/	Conducted by Field Work Centre, Thondaimanaru						
/	In Collaboration with Provincial Department of Education						
	Northern Province						
FV	WC	Term Examination	, March - 20	20			
Gra	ade – 13 (2020)	Biology I	1	fime: 2 Hours			
*	Answer all questions.						
1	• To dealer and a second						
1.	In the order and organi	Craan 2) Coll (1)	which level pla	5) Organ system			
	1) Molecule 2)	Organ 5) Cen 4)	115500	5) Organ system			
2.	Not a compound as a f	nal electron acceptor in biochem	ical reactions o	f organisms.			
	1) Pyruvate	2) Molecular oxygen	3) Acetalo	lehyde.			
	4) NADP ⁺	5) Water.					
3.	Which of the following	statement is correct regarding m	icroscopes?				
	1) In light microscope	e. visible light first penetrate the	objective and th	nen through the specimen.			
	 In electron microsc 	cope light rays are projected through	igh a vacuum.				
	3) Scanning electron	microscope is used to study the d	etail structures	of the cells.			
	4) Magnification and	resolving power are the importat	t parameters of	f the microscope.			
	5) Transmission electron microscope is used to study the detail structures of living specimen.						
1	4 Wikish of the following statement is some at recording anong allow?						
4.	1) Ribosomes consists of big and small sub units which are made up of tRNA and proteins.						
) Rough endoplasmic reticulum is made up of tube like sacs.						
	 a) I vsosomes transport material out of cell by exocytosis 						
	 A) Perovisomes synthesis hydrogen perovides 						
	5) Steroids are synthesized by Golgi complexes.						
~	Calast the second states						
5.	1) Tight innetions are	nent regarding cell junctions.					
	 1) Fight junctions pre 2) Call wall of adjain 	vent leakages of substances.					
	2) Cell wall of adjoining cells are joined in cell junctions.						
	 Anchor junctions a 	ling in some animal cens.					
	 4) Anchor junctions allow the exchange of materials. 5) Communications investigate found by transmissible biological and by the second by						
	<i>5)</i> Communication Ju	neuons tound between skin epith					
6. C	Correct statement regard	ling non-vascular plants.					
	1) There are some spo	prophytes completely depend on	gametophytes.				
	2) Sporophytes are bi	sexual.					
	3) Some club mosses	show heterospory.					
	4) All are consists of	tracheids for water conduction.					
	5) There in only one f	emale gametophyte develops int	o mega sporang	gium in spike mosses.			

7.	Correct comparisons regarding fungi and their characters.					
		Fungi	Character			
	1)	Mucor	zygosporangiu	m consists of a single nuc	cleus.	
	2)	Chytridium	zoospores are	developed in asexual repr	oduction.	
	3)	Rhizopus	produces conic	liospores.		
	4)	Aspergillus	gills with basic	lia as sexual structures.		
	5)	Agaricus	aquatic forms.			
8.	Whi	ch of the follow	wing can be four	nd in both birds and reptil	es?	
	1)	Constant body	y temperature.			
	2)	Four chamber	ed heart			
	3)	Keratinized sc	cales.			
	4)	Lay eggs and	incubate			
	5)	Tail consists of	of vertebral bone	s.		
9.	Cor	rect statement r	regarding ground	l tissue systems of plants.		
	1)	All are function	nal living cells a	t maturity.		
	2)	They are restric	cted to only cort	ex region.		
	3)	This tissue syst	tem consists of c	only primary cell wall.		
	4)	They are undiff	ferentiated group	o of cells.		
	5)	They consist of	f specialized cell	s which can be used in sh	nort distance transpor	ts.
10.	In w	hich portion co	ork cambium ori	ginated in roots during se	condary growth?	
	1)	Pericycle		2) Endodermis	3) Cortex	
	4)	Secondary phle	oem	5) Primary phloem		
11.	Cor	rect statement r	regarding openin	g and closing stomata.		
	1)	Stomata open	due to regular e	xpansion of guard cells ir	all directions.	
	2)	Stomata quick	dy close, due to	increase in water potentia	al in guard cells.	
	3)	Energy requir	red for the accur	nulation of K ⁺ into the	guard cells obtained	from electron transport
		chain of aerob	oic respiration.			
	4)	Light induces	the accumulatio	n of K ⁺ into guard cells.		
	5)	Increase in the	e CO ₂ concentrat	tion in the substomatal air	r spaces open the stor	mata.
12.	Whi	ich of the follo	wing element sh	ow deficiencies such as c	crinkled leaves, reduc	ed inter node lengths in
	plan	its.				
	1)	Fe	2) K	3) Zn	4) Cu	5) Mo
13.	Plar	it growth substa	ance which pron	note movement of nutrien	ts into sink tissues,	
	1)	Cytokinin		2) Gibberellins	3)	Abscisic acid
	4)	Auxin		5) Ethylene		
14.	Cor	rect statement r	regarding smooth	n muscle,		
	1)	It does not cor	nsist of actin and	l myosin		
	2)	It shows rhyth	mic contraction	s		
	2) 3)	It is made up	of short cylindri	cal cells		
	 a) A cosonbages of the human alignmentary treat is only made up of them 					
	4) 5)	It has only not	rasympathetic no	erve distribution	up of them.	
	5)	n nas only pai	asympaticite lit			

15. Structure that is found in bulk feeders for feeding.

- 1) Antennae. 2) Gills
- 4) Tentacles 5) Suckers.

16. Which one of the following includes animals that have only single circulation?

3) Cilia

- 1) Cockroach, slugs, centipede
- 2) Millipede, *Ichthyophis*, spider
- 3) Cuttlefish, *Chiton*, oyster
- 4) Skate, bat, earthworm
- 5) Octopus, earth worm, tuna

17. Correct regarding combination of respiratory pigment - place where it is found?

- 1) Haemo erythrin blood of marine annelids.
- 2) Haemo globin human blood plasma.
- 3) Myoglobin muscles of Mollusks.
- 4) Haemo cyanin blood cells of annelids.
- 5) Chlorocurorin haemolymph of annelids.

18. Human lymphatic system is

- 1) not involved in absorption of vitamins.
- 2) not involved in transporting hormones.
- 3) not involved in absorption of break down fats.
- 4) not involved in maintaining blood volume.
- 5) not involved in immune responses.

19. Which of the following statement is correct regarding respiration in human?

- 1) Gaseous exchange between blood and alveoli air takes place as facilitated diffusion.
- 2) When the partial pressure of oxygen in inhaled air is extremely high, four molecules of oxygen will bind with one erythrocyte.
- 3) HCO_3^- formed by the dissociation of H_2CO_3 resulting in due to dissolving CO_2 in water plays a major role in regulating breathing.
- 4) All the parts in brain stem are involved in the regulation of respiration.
- 5) Partial pressure of oxygen in blood reaching glomerular capillaries is higher than that of blood reaching alveolar capillaries.

20. Which of the following statement is correct regarding defense mechanisms of the human body?

- 1) Phagocytes are not involved in inflammatory responses.
- 2) Interferons are secreted by phagocytic cells in blood.
- 3) Complement proteins are present in plasma membranes of the body cells.
- 4) Inflammatory response is a type of a barrier defense in the innate immunity.
- 5) When tissues are damaged blood loss in reduced due to constriction blood vessels by histamine.
- 21. Which of the following generally can be seen in the efferent arteriole of the human nephron?

1) Glucose	2) Albumin	3) Amino acids
4) Urea	5) Creatinine	

22.	 Incorrect statement regarding autonomous nervous system. 1) Sympathetic nerves exists only from spinal cord. 2) Parasympathetic nerves also arise from basement of the brain. 3) Parasympathetic system stimulate the secretion of saliva. 4) Sympathetic system empties the urinary bladder 5) In sympathetic system ganglia found near to the spinal cord.
23.	 Correct statement regarding structures of numan eye and its functions. Choroid is rich in blood vessels and a thick coloured layer. Aqueous homerun is involved in the maintenance of ocular pressure of the eye. Three dimensional vision is not affected when seeing with a single eye. Aqueous humorous has a refraction power. The reason for increase of focusing power of the lens, due to decrease of suspensory ligaments of the lens.
24.	 In humans ear Utriculus and sacculus are involved in the circular motion of the head. Vestibular canal start from round window. Cochlear canal in a part of membranous labyrinth. Auditory osscicle are non-movable. Oval window is articulated with fine fibres.
25.	Location of the gland that regulate the rate of heart beat and muscle tone.1) Neck region2) Over the kidneys3) Upper part of the chest4) Brain5) Behind the stomach
26.	Which of the following is not homeostatically regulated in human?1) Body temperature2) Blood urea3) Blood glucose4) Blood pH5) Blood osmotic concentration
27.	 In human woman egg are developing from puberty at the early stages of puberty LH periodically induces the growth of follicles and development disintegrating corpus luteaum formed as a scar in the ovarian surface. a short period is required to get a mature oogenesis. at birth primary oocytes will be at the metaphase I stage.
28.	Number of bones found in human face. 1) 13 2) 22 3) 08 4) 14 5) 12
29.	 Correct statement regarding human upper limb. 1) It is made up with 29 bones. 2) Humerous bone make deep ball and socket joint will the scapula. 3) Its ulna is found outside. 4) Thumb make joint with is first and second metacarpal bones. 5) Movements are restricted in between wrist bones.

30.	Straight thumb, detached ear lobe are Mendelian characters in human. Probability for a person who has straight thumb and attached ear lobe from a heterozygous persons to the above character.				
	1) $\frac{3}{16}$ 2) $\frac{1}{16}$	3) $\frac{1}{4}$	4) $\frac{9}{16}$	5) $\frac{1}{2}$	
31.	In sweet pea colour of flowers a colour appears if these gases for coloured. Two white flower colour If the F_1 generation was subjected obtained generation? 1) 9 : 7 2) 1 : 1	The controlled by two independent of the formula in the terozyg and plants crossed and all or d to a test cross, what coult 3 , $1 : 3$	pendently assorting genes ous conditions. Otherwis btained F_1 generations we d be the ratio between pu 4) 3 : 1	A and B. Purple the they are white re purple. The purple: white in the 5) 13 : 3	
32.	Expression due to two types of ex	pression for the same DNA	sequence,		
	1) Pleiotropy	2) Epigenetics	3) Population get	netics	
	4) Co – dominance	5) Poly genic inheritanc	ce		
33.	An enzyme identifies the wrong a	ddition of nucleotide in DN	A replication.		
	1) Topoisomerase	2) Helicase	3) Primase		
	4) DNA Polymerase	5) DNA Nuclease.			
34.	Occurrence of Down syndrome is	due to			
	1) presence triploidy of sex chr	omosome.			
	2) presence of diploidy of sex c	hromosome.			
	3) presence of triploidy of an au	utosome			
	4) presence of monosomy of au	itosome			
	5) presence of trisomy of autos	ome.			
35.	Correct statement regarding transl	lation process of protein syr	nthesis,		
	1) mRNA moves until the start codon aligns with the P site of the large subunit.				
	2) In elongation stage amino acid are added to the amino terminal				
	3) Energy is not needed to the elongation process.				
	4) Codon UGC stops the transla	ation.			
	5) Rate of translation is decreas	ed by polysomes.			
36.	One of the applications of DNA set	equencing metagenomics is			
	1) sequencing of DNA samples	obtained from human rema	ins preserved.		
	2) studying in which DNA pres	ent in an environment is ext	tracted as community DNA	А.	
	3) DNA sequencing can identif	y an individual.			
	4) identifying animals using mi	crosatellite DNA.			
	5) reveled the presence of multi	iple copies of genes in huma	an genome.		
37.	Correct statement regarding tropic	cal rainforest of the world.			
	1) Annual rainfall is 1250 mm -	– 1900 mm			
	2) Average temperature is 20°C	25°C			
	3) Its soil rich in nutrients.				
	 4) Animals in the rainforests sh 5) Drugger last 4 2 - 6 	ow year round activity			
	5) Dry seasons last to $3 - 6$ mol	nuis.			

20	Correct statement						
38.	 Extinction of species have not to make room for new species 						
	 Extinction of species have not to make foom for new species. The rate of extinction has been generally higher than that of evolution. Therefore there has been an 						
	<i>2)</i> The face of exponential of the increase in bi	2) The fate of extinction has been generally higher than that of evolution. Therefore there has been an increase in biodiversity over time					
	3) Crudia zevla	nica a legume spec	cies is an example	for FX			
	4) Dodo lived ir	n Mauritius is an ex	ample for FW	101 L/X.			
	5) In general it	is estimated that a	bout $15 - 20\%$ o	f the species may	face extinction with in next 30		
	years.						
	·						
39.	Least significant c	haracter in the dete	ermination of an ec	cological niche of	a species.		
	1) Type of nerve	cord.	2)	Reproductive cy	cles		
	3) Feed type		4)	Number of off sp	orings.		
	5) Temperature t	olerance.					
40.	A – Endemic spe	ecies	a– Blue r	nagpie			
	B – Indigenous s	species	b– Gorak	a			
	C – Exotic (alien	i) species	c– Indian	pita			
	D – Migratory sr	pecies	d– Japan	fish			
	E – Flagship spe	cies	e– Kitul				
	Correct sequence						
	1) A – a, B	-b, $C-c$,	D – d, E	- e			
	2) A – b, B	-e, C-d,	D – а, Е	- e			
	3) A – a, B	-e, C-d,	D-c, E	- b			
	4) A – a, B	- d, C - e,	D-c, E	- b			
	5) A – b, B	-e, C-d,	D-c, E	– a			
**	Use the following	instructions for t	he questions for 4	1 – 50			
	A B D Correct	A C D Correct	A B Correct	C D Correct	Any other response/s correct		
	1 st answer	2 nd answer	3 rd answer	4 th answer	5 th answer.		
41	Which of the chem	nical reaction / reac	ctions take / takes	place in the bundle	e sheath cells of C ₄ plants		
	A) 3-PGA \rightarrow G	3P					
	B) $RUBP + CO_{2}$	$\rightarrow 3$ -PGA					
	C) $PEP + CO_2 - C_2$	\rightarrow Oxaloacetate					
	D) Malate \rightarrow F	Y ruvate					
	E) Oxaloacetate	\rightarrow Malate					
	~ .						
42.	Correct compariso	n / comparisons re	garding specific cl	naracter – phylum			
	A) Flame buib	-]	Namatada				
	 D) Interametric se C) Loint correction 	ginentation –	Arthronodo				
	C) Joint appenda	1ges –	Arunropoda Echinodormata				
	E) $Cilia$	—	Chordete				
	E) Cina	_ (Choruata				

43. Character / characters distinguishes / distinguish a cartilaginous fish from a bony fish.

- A) Gills with operculum.
- B) Swimming bladder.
- C) Placoid scales.
- D) Hetero cercal tails.
- E) External fertilization.

44. Correct comparison / comparisons regarding plant nutrient.

A)	Complete parasite	—	Loranthus
B)	Aquatic carnivorous plant	_	Drosera
C)	Commensalism	_	Epiphytic orchids
D)	Semi parasite	_	Loranthus
E)	Mutualism	_	Cuscuta

45. Character / characters distinguishes / distinguish an angiosperm from other terrestrial plants.

- A) Double fertilization.
- B) Presence of embryo sac.
- C) Development of pollen tube.
- D) Sporophyte which is non dependent on gametophyte.
- E) Presence of endosperm.

46. Correct regarding adaptive immunity.

- A) In the animal kingdom it is found only in the vertebrates.
- B) Mature T and B lymphocytes binds with its epitope molecules for identification.
- C) Antibodies which are proteins secreted by B lymphocytes.
- D) It has the ability of the body to defend against specific defense responses.
- E) It gives specific and nonspecific immune responses to the body.

47. Consider / considers as an external structure of male reproductive system

- A) Testis B) Epididymis
- D) Penis E) Prostate gland.
- 48. Correct statement / statements regarding polyploidy.
 - A) A stage that there is a homologous chromosome pair found in the nucleus.
 - B) Polyploidy occurs in plants due to the errors of the meiosis.
 - C) Heterospory increases due to the polyploidy stages.
 - D) Papaya which contains polyploidy shows resistance to ring spot virus disease.
 - E) Polyploidy occurs due to the effect of cross pollination.

C) Scrotum

- 49. Correct regarding application / applications regarding recombinant DNA technology in medicine
 - A) Hepatitis B vaccine is obtained from recombinant yeast cells.
 - B) An antigenic protein in plant cells, the edible part with antigen in consumed by some one
 - C) Human insulin in produced by the genetically engineered cells in the pancreas.
 - D) Genetically mammalian cells grown in cell culture are used to extract factor VIII used to treat hemophilia.
 - E) A gene therapy to treat genetic disorders using *E.coli* with recombinant genes.

50. Correct comparison / comparisons regarding conventions / protocols.

- A) Basel management of hazardous wastes.
- B) Cartagena conservation of biodiversity from genetically modified organisms.
- C) Marpol conservation of wet lands.
- D) Montreal reduction of greenhouse gases.
- E) Kyoto regarding climatic changes.



Term Examination, March - 2020 Conducted by Field Work Centre, Thondaimanaru.

In Collaboration with Provincial Department of Education

Northern Province.

Grade :- 13 (2020) Biology - II Time: 3 Hours 10 minutes

Instructions:

Index No:

- * This paper consists of 10 questions of **11** pages.
- * This paper has both A and B parts. Time allotted to both part A and B is three hours and ten minutes. (Additional reading time is 10 minutes).

Part- A Structured essay (pages 2-10)

- * Answer all four questions in this paper itself.
- * Write the answer in the space provided. Note that the space provided is adequate for your answers and elaborate answers are not expected.

Part- B Essay (page 11)

- * **Answer four questions only.** Use the answer papers provided. At the end of the time tie the Part A and Part B and handover to the invigilator.
- * Only part B can be taken off from the examination hall.

For examiner's use only

Part	Que. No.	Marks
	01	
۸	02	
А	03	
	04	
	05	
	06	
R	07	
D	08	
	09	
	10	
Total		

In digits	
In words	

Final Marks

Examiner	
Checked by 1	
2	
Supervised by	

A – Structured Essay Answer all question in this paper itself. ★ 01. A) i) Name the constitutive elements of carbohydrates. Indicate the two general types of carbohydrates. ii) iii) Give two aldose monosaccharaides. iv) Name three structural polysaccharides which could found in plants. Indicate three general functions of lipids. v) vi) Name the type / types of bonds found in the following proteins. a-Silk protein b– Albumin vii) Which type of microscope can be used to observe the three dimensional appearance of a specimen? B) i) Name three gaseous compound which could be found in the first atmosphere of the earth other than water vapour and carbon dioxide.

	ii)	Indicate four factors favour the abiotic synthesis of organic molecules on earth.			
		••••			
	iii)	Inc	licate the era for the following each event		
		a)	Dominance of angiosperms, increased and their radiation continued.		
		b)	Diversification of vascular plants.		
		c)	Origin of most present- day group of insects		
C)	i)	W 	hat is heteromorphic alternation of generation?		
	ii)	 In	dicate the instance that meiosis and mitosis take p	lace during plant life cycle.	
	,		······································		
	iii) Place a ($$) on the appropriate column whether the character found in the particular plan following table.				

	Character	Selaginella	Cycas	Oryza
a)	Seed without fruit			
b)	Seeds enclosed with in a			
	chamber			
c)	Heterospores.			
d)	Ciliated sperms			
e)	Presence of endosperms			

iv) Give two special features found in the seeds for their success on terrestrial life.

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02.					
A)	i)	What is stress in plants?			
	ii)	Indicate the role of ABA for drought in plants.			
	iii)	a) How the mangrove plants face the salt stress?			
		b) What is the effect formed by plants that live in a salty	y soil?		
	iv)	Give two methods that have plants to minimize the biotic stress and indicate the examples for each stress.			
		Methods	Example		
B)	i)	Indicate the single layered epithelial tissue types and give one location in human for each type.			
		Epithelial tissue	Location		
	ii)) In which components that the nerve tissue are made up?			
	iii)	i) a) What are bulk feeders?			

	b)	Indicate two adaptations found in bulk feeders to capture the food.		
	c)	What is commensalism?		
iv)	a)	What is the feeding process of humming bird?		
	b)	Indicate the basic model of energy budget.		
	XX 71			
C. 1)	wr	iat is lymph?		
••	••••			
11)	In 	dicate two major components of lymph		
iii)	W	hat is meant by coronary circulation?		
iv)	In	dicate the two major forms of CO_2 which could be transported in human blood?		
v)	W	Thich person can be produce antibodies to Rh antigens out of blood groups 0^+ and 0^- persons?		
vi)	W	hat are the outer defense barriers of the innate immunity?		
vii) In	dicate the two capillary network formed by the efferent arteriole in human nephron.		

03. A)	i)	What are ventricles in brain?			
	ii)	H	ow many brain ventricle are there in the human brain?		
	iii)	 a)	What are the structures containing cerebrospinal fluid in human?		
		b)	Indicate there function of the above mentioned fluid other than maintenance of regular pressure.		
	iv)	a)	What is the reason for hyper polarization taking place finally, when an action potential is generated?		
		b)	What is the reason for the formation of refractory period?		
	v)	a)	Name the three layers of the human retina from outside to inside.		
		b)	Briefly indicate the distribution of the sensory cells in the human retina.		
B)	i)	a)	Name the accessary glands found in the male reproductive system		
		b)	Which of the above mentioned gland secrete a thin milky appearance to semen?		

ii)	W	What is the role of hormone inhibin in males?				
iii)	W	/hat is the life span of a human sperm?				
iv)	W sy	What is the significance of negative feedback mechanism of hormones in human reproductive system?				
v)	a)	What is the reason for menopause in woman?				
	b)	In which age the above stage (menopause) takes place?				
	c)	How many weeks take for a human fetal development, after fertilization?				
	d)	Indicate the exact location, where the fertilization takes place in human and indicate the time duration after ovulation Location Time				
vi)	a)	What is infertility?				
	b)	What is the type of in - vitro fertilization method which is used to address male infertility?				
	c)	Briefly indicate how the above mentioned in (VI. b) can be done?				
) Def	fine	the following terms.				
i.	a)	Dominant allele				
	b)	Contracting traits				

ii. A pedigree diagram of a disorder of a Mendelian character is given allele is "A", and recessive is "a".			bedigree diagram of a disorder of a Mendelian character is given below consider as dominant le is "A", and recessive is "a".
			(P)
		a)	The above character is inherited whether is an autosomal dominant manner or recessive manner?
		b)	State the possible genotype of each of the individuals labelled as PQRS.
			PQ
			K
iii	i.	a) b)	What is polygenic inheritance? How many phenotypic classes are found in a polygenic inheritance for human skin, where
		-)	three pairs of genes are involved to determine the skin colour.
			·····
04.			
A)	i)	Gi	ve two reasons that the DNA functions an hereditary substance in organisms.
	ii)	Но	ow the regions of a chromosomes are named?
			-
	iii)	W	hat is meant by DNA packaging?

iv)	The following diagram shows the enzyme and proteins involved inn DNA replication
	A A 5' 3' D D
	a) Name A – D in the above process.
	A B
	C D
	b) Indicate the role of A and B in replication
	A
	_
	В
v)	Why the DNA helicase is not involved in the transcription process of protein synthesis?
B) i)	What are mutations?
ii)	Indicate two physical mutagens?
iii)	Which mutations causes changes in the chromosome structures?
iv)	What is an operon?
v)	a) How the non –coding sequences are termed?
	b) What is the fate of the above mentioned sequences in transcription?

	vi)	a)	What is a restriction map?	
		b)	What is the importance in co	onstructing restriction maps?
C.	i)	Indi	icate two benefits, that the Si	ri Lanka is situated in tropical region.
	ii)	a)	Name two terrestrial ecosys	tems found in Sri Lanka.
		h)	Nome two components whi	ah ingluda in the above mentioned and systems
		0)	Name two components which	ch include in the above mentioned eco systems.
		•••		
				trial accountant of Sui London and since below. Now on accountant (
	111)	50	me special features of terres	that ecosystem of Sri Lanka are given below. Name an ecosystem /
		sys	stems for the special feature.	
		a.	Stratification	
		b.	I wisted stems	
		с.	Epipnytes in branches	
		u.	Citronella grass	
		U.	Chronena grass	
	iv)	a)	What is bio diversity?	
		b)	What are the types of bio div	versity?
		c)	Indicate three values of bio	o diversity

/ 📐	I 0-11	hencetion				
In Collaboration with Provincial Department of Education						
Northern Province						
FWC Term Examination, March - 2020						
arade -	13 (2020)	Biology - II				
		B – Essay questi	ons.			
	➢ An➢ Dr	swer any four questions. aw fully labelled diagrams if nee	eded.			
05. a)	Describe the p	rocesses of cell cycle of an anima	l cell.			
b)	Briefly describ	be the asexual reproductive proces	ses in animals.			
06. a)	Describe the x	vlem tissue of the flowering plants	5.			
b)	Describe the r	adial transport of water and minera	al ions in plant roots.			
		-	-			
07. a)	What is home	ostasis?				
b) Briefly describe the role of negative feedback mechanism in the maintenance of homeostasis.						
c)	Describe the p	rocess of homeostatic maintenanc	e of water and mineral in human.			
08. a)	Briefly describ	be the main steps involved in the is	solation and DNA from a cell.			
b)	Describe how	the separated DNA undergo polyr	nerase chain reactions (PCR)			
09. a)	Briefly descril	be the concept of 'ecological niche	,			
b)	Describe the e	cological pyramids.				
c)	Briefly explain	n regarding the energy loss throug	h a food chain.			
10. W	rite short notes f	for the followings:				
a)	Vacuoles					
b)	Antimicrobial	proteins				
c)	Pleiotropy.					

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X

Remove here

X