FORM FOUR

BIOLOGY PAPER ONE (PP1) MARKING SCHEME

1.a) Pair of forceps (1mk)

b) Pooter (1mk)

c) Sweep net. (1mk)

2. Arteries veins

- Narrow lumen - wider lumen

-Thick Muscular & elastic wall -Thin muscular inelastic walls

- have no valves - Have valves

First 2 = 2mks

3.a) Guard cells (1mk)

b) Contain chloroplasts where photosynthesis occurs producing sugars that affect osmotic pressure for opening and closing of stomata.

-Thin outer and thick inner walls for opening and closing of stomata. (2mks)

4.a) Absiscic Acid (1mk)

b) - Thin cell walls

-Dense cytoplasm

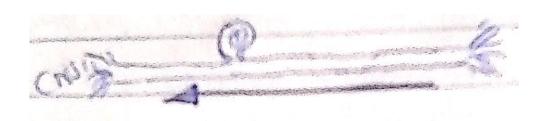
-No vacuoles

-Actively dividing cells (mark first two) (2mks)

5.a) Sensory neuron (1mk)

b) Cell body off the axon. (1mks)

c)



6. Cell size = $\frac{Diameter\ of\ field\ of\ view}{No.of\ cells}$ $8 \times 1000 = 8000\ micrometer$

 $\frac{8000}{16} = 500 \text{ micrometes} \tag{2mks}$

7.i) Plasmodium malariac

Plasmodium vivax

Plasmodium ovale

Plasmodium falciparon

any one rej. Plasmodium alone Scientific rules to apply

- ii) Candida albican
- 8.i) A cortex

B – Pelvis

ii) Glomerulus

1 FORM 4

Turn Over

9.	- Distal convoluted tubule Planting more trees	. .						
<i>)</i> .	-Reduce emission of CO2	,						
	- Reduce use of woods							
	- Reduce use of fossil fue	ls		(3m	ks)			
10.a) b)	Lipase (1mk) Many chamber / Long gut to provide large S.A for digestion Harbor bacterias which produce enzyme cellulose to digest cellulose.							
11.i)	$RQ = \frac{Volume \ of \ CO_2 \ produc}{volume \ of \ O_2 \ used}$	$\frac{ed}{145} = \frac{102}{145} = 0.7$	(2	2mks)				
ii)	Lipids Acc. Fats/oils		(1mk)					
iii)	Adenosine Triphosphate.	Rej. A	TP	(1mk)				
12.a) b)	Negative chemotaxis Rej Enables the organisms eso	•	•	lmk) (1mk)				
13.a)	Open: Semilunar valves of Close: Bicuspid and tricus Atrio – ventricular	spid valves	(2	2mks)				
b)	Sino-atrial node.		(1mk)					
14.	Distortion during sedimeOnly partial preservation incomplete records.Destruction due to geological	n of the organism o						
15.	- Fertilisation is independ	ent of eater						
	- They posses vascular bu	ndles						
	- Body differentiated into	roots, stems and le	eaves.	(3mks)				
16.a)	Scapula	(1mk)						
b)	Humerus	(1mk)		(4. 4.)				
c)	Ball and socket joint	Rej. Socket an	d ball joint	(1mk)				
17.	Lacks antigens; to react w	with the recipients'	antibody.	(2mks)				
18.a)	Anaphase 1.							
b)	Homolgous chromosomSister chromatids are still	-		pposite poles.	(2mks)			
19.a)	It is an alternative form of a gene controlling development of contrasting characteristics (1mk)							
b)	Crossing over during cell - Independent assortment - Mutation	nation		(2mks)				
	2	FORM 4		Turn Over				

-Bowman's capsule

too lar	Diffusion Visking tubing is sen e visking tubing., thus ge to pass through the in in the beaker does n	producing a blue pores of the visk	e black colour into	with starch solu	ution; s		les are
21.	Have thin epithelium to reduce diffusion distance of respiratory gases. Highly vascularised for efficient transportation of respiratory gases. Has large surface area for maximum diffusion of respiratory gases. Rej. Moist surface (3mks))	
22.a) b) c) d)	Mitochondrion Crista Rej. Cristae Increase the surface a Sperm cell - Skeletal muscle		(1mk) at of respiratory	y enzymes. (1mk)	(1mk)	1mk)	
23.a) b) c)	Photolysis. Chloroplast Sunlight - chlorophyll	(1mk) (1mk)	(2mks)				
24.i) enviro	Divergent: One basic Convergent: Differen nment. Carbon-dating C ¹⁴	t structures modi (2mks)					same
	More enzyme active rate of reaction; Acc. Rapid increase of All active sites are occurrent.	of rate of reaction	1		(2	2mks)	increase
26.i)	J – Sporangium						

(2mks)

(2mks)

(2mks)

M – Sporangiophore

Medula Oblangata

Celebrum

ii)

27.a)

b)

Absorption of soluble substances.

Secretes digestive enzymes

Anchorage of mould on substrate.