Answers for uncommon questions

1	b] Species	1
2	c] plasmogamy OR c] prions	1
3	c] computer where observable characters are given number and codes.	1
4	b) Thymidylic acid	1
5	a] Bioluminescence OR c] Chondrichthyes	1
6	Parenchyma in monocots ½ and Phloem fibres in p.phloem ½ Presence of cambium b/w vascular tissues/ both xylem and phloem in the same direction. 1m	2
10	Multiplication of Gonyalaux ; toxin to marine animals 1+1	2
14	soil→roots(by diffusion)→cortical cells till endodermis(apoplast)→root xylem(symplast) 6X ½	3
16	Nitrogenase and leghemoglobin; nitrogenase – Mo-Fe protein; reduce atm nitrogen to ammonia Leghemoglobin- oxygen scavenger 6X ½	3
25	P wave- depolarization of atria ; QRS complex- depolarization of ventricles ; T-wave- repolarization of atria – 3m By counting QRS complex – 1 m ; any deviation – health issues 1m OR Diagram with labelling – 3m - sharp vision – fovea ; no vision- blind spot – 1m each	5