Name	adm no	class
School		

231/1 BIOLOGY PAPER 1 Sept 2021

Time: 2 HOURS

KASSU JET EXAMINATION -2021

231/1 BIOLOGY PAPER 1 Time: 2 HOURS

Sept 2021

INSTRUCTIONS TO CANDIDATES

- Answer ALL the questions.
- Answers must be written in the spaces provided in the question paper.
- Additional pages must not be inserted.
- The paper consists of 14 printed pages.

FOR EXAMINERS USE ONLY

Question	Maximum score	Candidate's score
1-29	80	



This paper consists of 13 printed pages. Candidates should check the question paper to ascertain that all the pages are printed as indicated and no questions are missing

1.		isms differ in plants and animals? (2marks)
2.	a)State the role of active transport in animal nutrition	
 b) C 	yanide lowers the rate of active transport. Explain?	(2marks)
3.	The figure below is a diagram of a vertical section of the figure below is a diagram of a vertical section of the figure below is a diagram of a vertical section of the figure below is a diagram of a vertical section of the figure below is a diagram of a vertical section of the figure below is a diagram of a vertical section of the figure below is a diagram of a vertical section of the figure below is a diagram of a vertical section of the figure below is a diagram of a vertical section of the figure below is a diagram of a vertical section of the figure below is a diagram of a vertical section of the figure below is a diagram of a vertical section of the figure below is a diagram of a vertical section of the figure below is a diagram of a vertical section of the figure below is a diagram of a vertical section of the figure below is a diagram of a vertical section of the figure below is a diagram of a vertical section of the figure below is a diagram of the figure below is a diagram of a vertical section of the figure below is a diagram of a vertical section of the figure below is a diagram of a vertical section of the figure below is a diagram of a vertical section of the figure below is a diagram of a vertical section of the figure below is a diagram of a vertical section of the figure below is a diagram of a vertical section of the figure below is a diagram of a vertical section of the figure below is a diagram of a vertical section of the figure below is a diagram of a vertical section of the figure below is a diagram of a vertical section of the figure below is a diagram of a vertical section of the figure below is a diagram of a vertical section of the figure below is a diagram of a vertical section of the figure below is a diagram of the figure	f a mammalian tooth.
((i) Name the part labelled A and B .	(2 marks)
	A	
	C	

Α

(ii) State <i>two</i> wa	ays in which structure D is adapted to its functions.	(2 marks)
	s of preventing gingivitis.	(2 marks)
	elow shows % saturation of oxygen in blood in fish	
	Distance along the gill plates	
(a) (1) Name the typ	e of blood flow shown in the gill plate.	(1mark)
	ge of the type of flow named in a (i) above	(ii) (2marks)
(b) State <u>two</u> organs	s in humans which display the type of flow named (2r	in a (i) above narks)

(c) State	two ways in w	hich floating leave	es of aquatic plants	are adapted to gaseou	s exchange
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(2marks)

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5. The equation below shows an oxidation reaction of food substances.

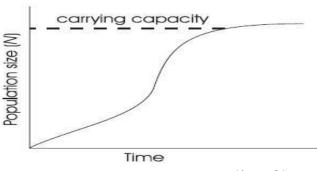
 $C_{51}H_{98}O_6 + 145O2$ ----- X CO2 + 98 H2O + energy

a) What do you understand by the term respiratory quotient? (1mark)

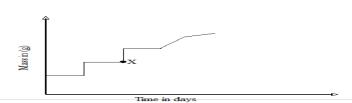
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- b) Determine respiratory quotient of the oxidation of food substance. (2marks)
- c) Identify the food substances. (1mark)
- 6. When any one of the growth parameters such as growth in size or weight, increase in number of cells are plotted in a graph against time like below, a clear curve is obtained

State its



7. The graph below represents the growth in a certain phylum.



	How does this differ from growth in humans?	(1mark)
8. period of this	The embryo of a dry, fully developed seed usually passes through a per and it cannot germinate even when provided with all favorable condition. (2marks)	ons. State the significance
9. change (1mar	a) Cowpeas seeds were place in a vacuum flask and left for five days. Ve in composition of gases in the flask on the sixth day? k)	What is the expected
b) Giv	e a reason for your answer in (a) above	(1mark)
10.	Biotechnologist works day a night to curb food insecurity using the knees. Explain the economic importance of such practice?	
b) Def	ine a backcross?	(1 mark)

11. The structure below was obtained from an animal cell



a) Name	What is the name of the hair like processes and state its function?	(2marks)
Funct		
b)	From which parts of the mammalian body are these structures found?	(1mark)
c)	State the effect of cigarette smoking to the structure?	(1mark)
12. a) W	A student was found to have blood group B+ That type of antibody is present in his plasma? (1mark)	
	Thich antigens are present in this blood group? (1mark)	
	Plants relatively have less waste to excrete than animals. Give two reasonation (2mark)	(s)
	State two methods by which plants get rid of their waste products	(2marks)

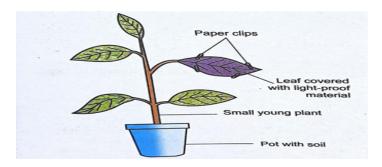


15. To	estimate the p	opulation size of mosq	uitoes in Banji v	village that covers a	n area of
25km ² , visiting researchers caught 400 mosquitoes which they marked and released. After 24					
hours, 200	mosquitoes w	ere caught out of which	n 120 had not be	en marked.	
(a) Sug	gest the samp	ling method described	above.	(1 mark	()
				•••••	
(b) Wh	at are the disa	dvantages of this metho	od?	(2 mark	as)
		vs stomatal distribution	on leaves A and	d B and their surface	e area.
Use the info	ormation to ar	nswer the questions.			
		Leaf surface	A	В	
	Number of stomata	Upper leaf surface	20	5	
		Lower leaf surface	0	15	
	Surface area		25 cm ²	18cm ²	
Identify	with reasons	the habitats of the plan	t from which the	e leaves were obtain	l ned.
Leaf A:	:				(2 marks)
Habitat					
Reason					

Leaf B:		(2 marks)
Habitat		
Reason		
17. Name the causar	tive agent of the following diseases	(2 marks)
(i) Trichomonia	sis.	
(ii) Gonorrhea		
18. The diagram belthe questions that fo	ow shows a pollen tube as it develops down llows;	the style. Use it to answer
(i) Name the pa	rt labelled G .	(1 mark)
(ii) State <i>two</i> fun	nctions of structure labelled E .	(2 marks)
	ne parthenogenesis?	(1 mark)

(b) Name the plant hormone that induces fruit ripening.	(1 mark)
20. A group of Form Three students collected a certain specimen fo Study it carefully and use it to answer the questions that follow.	r study as shown below.
(i) Name the type of metamorphosis in the above specimen.	(1 mark)
(ii) Give any <i>two</i> advantages of the above metamorphosis.	(2 marks)
21. (i) Give <i>two</i> structural features in a leaf that adapts it to abs	orb Carbon (IV) Oxide. (2 marks)
(ii) Name the cell organelle in which Carbon (IV) oxide combines with organic compound takes place (1 ma	

22. In an experiment to investigate a factor affecting photosynthesis; leaf of a potted plant, which had been kept in the dark overnight was covered with an aluminum foil as shown in the diagram below. The set up was kept in the sunlight for three hours after which a food test was carried out on the leaf.



(a) Which factor was being investigated in the experiment?	(1 mark)
(b) Which food test was carried out?	(1 mark)
(c) State the results of the food test.	(1 mark)
23. Explain how the following plant adaptations minimizes rate of tra) Sunken stomata	ranspiration (2marks)
b) Thick cuticle	

24. Explain how drooping of leaves on a hot sunny day is advantageous to a plant	(2marks)
25. Name two tissues in plants which are thickened with lignin	(2marks)
26. The diagram below shows the front view of a male reproductive system.	
×	
a) Give the functions of the structures labelled X and V X	(2marks)
V	

b) 	What is the role of Follicle Stimulating Hormone in male reproduction?	(1mark)
 27 . times	Explain why the concentration of insecticides in fish eating birds may be hundred as greater than its concentration in the water where the fish live (3mar)	ks)
28. T	The diagram below shows a stage in meiosis	
	the biological significance of the stage represented on the diagram above (1mar	
	How do the following factors hinder self-pollination in flowering plants?	(3marks)
	eterostyly	

c)Protogyny		