	1.	All plastids have similar structure because:
		(1) Store starch, proteins and lipids
		(2) Get transformed from one type to another
		(3) They perform same function
		(4) Be present together
	2.	Protein synthesis occurs in:
		(1) Mitochondria (2) Chloroplast
		(3) Nucleus (4) All of the above
	3.	An enucleated plant cell is:
		(1) RBC (2) Companion cell
		(3) Sieve tube cell (4) Xylem parenchyma
	4.	What is the function of the $\omega$ subunit of RNA polymerase?
		(1) Subunit association (2) Promoter binding
		(3) Initiation and elongation (4) Cation binding
	<b>E</b>	
	5.	All peroxisomes carry out this function:
		(1) break down fats and amino acids into smaller molecules that can be used for energy production by mitochondria
		(2) digest macromolecules using the hydrolytic enzymes they contain
		(3) synthesize membrane components such as fatty acids and phospholipids
		(4) control the flow of ions into and out of the cell
	6	Which of the following statements does not apply to the nuclear envelope?
	٥.	(1) It is a double membrane.
		(2) It has pores through which material enters and leaves.
	¥.	(3) It is continuous with the endoplasmic reticulum.
		(4) It has infoldings to form cristae
	7.	Fluid Mosaic Model favors that cell membrane contains proteins which are embedded
	•	in fashion of:
		(1) Zig-zag (2) Criss-cross
		(3) Mosaic (4) Eplic
	8.	Continuous channels that appear to lie between plasma membrane and nuclear
		membrane is:
•		(1) Endoplasmic reticulum (2) Golgi complex
		(3) Mitochondria (4) Ribosome
M	Phil	1./Ph.D./URS-EE-Nov2018/(Life Sci.)/(SET-Z)/(A) P. T. C

9.	Cyclin dependent kinases (CDKs):
	(1) Acts as mitotic poisons
	(2) Cause disassembly of microtubules
. 6 4	(3) Control various phases of cell cycle
	(4) Arrest cell division due to non-formation of spindle
10.	Centromere is required for the:
	(1) Movement of chromosomes towards poles
	(2) Cytoplasmic cleavage
	(3) Crossing over
	(4) Transcription
11.	Aminoacyl tRNAs are escorted to the ribosomes by elongation factor:
	(1) EF-Ts (2) EF-G
	(3) EF-Tu (4) eEF-2
12.	Which one of the following reunites the exon segments after RNA splicing?
	(1) RNA polymerase (2) RNA primase
	(3) RNA ligase (4) RNA proteoses
13.	During translation initiation in prokaryotes, a GTP molecules is needed in :
	(1) Formation of formyl-met-tRNA
	(2) Binding of 30S subunit of ribosomes with mRNA
	(3) Association of 30S mRNA with formyl-met-tRNA
	(4) Association of 50S subunit of ribosomes with initiation complex
14.	Si RNA interferes:
	(1) Transcriptional level (2) Post transcriptional level
	(3) DNA replication level (4) Translational level
15.	Which of the following transcription factors bind to TATA box?
	(1) TFIID (2) TFIIB
	(3) TFIIIA (4) TFIIE
40	
16.	
	(1) All lymphocytes (2) T4 lymphocytes
	(3) Activator B cells (4) Cytotoxic T cells
M.Ph	il./Ph.D./URS-EE-Nov2018/(Life Sci.)/(SET-Z)/(A)

	17.	Which of the following post-translational modifications of proteins does not occur in the lumen of the endoplasmic reticulum?		
		(1) Glycosylation		
		(2) Formation of disulphide		
		(3) Folding and formation of quaternary structure		
		(4) Ubiquintination		
	18.	The p21 and P15 proteins are examples of :		
	10.			
		(3) Oncogenes (4) Growth factors		
	19.	Which of the following compounds does not act as second messenger during signaling process?		
		(1) cAMP (2) Calcium ions		
		(3) Inositol 3,4,5- triphosphate (4) Triacylglycerol		
	20.	G protein activation:		
		(1) Leads to changes in gene expression		
		(2) Always causes an increase in cyclic AMP		
		(3) Leads to the generation of second messengers		
		(4) Always results in s decrease in cyclic AMP		
	21.	The signaling molecule that travel the farthest are:		
		(1) Endocrine (2) Paracrine		
		(3) Neurotransmitter (4) Intracellular		
	22.	Norepinephrine, acetylcholine and serotonin are what kind of hormone?		
		(1) Peptide hormones (2) Steroids		
	**	(3) Prohormones (4) Amines		
	23.	The rapid growth of pollen tube is restricted to the:		
		(1) Basal region (2) Middle region		
		(3) Apical region (4) Zone behind the apical region		
	24.	A homeotic mutation is one:		
1190	A-7.	(1) Is present in only one form in an individual		
		(2) Substitutes one body part for another in development		
		(3) Results in the development of tumor		
		(4) Is wild type at one temperature and abnormal at another		
N	Л.Phi	l./Ph.D./URS-EE-Nov2018/(Life Sci.)/(SET-Z)/(A) P. T. O.		
177				

(2) Zea mays - DNP

(4) Raphanus sativum - SLDP

M.Phil./Ph.D./URS-EE-Nov.-2018/(Life Sci.)/(SET-Z)/(A)

(1) Triticum aestivum - LDP

(3) Glycine max - SDP

- **34.** Stomatal pores open when:
  - (1) H+ ions are pumped into the guard cells
  - (2) K+ ions are pushed out of the guard cells
  - (3) Water moves out of the guard cells in response to a decrease of water potential of guard cells
  - (4) Water moves into the guard cells in response to a decrease of water potential of guard cells
- **35.** Nitrogenase enzyme found in root nodules in legumes contains:
  - (1) Mo, Mn, S
- (2) Co, Mo, Ca
- (3) Mo, Fe, S
- (4) Mo, B, S

- **36.** Vernalization is a :
  - (1) Reversible process
  - (2) Low temperature treatment for seed germination
  - (3) Auxin dependent phenomenon
  - (4) Process for genetic make up of the plant
- 37. Which of the following is not correct about terpenes?
  - (1) It is the largest class of secondary metabolites
  - (2) Phenylalanine acts as precursor
  - (3) It is synthesized by melvonic acid pathway
  - (4) It plays defensive role
- **38.** The reactions of krebs cycle:
  - (1) Takes place in cytosol of eukaryotic cell
  - (2) Generates ATP also by substrate phosphorylation
  - (3) Are important for carbohydrate metabolism but not other molecules
  - (4) None of the above
- 39. An uncoupler of oxidative phosphorylation such as Dinitrophenol (DNP):
  - (1) Inhibits electron transport and ATP synthesis
  - (2) Allows electron transport to proceed without ATP synthesis
  - (3) Inhibits electron transport without impairment of ATP synthesis
  - (4) Specifically inhibits cytochrome b activity
- **40.** Microorganisms responsible for nitrification are :
  - (1) Nitrosomonas and Nitrobacter
- (2) Nostoc and Anabaena
- (3) Rhizobium and Azotobacter
- (4) Clostrodium and Pseudomonas

41.	Which of the following is not involve nitrogen fixing nodules?	ed	in maintaining oxygen homeostasis in
		(2)	Cytochrome oxidase
			Dinitrogenreductase
42.	Plant shoot bends towards a light source (1) Increased amount of food synthesize (2) Unequal distribution of auxin in thei (3) Necessity of light for transpiration (4) More elasticity on light facing side	d fa	cing light
43.	hormone: (1) Auxin	(2)	fect on the biosynthesis of plant growth  Cytokinin  Absciccic acid
44.	if allowed, would drive:	(2)	diffusion due to concentration gradients,  K+ and Na+ out of the cell  Na+ out of the cell
45.	Which of the following has the greatest oxygen?  (1) Capacity of the blood to dissolve oxy  (2) Amount of hemoglobin in blood  (3) pH of plasma  (4) Temperature of blood		ect on the ability of the blood to transport
46.	Which of the following is responsible for blood in the pulmonary capillaries?  (1) Active transport  (3) Secondary active transport	(2) (4)	e movement of $O_2$ from the alveoli into the Filtration Passive diffusion
47.	Which one of the following pairs of orga (1) Adrenal and Ovary (3) Pancreas and Parathyroid	(2) (4)	Includes only the endocrine glands? Parathyroid and Adrenal Thymus and Testes
48.	Which of the following set is similar?  (1) Corpus luteum - Graafian follicles  (3) Bundle of His - Pace maker	(2) (4)	Sebum - Sweat Vitamin B7 - Niacin
M.Ph	il./Ph.D./URS-EE-Nov2018/(Life Sci.)/(S	ET-	Z)/(A)

	그 그 그 그 생활이 되는 일하는데 그는 그를 보는 것이 되었다. 그는 그를 보는 그를 보는 것이 되었다. 그를 보는 것이다.
49.	The difference between Trypsin and pepsin is that:
	(1) Trypsin digest proteins in acidic medium where as pepsin does so in alkaline medium
	(2) Trypsin digest proteins in alkaline medium whereas pepsin does so in acidic medium
	<ul><li>(3) Trypsin is secreted from the gastric glands while pepsin is secreted from pancreas</li><li>(4) Trypsin production is influenced by neuro hormones while pepsin by steroids</li></ul>
50.	The function of ileum is to:
	<ul> <li>(1) Absorb nutrients</li> <li>(2) Introduce Bile and pancreatic juices</li> <li>(3) Absorb Vitamin B<sub>12</sub> and bile salts</li> <li>(4) Absorb alcohol and aspirin</li> </ul>
51.	In which of the following, the nitrogenous wastes are excreted from the body in the form of Uric acid?
	(1) Birds and lizards (2) Frogs and cartilaginous fishes
	(3) Insects and bony fishes (4) Mammals and mollusk
52.	Which of the following is incorrect?
	(1) Aldosterone stimulates the reabsorption of Na+
	(2) Aldosterone stimulates the secretion of K+
	(3) Aldosterone affects water absorption
	(4) Aldosterone is made in the hypothalamus and released from anterior pituitary
53.	During ovulation, all of the following occurs except:
	(1) Rupture of the Graaffian follicle
	(2) Estrogen production reaches its lowest point
	(3) FSH and LH plasma levels surge
	(4) Corpus luteum is formed
54.	Which of the following hormones doesnot act by a second messenger system?
	(1) Glucagon (2) Epinephrine
	(3) Follicle Stimulating Hormone (4) Testosterone
55.	The HCl in the gastric juice converts:
	(1) Diasaccharides to monosaccharides (2) Pepsinogen to pepsin
	(3) Prorennin to renin (4) Polypeptide to peptide
56.	The primary sealants that plug leaks in blood vessels are:

(1) Platelets and fibrin

(3) Fibrin and white blood cells

(2) Red blood cells and albumin

(4) White blood cells and platelets

57.	The function of the stress induced proteins is to:  (1) Provide proteins that function at low temperature  (2) Change the composition of the plasma membrane to maintain fluidity  (3) Regulate blood osmolarity and volume following an injury  (4) Protect cellular proteins from denaturation during rapid temperature changes		
58.	Which needs to drink the smallest amount of water to maintain its water balance?  (1) Sparrow  (2) Salt water fish  (3) Fresh water fish  (4) Dog		
59.	Epistasis and dominance are respectively:  (1) Intragenic, Intergenic  (2) Non-allelic, Extra allelic  (3) Extra-allelic, Interallelic  (4) Intergenic-non-allelic		
60.	Transformation experiment was performed on which of the following bacteria?  (1) E.Coli (2) Streptococcus pneumoniae (3) Salmonella (4) Pasteurellapestis		
61.	A DNA mutation that results in no change in protein product produced is termed:  (1) Mis-sense mutation  (2) Non-sense mutation  (3) Silent mutation  (4) Frame shift mutation		
62.	A mechanism that can cause a gene to move from one linkage group to another is:  (1) Translocation (2) Inversion (3) Crossing over (4) Duplication		
63.	A person with Klinefelter syndrome is considered a:  (1) Monosomic (2) Triploid (3) Trisomic (4) Deletion heterozygote		
64.	Which of the following disease is <i>not</i> because of chromosomal abnormalities?  (1) Achondroplasia (2) Myeloid leukaemia (3) Cri-du-chat-disease (4) Patau's syndrome		
65.	QTL analysis is used to: (1) Identify RNA polymerase binding sites (2) Map genes in bacterial viruses (3) Determine which genes are expressed at a developmental stage (4) Identify chromosome regions associated with a complex trait in a genetic cross		
66.	Phenylketonuria is inherited disease that is characterized by:  (1) Elimination of gentisic acid in urine  (2) Increased occurrence of phenylalanine in blood and tissues  (3) Elimination of sugar in urine  (4) Decrease in phenylalanine in blood and tissues  il./Ph.D./URS-EE-Nov2018/(Life Sci.)/(SET-Z)/(A)		
wi.I'n	11./F N.D./UK5-EE-NOV2016/(LITE 5CL.)/(5ET-Z)/(A)		

67.	<ul> <li>A prophage is a:</li> <li>(1) Auxotrophic mutant</li> <li>(2) Gene</li> <li>(3) Phage DNA incorportated into the</li> <li>(4) Host DNA packed into viral heads</li> </ul>		genome	
68.	Which of the following system of plant	t class	sification is not phylogenetic?	
	(1) Bentham and Hooker system		Engler and Prantl's system	
	(3) Hutchinson's system	(4)	Takhtajan's system	
69.	Which of the following is <i>not</i> a positiv	e inte	raction?	
	(1) Commensalism	(2)	Protocooperation	
	(3) Amensalism	(4)	Mutualism	
70.	Which of the following phylum is char	acter	ized by absence of true coelom?	
	(1) Annelida	(2)	Mollusca	
	(3) Echinodermata	(4)	Nematoda	
72.	What will you look for to identify the second (1) Male shark - Claspers borne on per (2) Female Ascaris - Sharply curved per (3) Male frog - A copulatory pad on the (4) Female cockroach - Ananl cerci Which organism possesses characterism (1) Bacteria	lvic fi osteri ne firs tics o	or end st digit of the hind limb f plant and animals ? Monera	
	(3) Euglena	(4)	Mycoplasma	
73.	The formation of canal system in spon	ges is	due to :	
	(1) Folding of inner walls	(2)		
	(3) Reproduction	(4)	Porous wall	
74.	Which of the following is <i>not</i> an exam	ple o	f in situ conservation strategies?	
	(1) Biosphere reserve	(2)	Botanical garden	
* 2	(3) National park	(4)	Sacred groove	
75.	Which of the following is <i>not</i> a charac	terist	ic of invasive species?	
	(1) Small seed size	(2)	Wide geographical range	
	(3) Phenotypic plasticity	(4)	Slow reproduction rate	
(Phi	1/Ph D /IJRS-FF-Nov -2018/(Life Sci )//	CET	7)/(A)	рто

76.	The difference between an endangered species and a threatened one is that:		
	(1) An endangered species is closer to extinction		
	(2) A threatened species is closer to extinction		
	(3) Endangered species are mainly tropical		
	(4) There is no real difference between the two		
77.	Identify the correctly matched pair:		
	(1) Corbett park - Aves (2) Runn of kutch - Tiger		
	(3) Gir forest - Rhino (4) Kaziranga - Elephant		
78.	What is the major cause of diminishing wild life number?		
	(1) Felling of trees (2) Paucity of drinking water		
	(3) Cannibalism (4) Habitat destruction		
79.	The intermediate form between two ecotypes is called as:		
	(1) Ecophene (2) Ecocline		
	(3) Ecad (4) Ecospecies		
80.	Which of the following statement is <i>not</i> correct about K- selection?		
00.	(1) Having long life span (2) Developed interspecific competition		
	(3) Very stable population (4) Having short germination time		
81.	The biggest difference the flow of energy and flow of chemical nutrients in an ecosystem is:  (1) The amount of energy is much greater than the amount of nutrients  (2) Energy is recycled but nutrient are not  (3) Organisms always need nutrients, but they donot always need energy  (4) Nutrients are recycled but energy is not		
82.	Pyramid of number in cropland ecosystem is:		
	(1) Upright (2) Inverted (3) Rhomboidal (4) Spindle shaped		
83.	Which of the following is <i>not</i> a biogeographic zone?		
	(1) Himalayan zone (2) Gulf of Mannar		
	(3) Western Ghat zone (4) Deccan plateau zone		
84.	<ul> <li>What is the fate of most duplicated genes?</li> <li>(1) Gene inactivation</li> <li>(2) Gain of a novel function through subsequent mutation</li> <li>(3) They are transferred to a new organism using lateral gene transfer</li> <li>(4) They become orthologs</li> </ul>		
M Dh	il /Ph D /IJRS-FF-Nov -2018/(Life Sci.)/(SFT-7)/(A)		

85.	An example of convergent evolution is:
	(1) Australian marsupials and placental mammals
	(2) The flippers in ash, penguins and dolphins
	(3) The wings in birds, bats and insects
	(4) All of the above
86.	Which of the following is <i>not</i> an assumption of Hardy-Weinberg equilibrium?
	(1) No mutation (2) Random mating with respect to genotype
888	(3) No more than two alleles at a locus (4) No selection on the basis of genotype
87.	(1) No reducing end (2) No non-reducing end
	<ul><li>(3) One reducing end and several non-reducing ends</li><li>(4) One non-reducing end and several reducing ends</li></ul>
88.	An example of competitive inhibition of an enzyme is the inhibition of:  (1) Succinic dehydrogenase by malonic acid  (2) Cytochrome oxidase by cyanide  (3) Hexokinase by glucose-6-phosphate  (4) Carbonic anhydrase by carbon dioxide
89.	Which of the following is the important reactive group of glutathione in its role as antioxidant?  (1) Serine (2) Sulfhydryl (3) Tyrosine (4) Acetyl CoA
90.	
91.	Which of the following has a quaternary structure?
	(1) Alpha - chymotrypsin (2) Hemoglobin
	(3) Insulin (4) Myoglobin
92.	Molecular weight of an unknown protein can be found out by:
	(1) Electrophoresis (2) Ion-exchange chromatography
	(3) Affinity chromatography (4) None of the above
	il./Ph.D./URS-EE-Nov2018/(Life Sci.)/(SET-Z)/(A) P. T. O.

93.	Recombinant live attenuated vaccine against hepatitis B was prepared from:  (1) Plasma of infected individual  (2) Recombinant yeast expressing hepatitis B surface antigen  (3) Recombinant vaccinia virus expressing hepatitis B surface antigen  (4) Transgenic plants expressing hepatitis surface antigen
94.	Which of the following statement is false about short interspersed elements (SINEs)?  (1) The major family of SINEs contain the Alu sequences  (2) They arose by reverse transcription of small RNAs  (3) They are transposable elements  (4) They encode reverse transcriptase
95.	Which one of the following methods is the most sensitive label-free quantification method for proteins?  (1) UV spectroscopy  (2) Infra red spectroscopy  (3) Raman spectroscopy  (4) <sup>13</sup> C content of protein
96.	The most commonly used molecular tool for phylogenetic analysis involves sequencing of:  (1) Mitochondrial DNA  (2) Mitochondrial RNA  (3) Ribosomal RNA  (4) Nuclear DNA
97.	The use of biotinylated secondary antibody in ELISA:  (1) Increases the sensitivity of the assay but compromises with the specificity  (2) Increases the sensitivity of the assay without compromising with the specificity  (3) Does not alter either sensitivity or specificity  (4) Decreases both sensitivity and specificity
98.	Plasmids are used in genetic engineering because they are:  (1) Easily available  (2) Able to integrate with host chromosome  (3) Able to replicate along with chromosomal DNA  (4) Contain DNA sequences coding for drug resistance
99.	Which of the following molecular marker uses combination of both restriction enzymes and PCR techniques?  (1) SSR (2) AFLP (3) SNP (4) RAPD
100.	Fluorescence recovery afterphoto bleaching in live cells is used to determine:  (1) Co-localization of proteins  (2) Distance between two organelles  (3) Diffusion of proteins  (4) None of the above
M.Ph	il./Ph.D./URS-EE-Nov2018/(Life Sci.)/(SET-Z)/(A)

	١.	nitrogen fixing nodules?	ea	in maintaining oxygen nomeostasis in
	*		(2)	Cytochrome oxidase
		(3) ATP dependent Potassium pumps	(4)	Dinitrogenreductase
	2.	Plant shoot bends towards a light source (1) Increased amount of food synthesize (2) Unequal distribution of auxin in their (3) Necessity of light for transpiration (4) More elasticity on light facing side	d fa	acing light
	3.	Plant deficient of element zinc, show its hormone:	s ei	fect on the biosynthesis of plant growth
			(2)	Cytokinin
		(3) Ethylene	$(4)_{1}$	Absciccic acid
	4.	if allowed, would drive:		diffusion due to concentration gradients,
		Annual Control of the		K+ and Na+ out of the cell Na+ out of the cell
	5.	Which of the following has the greatest oxygen?	effe	ect on the ability of the blood to transport
		<ul><li>(1) Capacity of the blood to dissolve oxy</li><li>(2) Amount of hemoglobin in blood</li></ul>	gei	ı
	× .	<ul><li>(3) pH of plasma</li><li>(4) Temperature of blood</li></ul>		
	6.	blood in the pulmonary capillaries?	10	e movement of $O_2$ from the alveoli into the
			(2) (4)	Filtration Passive diffusion
	7.		(2)	ncludes only the endocrine glands? Parathyroid and Adrenal Thymus and Testes
	8.	and the second of the second o		Sebum - Sweat Vitamin B7 - Niacin
M.	Phil	l./Ph.D./URS-EE-Nov2018/(Life Sci.)/(SE	ET-	Z)/(B) P. T. O

9.	The difference between Trypsin and pepsin is that:		
		lium where as pepsin does so in alkaline	
	(2) Trypsin digest proteins in alkaline n medium	nedium whereas pepsin does so in acidic	
	<ul><li>(3) Trypsin is secreted from the gastric gla</li><li>(4) Trypsin production is influenced by ne</li></ul>	ands while pepsin is secreted from pancreas euro hormones while pepsin by steroids	
10.	The function of ileum is to:		
	<ul><li>(1) Absorb nutrients</li><li>(2)</li><li>(3) Absorb Vitamin B<sub>12</sub> and bile salts</li><li>(4)</li></ul>	) Introduce Bile and pancreatic juices ) Absorb alcohol and aspirin	
11.	What will you look for to identify the sex of	of the following?	
	(1) Male shark - Claspers borne on pelvic	fins	
	(2) Female Ascaris - Sharply curved poster		
	(3) Male frog - A copulatory pad on the firm	est digit of the hind limb	
	(4) Female cockroach - Ananl cerci		
12.	Which organism possesses characteristics		
		) Monera	
		) Mycoplasma	
<b>13.</b> The formation of canal system in sponges is due to:			
		) Gastro vascular system	
	(3) Reproduction (4	) Porous wall	
14.	a was an example.		
		) Botanical garden	
	(3) National park (4	) Sacred groove	
15.	Which of the following is <i>not</i> a characteris	tic of invasive species?	
	그 집에 어려워 수 있었다.	) Wide geographical range	
9. 9.	(3) Phenotypic plasticity (4)	) Slow reproduction rate	
16.	<ul> <li>The difference between an endangered specification.</li> <li>(1) An endangered species is closer to extinct (2) A threatened species is closer to extinct (3) Endangered species are mainly tropication.</li> <li>(4) There is no real difference between the</li> </ul>	inction ition al	
M.Phil	iil./Ph.D./URS-EE-Nov2018/(Life Sci.)/(SET	-Z)/(B)	

17.	Identify the correctly matched pair:		
	(1) Corbett park - Aves	(2)	Runn of kutch - Tiger
	(3) Gir forest - Rhino	(4)	Kaziranga - Elephant
18.	What is the major cause of diminishing	wild	life number ?
	(1) Felling of trees	(2)	Paucity of drinking water
	(3) Cannibalism	(4)	Habitat destruction
19.	The intermediate form between two eco	type	es is called as :
	(1) Ecophene	(2)	Ecocline
	(3) Ecad	(4)	Ecospecies
20.	Which of the following statement is <i>not</i>	cori	ect about K-selection ?
	(1) Having long life span	(2)	Developed interspecific competition
	(3) Very stable population	(4)	Having short germination time
21.	Which of the following has a quaternary	str	ucture ?
	(1) Alpha - chymotrypsin	(2)	Hemoglobin
ŧ	(3) Insulin	(4)	Myoglobin
22.	Molecular weight of an unknown protei	n ca	n be found out by:
5 4	(1) Electrophoresis	(2)	Ion-exchange chromatography
	(3) Affinity chromatography		None of the above
23.	Recombinant live attenuated vaccine ag		9.00
	(1) Plasma of infected individual	anı	triepantis b was prepared from .
	(2) Recombinant yeast expressing hepa		O
	(3) Recombinant vaccinia virus express		
	(4) Transgenic plants expressing hepati		
24.			out short interspersed elements (SINEs)?
	(1) The major family of SINEs contain t		-
	<ul><li>(2) They arose by reverse transcription</li><li>(3) They are transposable elements</li></ul>	of s	mali RNAs
**	<ul><li>(3) They are transposable elements</li><li>(4) They encode reverse transcriptase</li></ul>		A STATE OF THE STA
25		1	
25.	method for proteins?	is th	ne most sensitive label-free quantification
	(1) UV spectroscopy	(2)	Infra red spectroscopy
	(3) Raman spectroscopy	(4)	12

26.	The most commonly used molecular sequencing of :	tool for phylogenetic analysis involves
	(1) Mitochondrial DNA	(2) Mitochondrial RNA (4) Nuclear DNA
27.	The use of biotinylated secondary antibod	dy in ELISA:
	(1) Increases the sensitivity of the assay b	
		without compromising with the specificity
	<ul><li>(3) Does not alter either sensitivity or spec</li><li>(4) Decreases both sensitivity and specification</li></ul>	
28.	Plasmids are used in genetic engineering	
20.	(1) Easily available	because they are.
	(2) Able to integrate with host chromoso	me
	(3) Able to replicate along with chromos	omal DNA
	(4) Contain DNA sequences coding for c	drug resistance
29.	enzymes and PCR techniques?	arker uses combination of both restriction (3) SNP (4) RAPD
30.	Fluorescence recovery afterphoto bleachi	ng in live cells is used to determine :
	(1) Co-localization of proteins	(2) Distance between two organelles
	(3) Diffusion of proteins	(4) None of the above
31.	All plastids have similar structure because	se:
<i>#</i> /	(1) Store starch, proteins and lipids	
	<ul><li>(2) Get transformed from one type to an</li><li>(3) They perform same function</li></ul>	other
	(4) Be present together	
32.	Protein synthesis occurs in:	
	(1) Mitochondria	(2) Chloroplast
	(3) Nucleus	(4) All of the above
33.	An enucleated plant cell is:	
,52 ,1	(1) RBC	(2) Companion cell
0.25 B	(3) Sieve tube cell	(4) Xylem parenchyma
M.Phil	l./Ph.D./URS-EE-Nov2018/(Life Sci.)/(SI	ET-Z)/(B)

P. T. O.

34.	What is the function of the $\omega$ subunit of RNA polymerase?
	(1) Subunit association (2) Promoter binding
	(3) Initiation and elongation (4) Cation binding
35.	All peroxisomes carry out this function:
	(1) break down fats and amino acids into smaller molecules that can be used for energy production by mitochondria
	(2) digest macromolecules using the hydrolytic enzymes they contain
	<ul><li>(3) synthesize membrane components such as fatty acids and phospholipids</li><li>(4) control the flow of ions into and out of the cell</li></ul>
36.	Which of the following statements does not apply to the nuclear envelope?
	(1) It is a double membrane.
	(2) It has pores through which material enters and leaves.
	(3) It is continuous with the endoplasmic reticulum.
	(4) It has infoldings to form cristae
37.	Fluid Mosaic Model favors that cell membrane contains proteins which are embedded in fashion of :
	(1) Zig-zag (2) Criss-cross
	(3) Mosaic (4) Eplic
38.	Continuous channels that appear to lie between plasma membrane and nuclear membrane is :
	(1) Endoplasmic reticulum (2) Golgi complex
	(3) Mitochondria (4) Ribosome
39.	Cyclin dependent kinases (CDKs):
15	(1) Acts as mitotic poisons
9	(2) Cause disassembly of microtubules
	(3) Control various phases of cell cycle
	(4) Arrest cell division due to non-formation of spindle
40.	Centromere is required for the:
	(1) Movement of chromosomes towards poles
	(2) Cytoplasmic cleavage
	(3) Crossing over
	(4) Transcription

M.Phil./Ph.D./URS-EE-Nov.-2018/(Life Sci.)/(SET-Z)/(B)

41.	In which of the following, the nitrogenous wastes are excreted from the body in the form of Uric acid?
	<ul> <li>(1) Birds and lizards</li> <li>(2) Frogs and cartilaginous fishes</li> <li>(3) Insects and bony fishes</li> <li>(4) Mammals and mollusk</li> </ul>
42.	Which of the following is incorrect?  (1) Aldosterone stimulates the reabsorption of Na+  (2) Aldosterone stimulates the secretion of K+  (3) Aldosterone affects water absorption  (4) Aldosterone is made in the hypothalamus and released from anterior pituitary
43.	During ovulation, all of the following occurs except:  (1) Rupture of the Graaffian follicle  (2) Estrogen production reaches its lowest point  (3) FSH and LH plasma levels surge  (4) Corpus luteum is formed
44.	Which of the following hormones does not act by a second messenger system?  (1) Glucagon  (2) Epinephrine  (3) Follicle Stimulating Hormone  (4) Testosterone
45.	The HCl in the gastric juice converts:  (1) Diasaccharides to monosaccharides (2) Pepsinogen to pepsin  (3) Prorennin to renin  (4) Polypeptide to peptide
46.	The primary sealants that plug leaks in blood vessels are:  (1) Platelets and fibrin  (2) Red blood cells and albumin  (3) Fibrin and white blood cells  (4) White blood cells and platelets
47.	The function of the stress induced proteins is to:  (1) Provide proteins that function at low temperature  (2) Change the composition of the plasma membrane to maintain fluidity  (3) Regulate blood osmolarity and volume following an injury  (4) Protect cellular proteins from denaturation during rapid temperature changes
48.	Which needs to drink the smallest amount of water to maintain its water balance?  (1) Sparrow  (2) Salt water fish  (3) Fresh water fish  (4) Dog
49.	Epistasis and dominance are respectively:  (1) Intragenic, Intergenic  (2) Non-allelic, Extra allelic  (3) Extra-allelic, Interallelic  (4) Intergenic-non-allelic  L/Ph.D./URS-EE-Nov2018/(Life Sci.)/(SET-Z)/(B)

50.	Transformation experiment was performed on which of the following bacteria?  (1) E.Coli  (2) Streptococcus pneumoniae  (3) Salmonella  (4) Pasteurellapestis
51.	A DNA mutation that results in no change in protein product produced is termed:  (1) Mis-sense mutation  (2) Non-sense mutation  (3) Silent mutation  (4) Frame shift mutation
52. 53.	A mechanism that can cause a gene to move from one linkage group to another is:  (1) Translocation (2) Inversion (3) Crossing over (4) Duplication  A person with Klinefelter syndrome is considered a:
54.	(1) Monosomic (2) Triploid (3) Trisomic (4) Deletion heterozygote Which of the following disease is <i>not</i> because of chromosomal abnormalities? (1) Achondroplasia (2) Myeloid leukaemia (3) Cri-du-chat-disease (4) Patau's syndrome
55.	QTL analysis is used to: (1) Identify RNA polymerase binding sites (2) Map genes in bacterial viruses (3) Determine which genes are expressed at a developmental stage (4) Identify chromosome regions associated with a complex trait in a genetic cross
56.	Phenylketonuria is inherited disease that is characterized by:  (1) Elimination of gentisic acid in urine  (2) Increased occurrence of phenylalanine in blood and tissues  (3) Elimination of sugar in urine  (4) Decrease in phenylalanine in blood and tissues
57.	A prophage is a:  (1) Auxotrophic mutant  (2) Gene  (3) Phage DNA incorportated into the host genome  (4) Host DNA packed into viral heads
58.	Which of the following system of plant classification is not phylogenetic?  (1) Bentham and Hooker system  (2) Engler and Prantl's system  (3) Hutchinson's system  (4) Takhtajan's system
59.	Which of the following is <i>not</i> a positive interaction?  (1) Commensalism  (2) Protocooperation  (3) Amensalism  (4) Mutualism
·1 1111	/Ph.D./URS-EE-Nov2018/(Life Sci.)/(SET-Z)/(B) P. T. O.

60.	Which of the following phylum is characterized by absence of true coelom?  (1) Annelida  (2) Mollusca  (3) Echinodermata  (4) Nematoda
61.	The signaling molecule that travel the farthest are:  (1) Endocrine (2) Paracrine (3) Neurotransmitter (4) Intracellular
62.	Norepinephrine, acetylcholine and serotonin are what kind of hormone?  (1) Peptide hormones  (2) Steroids  (3) Prohormones  (4) Amines
63.	The rapid growth of pollen tube is restricted to the:  (1) Basal region  (2) Middle region  (3) Apical region  (4) Zone behind the apical region
64.	A homeotic mutation is one:  (1) Is present in only one form in an individual  (2) Substitutes one body part for another in development  (3) Results in the development of tumor  (4) Is wild type at one temperature and abnormal at another
65.	In angiosperms free nuclear division takes place during: (1) Gamete formation (2) Endosperm formation (3) Flower formation (4) Embryo formation
66.	<ul> <li>Which of the following pair is <i>not</i> correctly matched?</li> <li>(1) Inbreeding depression: Homozygosity</li> <li>(2) Hybrid vigour: heterozygosity</li> <li>(3) Apogamy: fertilization</li> <li>(4) Male sterility: Cross pollination</li> </ul>
67.	The role of bicoid gene in <i>Drosophila</i> development is to determine:  (1) The anterior end of a fly embryo  (2) The thoracic region  (3) Even numbered segments  (4) Odd numbered segments
68.	Which of the following proteins in photosynthetic electron transport chain is not a transmembrane protein?  (1) ATP synthase (2) LHC (3) PS 11 (4) Ferrodoxin
69.	Which of the following pair is wrong?  (1) C3 - Maize (2) C4 - Kranz anatomy  (3) Calvin cycle - PGA (4) Hatch and Slack cycle - OAA  il./Ph.D./URS-EE-Nov2018/(Life Sci.)/(SET-Z)/(B)

70.	Which of the following is an oxidative read (1) Conversion of phosphoglyceric acid to (2) Carboxylation of RuBP using Rubisco (3) Splitting of H <sub>2</sub> O to form oxygen (4) Phosphorylation	ction during photosynthesis ? glyceraldehyde phosphate
71.	Aminoacyl tRNAs are escorted to the ribo	) EF-G
72.	Which one of the following reunites the ex (1) RNA polymerase (2) (3) RNA ligase (4)	지하는 마음 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -
73.	During translation initiation in prokaryote (1) Formation of formyl-met-tRNA (2) Binding of 30S subunit of ribosomes w (3) Association of 30S mRNA with formy (4) Association of 50S subunit of ribosome	ith mRNA -met-tRNA
74.	Si RNA interferes: (1) Transcriptional level (2) DNA replication level (4)	
75.	Which of the following transcription facto (1) TFIID (2) (3) TFIIIA (4)	) TFIIB
76.	(0)	ects : ) T4 lymphocytes ) Cytotoxic T cells
77.	Which of the following post-translational the lumen of the endoplasmic reticulum?  (1) Glycosylation  (2) Formation of disulphide  (3) Folding and formation of quaternary s  (4) Ubiquintination	modifications of proteins does not occur in tructure
78. M.Phil	The p21 and P15 proteins are examples of (1) Cdk inhibitors (2) (3) Oncogenes (4) (1./Ph.D./URS-EE-Nov2018/(Life Sci.)/(SET	) Cyclins ) Growth factors

ing
an
,
ype
y pc e
-

87.	Glycogen is a branched polymer of gl	ucose. It has :
	(1) No reducing end	
	(2) No non-reducing end	
	(3) One reducing end and several no	n-reducing ends
	(4) One non-reducing end and severa	al reducing ends
88.		
	An example of competitive inhibition (1) Succinic dehydrogenase by malor	of an enzyme is the inhibition of :
	(2) Cytochrome oxidase by cyanide	ne aciq
	(3) Hexokinase by glucose-6-phosph	ate
	(4) Carbonic anhydrase by carbon di	
90		
09.	antioxidant?	tant reactive group of glutathione in its role as
	A compared with the second sec	70)
	(1) Serine (2) Sulfhydryl	
90.	and to the about	out fatty acid biosynthesis?
	(1) NADPH acts as cofactors	
	(2) Two carbon unit acts as precursor	
	(3) Site of synthesis is cytosol	
	(4) Carrier for transport across mitoc	hondrial membrane is carnitine
91.	Which of the following pair is incorre	ct?
	Inhibitor	Function
	(1) FCCP	Make membrane permeable to protons
	(2) Malonate	Prevent oxidation of succinate
	(3) Cyanide	Inhibit cytochrome oxidase
	(4) Acetoacetate	Make enolase inactive
92.	The energy releasing process in which	th the substrate is oxidized without an external
	electron acceptor is called:	if the substrate is oxidized without an external
	(1) Glycolysis	(2) Fermentation
	(3) Photorespiration	(4) Aerobic respiration
00		
93.	Which of the following pair is mismat	ched?
	(1) Triticum aestivum - LDP	(2) Zea mays - DNP
	(3) Glycine max - SDP	(4) Raphanus sativum - SLDP
M.Phi	1./Ph.D./URS-EE-Nov2018/(Life Sci.)/	(SET-Z)/(B) P. T. O.

- **94.** Stomatal pores open when:
  - (1) H+ ions are pumped into the guard cells
  - (2) K+ ions are pushed out of the guard cells
  - (3) Water moves out of the guard cells in response to a decrease of water potential of guard cells
  - (4) Water moves into the guard cells in response to a decrease of water potential of guard cells
- 95. Nitrogenase enzyme found in root nodules in legumes contains:
  - (1) Mo, Mn, S
- (2) Co, Mo, Ca
- (3) Mo, Fe, S
- (4) Mo, B, S

- **96.** Vernalization is a :
  - (1) Reversible process
  - (2) Low temperature treatment for seed germination
  - (3) Auxin dependent phenomenon
  - (4) Process for genetic make up of the plant
- 97. Which of the following is not correct about terpenes?
  - (1) It is the largest class of secondary metabolites
  - (2) Phenylalanine acts as precursor
  - (3) It is synthesized by melvonic acid pathway
  - (4) It plays defensive role
- **98.** The reactions of krebs cycle:
  - (1) Takes place in cytosol of eukaryotic cell
  - (2) Generates ATP also by substrate phosphorylation
  - (3) Are important for carbohydrate metabolism but not other molecules
  - (4) None of the above
- 99. An uncoupler of oxidative phosphorylation such as Dinitrophenol (DNP):
  - (1) Inhibits electron transport and ATP synthesis
  - (2) Allows electron transport to proceed without ATP synthesis
  - (3) Inhibits electron transport without impairment of ATP synthesis
  - (4) Specifically inhibits cytochrome b activity
- **100.** Microorganisms responsible for nitrification are:
  - (1) Nitrosomonas and Nitrobacter
- (2) Nostoc and Anabaena
- (3) Rhizobium and Azotobacter
- (4) Clostrodium and Pseudomonas

1.	The signaling molecule that travel the fa	arthe	est are:
	(1) Endocrine	(2)	Paracrine
	(3) Neurotransmitter	(4)	Intracellular
2.	Norepinephrine, acetylcholine and sero	tonii	n are what kind of hormone?
	(1) Peptide hormones	(2)	Steroids
	(3) Prohormones	(4)	Amines
3.	The rapid growth of pollen tube is restr	ictec	I to the:
	(1) Basal region	(2)	Middle region
	(3) Apical region	(4)	Zone behind the apical region
4.	A homeotic mutation is one:		
	(1) Is present in only one form in an in-	divid	dual
	(2) Substitutes one body part for anoth		
	(3) Results in the development of tumo	or	
	(4) Is wild type at one temperature and	d abr	normal at another
5.	In angiosperms free nuclear division ta	kes į	place during:
	(1) Gamete formation	(2)	
	(3) Flower formation	(4)	Embryo formation
6.	Which of the following pair is not corre	ctly	matched?
	(1) Inbreeding depression: Homozygo	sity	
	(2) Hybrid vigour : heterozygosity		
	(3) Apogamy: fertilization		** ** ** ** ** ** ** ** ** ** ** ** **
	(4) Male sterility: Cross pollination		
7.	The role of bicoid gene in Drosophila de	velo	pment is to determine:
	(1) The anterior end of a fly embryo	(2)	The thoracic region
	(3) Even numbered segments	(4)	Odd numbered segments
8.	Which of the following proteins in pl	notos	synthetic electron transport chain is not a
	transmembrane protein?		
	(1) ATP synthase	(2)	LHC
	(3) PS 11	(4)	Ferrodoxin
9.	Which of the following pair is wrong?	3 9	
	(1) C3 - Maize	(2)	C4 - Kranz anatomy
	(3) Calvin cycle - PGA	(4)	Hatch and Slack cycle - OAA
M.Phi	1./Ph.D./URS-EE-Nov2018/(Life Sci.)/(	SET-	-Z)/(C) P. T. O.

10.	<ul> <li>Which of the following is an oxidative reaction during photosynthesis?</li> <li>(1) Conversion of phosphoglyceric acid to glyceraldehyde phosphate</li> <li>(2) Carboxylation of RuBP using Rubisco</li> <li>(3) Splitting of H<sub>2</sub>O to form oxygen</li> <li>(4) Phosphorylation</li> </ul>
11.	In which of the following, the nitrogenous wastes are excreted from the body in the form of Uric acid?  (1) Birds and lizards (2) Frogs and cartilaginous fishes (3) Insects and bony fishes (4) Mammals and mollusk
12.	Which of the following is incorrect?  (1) Aldosterone stimulates the reabsorption of Na+  (2) Aldosterone stimulates the secretion of K+  (3) Aldosterone affects water absorption  (4) Aldosterone is made in the hypothalamus and released from anterior pituitary
13.	During ovulation, all of the following occurs except:  (1) Rupture of the Graaffian follicle  (2) Estrogen production reaches its lowest point  (3) FSH and LH plasma levels surge  (4) Corpus luteum is formed
14.	Which of the following hormones doesnot act by a second messenger system?  (1) Glucagon  (2) Epinephrine  (3) Follicle Stimulating Hormone  (4) Testosterone
15.	The HCl in the gastric juice converts:  (1) Diasaccharides to monosaccharides (2) Pepsinogen to pepsin  (3) Prorennin to renin  (4) Polypeptide to peptide
16.	The primary sealants that plug leaks in blood vessels are:  (1) Platelets and fibrin  (2) Red blood cells and albumin  (3) Fibrin and white blood cells  (4) White blood cells and platelets
17.	The function of the stress induced proteins is to:  (1) Provide proteins that function at low temperature  (2) Change the composition of the plasma membrane to maintain fluidity  (3) Regulate blood osmolarity and volume following an injury  (4) Protect cellular proteins from denaturation during rapid temperature changes
M.Phi	I./Ph.D./URS-EE-Nov2018/(Life Sci.)/(SET-Z)/(C)

18.	Which needs to drink the smallest amount of water to maintain its water balance?
	(1) Sparrow (2) Salt water fish
	(3) Fresh water fish (4) Dog
19.	Epistasis and dominance are respectively:
	<ul> <li>(1) Intragenic, Intergenic</li> <li>(2) Non-allelic, Extra allelic</li> <li>(3) Extra-allelic, Interallelic</li> <li>(4) Intergenic-non-allelic</li> </ul>
00	
20.	Transformation experiment was performed on which of the following bacteria?  (1) E.Coli  (2) Streptococcus pneumoniae
	(3) Salmonella (4) Pasteurellapestis
21.	The biggest difference the flow of energy and flow of chemical nutrients in an
	ecosystem is:
	(1) The amount of energy is much greater than the amount of nutrients
	<ul><li>(2) Energy is recycled but nutrient are not</li><li>(3) Organisms always need nutrients, but they donot always need energy</li></ul>
57.5	(4) Nutrients are recycled but energy is not
22.	Pyramid of number in cropland ecosystem is:
	(1) Upright (2) Inverted (3) Rhomboidal (4) Spindle shaped
23.	Which of the following is <i>not</i> a biogeographic zone?
	(1) Himalayan zone (2) Gulf of Mannar
	(3) Western Ghat zone (4) Deccan plateau zone
24.	What is the fate of most duplicated genes?
	(1) Gene inactivation
	<ul><li>(2) Gain of a novel function through subsequent mutation</li><li>(3) They are transferred to a new organism using lateral gene transfer</li></ul>
	(4) They become orthologs
25.	An example of convergent evolution is :
20.	(1) Australian marsupials and placental mammals
	(2) The flippers in ash, penguins and dolphins
	(3) The wings in birds, bats and insects
10	(4) All of the above
26.	Which of the following is <i>not</i> an assumption of Hardy-Weinberg equilibrium?
	(1) No mutation (2) Random mating with respect to genotype
	(3) No more than two alleles at a locus (4) No selection on the basis of genotype
M.Ph	il./Ph.D./URS-EE-Nov2018/(Life Sci.)/(SET-Z)/(C) P. T. O.

27.	Glycogen is a branched polymer of glucose. It has:  (1) No reducing end  (2) No non-reducing end  (3) One reducing end and several non-reducing ends  (4) One non-reducing end and several reducing ends
28.	An example of competitive inhibition of an enzyme is the inhibition of:  (1) Succinic dehydrogenase by malonic acid  (2) Cytochrome oxidase by cyanide  (3) Hexokinase by glucose-6-phosphate  (4) Carbonic anhydrase by carbon dioxide
29.	Which of the following is the important reactive group of glutathione in its role as antioxidant?  (1) Serine (2) Sulfhydryl (3) Tyrosine (4) Acetyl CoA
30.	Which of the following is <i>not</i> true about fatty acid biosynthesis?  (1) NADPH acts as cofactors  (2) Two carbon unit acts as precursor  (3) Site of synthesis is cytosol  (4) Carrier for transport across mitochondrial membrane is carnitine
31.	What will you look for to identify the sex of the following?  (1) Male shark - Claspers borne on pelvic fins  (2) Female Ascaris - Sharply curved posterior end  (3) Male frog - A copulatory pad on the first digit of the hind limb  (4) Female cockroach - Ananl cerci
32.	Which organism possesses characteristics of plant and animals?  (1) Bacteria  (2) Monera  (3) Euglena  (4) Mycoplasma
33.	The formation of canal system in sponges is due to:  (1) Folding of inner walls  (2) Gastro vascular system  (3) Reproduction  (4) Porous wall
34.	Which of the following is <i>not</i> an example of in situ conservation strategies?  (1) Biosphere reserve  (2) Botanical garden  (3) National park  (4) Sacred groove

35.	Which of the following is <i>not</i> a characteri	istic	of invasive species?
	(1) Small seed size	(2)	Wide geographical range
	(3) Phenotypic plasticity	(4)	Slow reproduction rate
36.	The difference between an endangered sp	oeci	es and a threatened one is that:
	(1) An endangered species is closer to ex		
	(2) A threatened species is closer to extir	nctio	on
	(3) Endangered species are mainly tropic	cal	
ž. 2	(4) There is no real difference between the	he t	wo
37.	Identify the correctly matched pair:		
	(1) Corbett park - Aves	(2)	Runn of kutch - Tiger
	(3) Gir forest - Rhino	(4)	Kaziranga - Elephant
38.	What is the major cause of diminishing w	vild	life number ?
	(1) Felling of trees	(2)	Paucity of drinking water
	(3) Cannibalism	(4)	Habitat destruction
39.	The intermediate form between two ecot	уре	es is called as :
	(1) Ecophene	(2)	Ecocline
	(3) Ecad	(4)	Ecospecies
40.	Which of the following statement is <i>not</i> of	corr	rect about K- selection ?
4 -	(1) Having long life span	(2)	Developed interspecific competition
	(3) Very stable population	(4)	Having short germination time
41.	All plastids have similar structure because	se:	
	(1) Store starch, proteins and lipids		
	(2) Get transformed from one type to an	oth	er
	(3) They perform same function		
	(4) Be present together		
42.	Protein synthesis occurs in:		
	(1) Mitochondria	(2)	Chloroplast
	(3) Nucleus	(4)	All of the above
43.	An enucleated plant cell is:		
	(1) RBC	(2)	Companion cell
	(3) Sieve tube cell	(4)	Xylem parenchyma

44.	What is the function of the ω subunit of RNA polymerase?
	(1) Subunit association (2) Promoter binding
	(3) Initiation and elongation (4) Cation binding
45.	All peroxisomes carry out this function:
	(1) break down fats and amino acids into smaller molecules that can be used for energy production by mitochondria
1	(2) digest macromolecules using the hydrolytic enzymes they contain
	(3) synthesize membrane components such as fatty acids and phospholipids
	(4) control the flow of ions into and out of the cell
46.	Which of the following statements does not apply to the nuclear envelope?
	(1) It is a double membrane.
	(2) It has pores through which material enters and leaves.
	(3) It is continuous with the endoplasmic reticulum.
4	(4) It has infoldings to form cristae
47.	Fluid Mosaic Model favors that cell membrane contains proteins which are embedded in fashion of :
	(1) Zig-zag (2) Criss-cross
	(3) Mosaic (4) Eplic
48.	Continuous channels that appear to lie between plasma membrane and nuclear membrane is:
	(1) Endoplasmic reticulum (2) Golgi complex
	(3) Mitochondria (4) Ribosome
49.	Cyclin dependent kinases (CDKs):
	(1) Acts as mitotic poisons
	(2) Cause disassembly of microtubules
	(3) Control various phases of cell cycle
100	(4) Arrest cell division due to non-formation of spindle
50.	Centromere is required for the :
	(1) Movement of chromosomes towards poles
. ",	(2) Cytoplasmic cleavage
	(3) Crossing over
	(4) Transcription

M.Phil./Ph.D./URS-EE-Nov.-2018/(Life Sci.)/(SET-Z)/(C)

**51.** Which of the following pair is incorrect?

Inhibitor

Function

(1) FCCP

Make membrane permeable to protons

(2) Malonate

Prevent oxidation of succinate

(3) Cyanide

Inhibit cytochrome oxidase

(4) Acetoacetate

Make enolase inactive

- **52.** The energy releasing process in which the substrate is oxidized without an external electron acceptor is called :
  - (1) Glycolysis
- (2) Fermentation
- (3) Photorespiration (4) Aerobic respiration
- **53.** Which of the following pair is mismatched?
  - (1) Triticum aestivum LDP
- (2) Zea mays DNP

(3) Glycine max - SDP

- (4) Raphanus sativum SLDP
- 54. Stomatal pores open when:
  - (1) H+ ions are pumped into the guard cells
  - (2) K+ ions are pushed out of the guard cells
  - (3) Water moves out of the guard cells in response to a decrease of water potential of guard cells
  - (4) Water moves into the guard cells in response to a decrease of water potential of guard cells
- **55.** Nitrogenase enzyme found in root nodules in legumes contains:
  - (1) Mo, Mn, S

(2) Co, Mo, Ca

(3) Mo, Fe, S

(4) Mo, B, S

- **56.** Vernalization is a:
  - (1) Reversible process
  - (2) Low temperature treatment for seed germination
  - (3) Auxin dependent phenomenon
  - (4) Process for genetic make up of the plant
- **57.** Which of the following is not correct about terpenes?
  - (1) It is the largest class of secondary metabolites
  - (2) Phenylalanine acts as precursor
  - (3) It is synthesized by melvonic acid pathway
  - (4) It plays defensive role

58.	The reactions of krebs cycle:	
9 ±0.	(1) Takes place in cytosol of eukaryotic cell	
	(2) Generates ATP also by substrate phosphorylation	
	(3) Are important for carbohydrate metabolism but not other molecules	
	(4) None of the above	
59	An uncoupler of oxidative phosphorylation such as Dinitrophenol (DNP)	:
	(1) Inhibits electron transport and ATP synthesis	
	(2) Allows electron transport to proceed without ATP synthesis	
	(3) Inhibits electron transport without impairment of ATP synthesis	
	(4) Specifically inhibits cytochrome b activity	
60	Microorganisms responsible for nitrification are:	
	(1) Nitrosomonas and Nitrobacter (2) Nostoc and Anabaena	
	(3) Rhizobium and Azotobacter (4) Clostrodium and Pseudoinonas	
61	Aminoacyl tRNAs are escorted to the ribosomes by elongation factor:	
9	(1) EF-Ts (2) EF-G (3) EF-Tu (4) eEF-2	*
62	Which one of the following reunites the exon segments after RNA splicing	z ?
	(1) RNA polymerase (2) RNA primase	
	(3) RNA ligase (4) RNA proteoses	
63	During translation initiation in prokaryotes, a GTP molecules is needed in	ι:
	(1) Formation of formyl-met-tRNA	
	(2) Binding of 30S subunit of ribosomes with mRNA	
	(3) Association of 30S mRNA with formyl-met-tRNA	
	(4) Association of 50S subunit of ribosomes with initiation complex	
64	Si RNA interferes:	
	(1) Transcriptional level (2) Post transcriptional level	
	(3) DNA replication level (4) Translational level	
65	Which of the following transcription factors bind to TATA box?	
	(1) TFIID (2) TFIIB (3) TFIIIA (4) TFIIE	
60	AIDS is caused by HIV that principally infects:	
	(1) All lymphocytes (2) T4 lymphocytes	vii
	(3) Activator B cells (4) Cytotoxic T cells	
M.P	1./Ph.D./URS-EE-Nov2018/(Life Sci.)/(SET-Z)/(C)	

	67.	Which of the following post-translational modifications of proteins does not occur in the lumen of the endoplasmic reticulum?
		(1) Glycosylation
		(2) Formation of disulphide
		(3) Folding and formation of quaternary structure
		(4) Ubiquintination
	68.	The p21 and P15 proteins are examples of:
		(1) Cdl inhihitana (0) Cdl
N.	69.	(a) Growth incloses
esi M	03.	Which of the following compounds does not act as second messenger during signaling process?
		(1) cAMP (2) Calcium ions
- 17		(2) Calcium forts
	70.	
	70.	G protein activation:
15		(1) Leads to changes in gene expression
		<ul><li>(2) Always causes an increase in cyclic AMP</li><li>(3) Leads to the generation of second messengers</li></ul>
		(4) Always results in s decrease in cyclic AMP
	74	
	71.	Which of the following is not involved in maintaining oxygen homeostasis in nitrogen fixing nodules?
		(1) Leghemoglobin (2) Cytochrome oxidase
		(3) ATP dependent Potassium pumps (4) Dinitrogenreductase
	72.	Plant shoot bends towards a light source as a result of:
143		(1) Increased amount of food synthesized facing light
		(2) Unequal distribution of auxin in their shoot apex
	547	<ul><li>(3) Necessity of light for transpiration</li><li>(4) More elasticity on light facing side</li></ul>
	70	
	73.	Plant deficient of element zinc, show its effect on the biosynthesis of plant growth hormone:
		(1) Auxin (2) Cytokinin (3) Ethylene (4) Absciccic acid
-	74.	
		In the resting state of the neural membrane, diffusion due to concentration gradients, if allowed, would drive:
		(1) K+ into the cell (2) K+ and Na+ out of the cell
		(3) Na+ into the cell (4) Na+ out of the cell
M.	Phil	./Ph.D./URS-EE-Nov2018/(Life Sci.)/(SET-Z)/(C)
IVI.	TILL	/TILD:/UKS-EE-Nov2018/(Life Sci.)/(SET-Z)/(C)

75.	Which of the following has the greatest oxygen?	effect on the ability of the blood to transport
	(1) Capacity of the blood to dissolve ox	ygen
	(2) Amount of hemoglobin in blood	
112	(3) pH of plasma	
	(4) Temperature of blood	
76.	Which of the following is responsible fo blood in the pulmonary capillaries?	r the movement of O <sub>2</sub> from the alveoli into the
	(1) Active transport	(2) Filtration
	(3) Secondary active transport	(4) Passive diffusion
77.	Which one of the following pairs of orga	ans includes only the endocrine glands?
	(1) Adrenal and Ovary	(2) Parathyroid and Adrenal
	(3) Pancreas and Parathyroid	(4) Thymus and Testes
78.	Which of the following set is similar?	
	(1) Corpus luteum - Graafian follicles	(2) Sebum - Sweat
	(3) Bundle of His - Pace maker	(4) Vitamin B7 - Niacin
79.	The difference between Trypsin and pe	psin is that :
		medium where as pepsin does so in alkaline
	(2) Trypsin digest proteins in alkalin medium	e medium whereas pepsin does so in acidic
		glands while pepsin is secreted from pancreas
	(4) Trypsin production is influenced by	y neuro hormones while pepsin by steroids
80.	The function of ileum is to:	
4	(1) Absorb nutrients	(2) Introduce Bile and pancreatic juices
	(3) Absorb Vitamin $B_{12}$ and bile salts	(4) Absorb alcohol and aspirin
81	. Which of the following has a quaternar	v structure?
0	(1) Alpha - chymotrypsin	(2) Hemoglobin
	(3) Insulin	(4) Myoglobin
82.		
	(1) Electrophoresis	(2) Ion-exchange chromatography
	(3) Affinity chromatography	(4) None of the above

83	<ol> <li>Recombinant live attenuated vaccine against hepatitis B was prepared from:</li> <li>(1) Plasma of infected individual</li> <li>(2) Recombinant yeast expressing hepatitis B surface antigen</li> <li>(3) Recombinant vaccinia virus expressing hepaptitis B surface antigen</li> <li>(4) Transgenic plants expressing hepatitis surface antigen</li> </ol>
84	<ol> <li>Which of the following statement is false about short interspersed elements (SINEs)?</li> <li>The major family of SINEs contain the Alu sequences</li> <li>They arose by reverse transcription of small RNAs</li> <li>They are transposable elements</li> <li>They encode reverse transcriptase</li> </ol>
85	<ul> <li>Which one of the following methods is the most sensitive label-free quantification method for proteins?</li> <li>(1) UV spectroscopy</li> <li>(2) Infra red spectroscopy</li> <li>(3) Raman spectroscopy</li> <li>(4) <sup>13</sup>C content of protein</li> </ul>
86	
87	<ul> <li>The use of biotinylated secondary antibody in ELISA:</li> <li>(1) Increases the sensitivity of the assay but compromises with the specificity</li> <li>(2) Increases the sensitivity of the assay without compromising with the specificity</li> <li>(3) Does not alter either sensitivity or specificity</li> <li>(4) Decreases both sensitivity and specificity</li> </ul>
88	
89	Which of the following molecular marker uses combination of both restriction enzymes and PCR techniques?  (1) SSR (2) AFLP (3) SNP (4) RAPD
90	
M.Ph	il./Ph.D./URS-EE-Nov2018/(Life Sci.)/(SET-Z)/(C)

91.	A DNA mutation that results in no change in protein product produced is termed:  (1) Mis-sense mutation  (2) Non-sense mutation  (3) Silent mutation  (4) Frame shift mutation
92.	A mechanism that can cause a gene to move from one linkage group to another is: (1) Translocation (2) Inversion (3) Crossing over (4) Duplication
93.	A person with Klinefelter syndrome is considered a :  (1) Monosomic (2) Triploid (3) Trisomic (4) Deletion heterozygote
94.	Which of the following disease is <i>not</i> because of chromosomal abnormalities?  (1) Achondroplasia  (2) Myeloid leukaemia  (3) Cri-du-chat-disease  (4) Patau's syndrome
95.	QTL analysis is used to:  (1) Identify RNA polymerase binding sites  (2) Map genes in bacterial viruses  (3) Determine which genes are expressed at a developmental stage  (4) Identify chromosome regions associated with a complex trait in a genetic cross
96.	Phenylketonuria is inherited disease that is characterized by:  (1) Elimination of gentisic acid in urine  (2) Increased occurrence of phenylalanine in blood and tissues  (3) Elimination of sugar in urine  (4) Decrease in phenylalanine in blood and tissues
97.	A prophage is a:  (1) Auxotrophic mutant  (2) Gene  (3) Phage DNA incorportated into the host genome  (4) Host DNA packed into viral heads
98.	Which of the following system of plant classification is not phylogenetic?  (1) Bentham and Hooker system  (2) Engler and Prantl's system  (3) Hutchinson's system  (4) Takhtajan's system
99.	Which of the following is <i>not</i> a positive interaction?  (1) Commensalism  (2) Protocooperation  (3) Amensalism  (4) Mutualism
100.	Which of the following phylum is characterized by absence of true coelom?  (1) Annelida  (2) Mollusca  (3) Echinodermata  (4) Nematoda

M.Phil/Ph.D./URS-EE-Nov.-2018/(Life Sci.)/(SET-Z)/(C)

P. T. O.

1.	Which of the following has a quaternary structure?
	(1) Alpha - chymotrypsin (2) Hemoglobin
	(3) Insulin (4) Myoglobin
2.	Molecular weight of an unknown protein can be found out by:
	(1) Electrophoresis (2) Ion-exchange chromatography
	(3) Affinity chromatography (4) None of the above
3.	Recombinant live attenuated vaccine against hepatitis B was prepared from:  (1) Plasma of infected individual  (2) Recombinant yeast expressing hepatitis B surface antigen  (3) Recombinant vaccinia virus expressing hepatitis B surface antigen  (4) Transgenic plants expressing hepatitis surface antigen
4.	Which of the following statement is false about short interspersed elements (SINEs)?  (1) The major family of SINEs contain the Alu sequences (2) They arose by reverse transcription of small RNAs (3) They are transposable elements (4) They encode reverse transcriptase
5.	Which one of the following methods is the most sensitive label-free quantification method for proteins?  (1) UV spectroscopy  (2) Infra red spectroscopy  (3) Raman spectroscopy  (4) <sup>13</sup> C content of protein
6.	The most commonly used molecular tool for phylogenetic analysis involves sequencing of:  (1) Mitochondrial DNA  (2) Mitochondrial RNA  (3) Ribosomal RNA  (4) Nuclear DNA
7.	The use of biotinylated secondary antibody in ELISA:  (1) Increases the sensitivity of the assay but compromises with the specificity  (2) Increases the sensitivity of the assay without compromising with the specificity  (3) Does not alter either sensitivity or specificity  (4) Decreases both sensitivity and specificity
8.	Plasmids are used in genetic engineering because they are:  (1) Easily available  (2) Able to integrate with host chromosome  (3) Able to replicate along with chromosomal DNA  (4) Contain DNA sequences coding for drug resistance
	<ol> <li>3.</li> <li>4.</li> <li>7.</li> </ol>

9.	Which of the following molecular menzymes and PCR techniques?	narker uses combination of both restriction
	(1) SSR (2) AFLP	(3) SNP (4) RAPD
10.	Fluorescence recovery after photobleach (1) Co-localization of proteins (2) Diffusion of proteins	ning in live cells is used to determine:  (2) Distance between two organelles  (4) None of the above
	(3) Diffusion of proteins	
11.	Which of the following pair is incorrect	
	Inhibitor (1) FCCP (2) Malonate (3) Cyanide (4) Acetoacetate	Function  Make membrane permeable to protons  Prevent oxidation of succinate  Inhibit cytochrome oxidase  Make enolase inactive
12.	electron acceptor is called:	the substrate is oxidized without an external
	(1) Glycolysis (2) Fermentation	(3) Photorespiration (4) Aerobic respiration
13.		
	<ul><li>(1) Triticum aestivum - LDP</li><li>(3) Glycine max - SDP</li></ul>	<ul><li>(2) Zea mays - DNP</li><li>(4) Raphanus sativum - SLDP</li></ul>
14.	Stomatal pores open when:	
	(1) H+ ions are pumped into the guar	d cells
	(2) K+ ions are pushed out of the guar	
	guard cells	s in response to a decrease of water potential o
	(4) Water moves into the guard cells guard cells	in response to a decrease of water potential o
15.	. Nitrogenase enzyme found in root noo	dules in legumes contains :
	(1) Mo, Mn, S	(2) Co, Mo, Ca
	(3) Mo, Fe, S	(4) Mo, B, S
16.	<ul><li>(1) Reversible process</li><li>(2) Low temperature treatment for se</li></ul>	ed germination
	<ul><li>(3) Auxin dependent phenomenon</li><li>(4) Process for genetic make up of the</li></ul>	e plant
	(4) Frocess for generic make up of the	c plant

17.	Which of the following is not correct about terpenes?	
	(1) It is the largest class of secondary metabolites	
	(2) Phenylalanine acts as precursor	
	(3) It is synthesized by melvonic acid pathway	
	(4) It plays defensive role	
18.	The reactions of krebs cycle:	
	(1) Takes place in cytosol of eukaryotic cell	
	(2) Generates ATP also by substrate phosphorylation	
	(3) Are important for carbohydrate metabolism but not other molecules	
	(4) None of the above	
10	An empoundant of avidative phosphographics and a Digituary and and (DND).	
19.	An uncoupler of oxidative phosphorylation such as Dinitrophenol (DNP):	
	(1) Inhibits electron transport and ATP synthesis	13.
	(2) Allows electron transport to proceed without ATP synthesis	
	(3) Inhibits electron transport without impairment of ATP synthesis	
	(4) Specifically inhibits cytochrome b activity	
20.	Microorganisms responsible for nitrification are:	
	(1) Nitrosomonas and Nitrobacter (2) Nostoc and Anabaena	
	(3) Rhizobium and Azotobacter (4) Clostrodium and Pseudomonas	
21.	What will you look for to identify the sex of the following?	
	(1) Male shark - Claspers borne on pelvic fins	
	(2) Female Ascaris - Sharply curved posterior end	
	(3) Male frog - A copulatory pad on the first digit of the hind limb	
	(4) Female cockroach - Ananl cerci	* 12
00		
22.	Which organism possesses characteristics of plant and animals?	* a
	(1) Bacteria (2) Monera (3) Euglena (4) Mycoplasma	
23.	The formation of canal system in sponges is due to:	
	(1) Folding of inner walls (2) Gastro vascular system	
100	(3) Reproduction (4) Porous wall	
24.	Which of the following is <i>not</i> an example of in situ conservation strategies?	
	(1) Biosphere reserve (2) Botanical garden	
	(3) National park (4) Sacred groove	
M.Phi	il./Ph.D./URS-EE-Nov2018/(Life Sci.)/(SET-Z)/(D)	P. T. O.

25.	. Which of the following is <i>not</i> a characteristi	c of invasive species?
	(1) Small seed size (2)	Wide geographical range
	(3) Phenotypic plasticity (4)	Slow reproduction rate
26.	The difference between an endangered spec	ies and a threatened one is that:
	(1) An endangered species is closer to extir	
	(2) A threatened species is closer to extinct	on
	(3) Endangered species are mainly tropical	
	(4) There is no real difference between the	two
27.	. Identify the correctly matched pair :	
		Runn of kutch - Tiger
	(3) Gir forest - Rhino (4)	Kaziranga - Elephant
28.	. What is the major cause of diminishing wild	l life number ?
		Paucity of drinking water
	TO ANALYSI MEETING TO STATE OF THE STATE OF	Habitat destruction
29.	The intermediate form between two ecotype	es is called as :
	The region of the control of the con	Ecad (4) Ecospecies
30.	Which of the following statement is <i>not</i> corn	rect about K- selection ?
	20.20	Developed interspecific competition
		Having short germination time
31.	0	est are:
	(1) Endocrine (2)	Paracrine
	(3) Neurotransmitter (4)	Intracellular
32.	1 1 ,	
	<ul><li>(1) Peptide hormones</li><li>(2)</li><li>(3) Prohormones</li><li>(4)</li></ul>	
		Amines
33.	(1) 5	
	1-20-00-00 To the first to the control of the contr	Middle region  Zone behind the apical region
24		Zone benind the apical region
34.	<ul><li>A homeotic mutation is one:</li><li>(1) Is present in only one form in an individual</li></ul>	dual
\$ *	(2) Substitutes one body part for another in	
e in e	(3) Results in the development of tumor	, and the same of
	(4) Is wild type at one temperature and abr	
[Phil	il./Ph.D./URS-EE-Nov -2018/(Life Sci )/(SET-	Z)/(D)

35.	<ul><li>In angiosperms free nuclear division take</li><li>(1) Gamete formation</li><li>(3) Flower formation</li></ul>	xes place during : (2) Endosperm formation (4) Embryo formation
36.	<ul><li>Which of the following pair is not correct</li><li>(1) Inbreeding depression: Homozygos</li><li>(2) Hybrid vigour: heterozygosity</li><li>(3) Apogamy: fertilization</li><li>(4) Male sterility: Cross pollination</li></ul>	g description
37.	The role of bicoid gene in <i>Drosophila</i> dev (1) The anterior end of a fly embryo (3) Even numbered segments	
38.	Which of the following proteins in ph transmembrane protein? (1) ATP synthase (2) LHC	otosynthetic electron transport chain is not a  (3) PS 11 (4) Ferrodoxin
39.	Which of the following pair is wrong?  (1) C3 - Maize  (3) Calvin cycle - PGA	<ul><li>(2) C4 - Kranz anatomy</li><li>(4) Hatch and Slack cycle - OAA</li></ul>
40.	Which of the following is an oxidative r (1) Conversion of phosphoglyceric acid (2) Carboxylation of RuBP using Rubis (3) Splitting of H <sub>2</sub> O to form oxygen (4) Phosphorylation	d to glyceraldehyde phosphate
41.	•	nge in protein product produced is termed:  (2) Non-sense mutation  (4) Frame shift mutation
42.	A mechanism that can cause a gene to r (1) Translocation (2) Inversion	move from one linkage group to another is:  (3) Crossing over (4) Duplication
43.	A person with Klinefelter syndrome is (1) Monosomic (2) Triploid	considered a: (3) Trisomic (4) Deletion heterozygote
44.	Which of the following disease is <i>not</i> be (1) Achondroplasia (3) Cri-du-chat-disease	ecause of chromosomal abnormalities?  (2) Myeloid leukaemia  (4) Patau's syndrome
M.Phi	il./Ph.D./URS-EE-Nov2018/(Life Sci.)/(	SET-Z)/(D) P. T. C

QTL analysis is used to:

	<ol> <li>Identify RNA polymerase binding sites</li> <li>Map genes in bacterial viruses</li> <li>Determine which genes are expressed at a developmental stage</li> <li>Identify chromosome regions associated with a complex trait in a genetic cross</li> </ol>
46	<ul> <li>Phenylketonuria is inherited disease that is characterized by:</li> <li>(1) Elimination of gentisic acid in urine</li> <li>(2) Increased occurrence of phenylalanine in blood and tissues</li> <li>(3) Elimination of sugar in urine</li> <li>(4) Decrease in phenylalanine in blood and tissues</li> </ul>
47	<ul> <li>A prophage is a:</li> <li>(1) Auxotrophic mutant</li> <li>(2) Gene</li> <li>(3) Phage DNA incorportated into the host genome</li> <li>(4) Host DNA packed into viral heads</li> </ul>
48	Which of the following system of plant classification is not phylogenetic?  (1) Bentham and Hooker system  (2) Engler and Prantl's system  (3) Hutchinson's system  (4) Takhtajan's system
49	Which of the following is <i>not</i> a positive interaction?  (1) Commensalism  (2) Protocooperation  (3) Amensalism  (4) Mutualism
50	Which of the following phylum is characterized by absence of true coelom?  (1) Annelida (2) Mollusca (3) Echinodermata (4) Nematoda
51	<ul> <li>The biggest difference the flow of energy and flow of chemical nutrients in ar ecosystem is:</li> <li>(1) The amount of energy is much greater than the amount of nutrients</li> <li>(2) Energy is recycled but nutrient are not</li> <li>(3) Organisms always need nutrients, but they donot always need energy</li> <li>(4) Nutrients are recycled but energy is not</li> </ul>
52	Pyramid of number in cropland ecosystem is:  (1) Upright (2) Inverted (3) Rhomboidal (4) Spindle shaped
53	(1) Himalayan zone (2) Gulf of Mannar (3) Western Ghat zone (4) Deccan plateau zone
M.Pl	hil./Ph.D./URS-EE-Nov2018/(Life Sci.)/(SET-Z)/(D)

P. T. O.

54.	What is the fate of most duplicated genes?
	(1) Gene inactivation
	(2) Gain of a novel function through subsequent mutation
	(3) They are transferred to a new organism using lateral gene transfer
	(4) They become orthologs
55.	An example of convergent evolution is:
•	(1) Australian marsupials and placental mammals
	(2) The flippers in ash, penguins and dolphins
	(3) The wings in birds, bats and insects
	(4) All of the above
56.	Which of the following is <i>not</i> an assumption of Hardy-Weinberg equilibrium?
	(1) No mutation (2) Random mating with respect to genotype
	(3) No more than two alleles at a locus (4) No selection on the basis of genotype
57.	Glycogen is a branched polymer of glucose. It has:
	(1) No reducing end
	(2) No non-reducing end
	(3) One reducing end and several non-reducing ends
	(4) One non-reducing end and several reducing ends
58.	An example of competitive inhibition of an enzyme is the inhibition of:
	(1) Succinic dehydrogenase by malonic acid
	(2) Cytochrome oxidase by cyanide
	(3) Hexokinase by glucose-6-phosphate
pri s	(4) Carbonic anhydrase by carbon dioxide
59.	Which of the following is the important reactive group of glutathione in its role as antioxidant?
	(1) Serine (2) Sulfhydryl (3) Tyrosine (4) Acetyl CoA
60.	Which of the following is <i>not</i> true about fatty acid biosynthesis?
	(1) NADPH acts as cofactors
10	(2) Two carbon unit acts as precursor

(4) Carrier for transport across mitochondrial membrane is carnitine

(3) Site of synthesis is cytosol

61.	Which of the following is not involved in maintaining oxygen homeostasis in nitrogen fixing nodules?  (1) Leghemoglobin  (2) Cytochrome oxidase
	(3) ATP dependent Potassium pumps (4) Dinitrogenreductase
62.	Plant shoot bends towards a light source as a result of:  (1) Increased amount of food synthesized facing light
	<ul><li>(2) Unequal distribution of auxin in their shoot apex</li><li>(3) Necessity of light for transpiration</li><li>(4) More elasticity on light facing side</li></ul>
63.	Plant deficient of element zinc, show its effect on the biosynthesis of plant growth hormone:  (1) Auxin  (2) Cytokinin  (3) Ethylene  (4) Absciccic acid
64.	In the resting state of the neural membrane, diffusion due to concentration gradients, if allowed, would drive:
	<ul> <li>(1) K+ into the cell</li> <li>(2) K+ and Na+ out of the cell</li> <li>(3) Na+ into the cell</li> <li>(4) Na+ out of the cell</li> </ul>
65.	Which of the following has the greatest effect on the ability of the blood to transport oxygen?  (1) Capacity of the blood to dissolve oxygen
	<ul> <li>(2) Amount of hemoglobin in blood</li> <li>(3) pH of plasma</li> <li>(4) Temperature of blood</li> </ul>
66.	Which of the following is responsible for the movement of $O_2$ from the alveoli into the blood in the pulmonary capillaries?
	<ul><li>(1) Active transport</li><li>(2) Filtration</li><li>(3) Secondary active transport</li><li>(4) Passive diffusion</li></ul>
67.	Which one of the following pairs of organs includes only the endocrine glands?  (1) Adrenal and Ovary  (2) Parathyroid and Adrenal  (3) Pancreas and Parathyroid  (4) Thymus and Testes
68.	Which of the following set is similar?  (1) Corpus luteum - Graafian follicles (2) Sebum - Sweat (3) Bundle of His - Pace maker (4) Vitamin B7 - Niacin
T DL:	IDL D JUDG FE M 2010//X: C: MOTE TANDA

69.	The difference between Trypsin and pepsin is that:
	(1) Trypsin digest proteins in acidic medium where as pepsin does so in alkaline medium
	(2) Trypsin digest proteins in alkaline medium whereas pepsin does so in acidic medium
	<ul><li>(3) Trypsin is secreted from the gastric glands while pepsin is secreted from pancreas</li><li>(4) Trypsin production is influenced by neuro hormones while pepsin by steroids</li></ul>
70.	The function of ileum is to:
	<ul> <li>(1) Absorb nutrients</li> <li>(2) Introduce Bile and pancreatic juices</li> <li>(3) Absorb Vitamin B<sub>12</sub> and bile salts</li> <li>(4) Absorb alcohol and aspirin</li> </ul>
71.	In which of the following, the nitrogenous wastes are excreted from the body in the form of Uric acid?
	(1) Birds and lizards (2) Frogs and cartilaginous fishes
	(3) Insects and bony fishes (4) Mammals and mollusk
72.	Which of the following is incorrect?  (1) Aldosterone stimulates the reabsorption of Na+  (2) Aldosterone stimulates the secretion of K+  (3) Aldosterone affects water absorption  (4) Aldosterone is made in the hypothalamus and released from anterior pituitary
73.	During ovulation, all of the following occurs except:  (1) Rupture of the Graaffian follicle  (2) Estrogen production reaches its lowest point  (3) FSH and LH plasma levels surge  (4) Corpus luteum is formed
74.	Which of the following hormones doesnot act by a second messenger system?
	(1) Glucagon (2) Epinephrine
	(3) Follicle Stimulating Hormone (4) Testosterone
75.	The HCl in the gastric juice converts:  (1) Diasaccharides to monosaccharides (2) Pepsinogen to pepsin

(4) Polypeptide to peptide

(2) Red blood cells and albumin

(4) White blood cells and platelets

**76.** The primary sealants that plug leaks in blood vessels are:

(3) Prorennin to renin

(1) Platelets and fibrin

(3) Fibrin and white blood cells

77.	The function of the stress induced proteins is to:
	(1) Provide proteins that function at low temperature
	(2) Change the composition of the plasma membrane to maintain fluidity
	(3) Regulate blood osmolarity and volume following an injury
	(4) Protect cellular proteins from denaturation during rapid temperature changes
78.	Which needs to drink the smallest amount of water to maintain its water balance
	(1) Sparrow (2) Salt water fish
	(3) Fresh water fish (4) Dog
79.	Epistasis and dominance are respectively:
	(1) Intragenic, Intergenic (2) Non-allelic, Extra allelic
	(3) Extra-allelic, Interallelic (4) Intergenic-non-allelic
80.	Transformation experiment was performed on which of the following bacteria?
	(1) E.Coli (2) Streptococcus pneumoniae
	(3) Salmonella (4) Pasteurellapestis
81.	All plastids have similar structure because:
	(1) Store starch, proteins and lipids
	(2) Get transformed from one type to another
	(3) They perform same function
	(4) Be present together
82.	Protein synthesis occurs in:
	(1) Mitochondria (2) Chloroplast
	(3) Nucleus (4) All of the above
83.	An enucleated plant cell is:
	(1) RBC (2) Companion cell
	(3) Sieve tube cell (4) Xylem parenchyma
84.	What is the function of the $\omega$ subunit of RNA polymerase ?
	(1) Subunit association (2) Promoter binding
	(3) Initiation and elongation (4) Cation binding
/ mt !	A TOTAL TO A TOTAL A SALE AND A S

P. T. O.

85.	All peroxisomes carry out this function:
	(1) break down fats and amino acids into smaller molecules that can be used for energy production by mitochondria
	(2) digest macromolecules using the hydrolytic enzymes they contain
	<ul><li>(3) synthesize membrane components such as fatty acids and phospholipids</li><li>(4) control the flow of ions into and out of the cell</li></ul>
86.	Which of the following statements does not apply to the nuclear envelope?
	(1) It is a double membrane.
1001	(2) It has pores through which material enters and leaves.
	(3) It is continuous with the endoplasmic reticulum.
	(4) It has infoldings to form cristae
87.	Fluid Mosaic Model favors that cell membrane contains proteins which are embedded in fashion of :
	(1) Zig-zag (2) Criss-cross (3) Mosaic (4) Eplic
88.	Continuous channels that appear to lie between plasma membrane and nuclear membrane is:
	(1) Endoplasmic reticulum (2) Golgi complex
	(3) Mitochondria (4) Ribosome
89.	Cyclin dependent kinases (CDKs):
	(1) Acts as mitotic poisons
	(2) Cause disassembly of microtubules
	(3) Control various phases of cell cycle
	(4) Arrest cell division due to non-formation of spindle
90.	Centromere is required for the:
	(1) Movement of chromosomes towards poles
	<ul><li>(2) Cytoplasmic cleavage</li><li>(3) Crossing over</li></ul>
	(4) Transcription
91.	Aminoacyl tRNAs are escorted to the ribosomes by elongation factor:
	(1) EF-Ts (2) EF-G (3) EF-Tu (4) eEF-2
02	
52.	Which one of the following reunites the exon segments after RNA splicing?  (1) RNA polymerase  (2) RNA primase
	(3) RNA ligase (4) RNA proteoses
	(1) It is proceed

93.	During translation initiation in prokaryotes, a GTP molecules is needed in:
	(1) Formation of formyl-met-tRNA
	(2) Binding of 30S subunit of ribosomes with mRNA
	(3) Association of 30S mRNA with formyl-met-tRNA
	(4) Association of 50S subunit of ribosomes with initiation complex
94.	Si RNA interferes:
	(1) Transcriptional level (2) Post transcriptional level
	(3) DNA replication level (4) Translational level
95.	
.90.	Which of the following transcription factors bind to TATA box ?  (1) TFIID (2) TFIIB
96.	AIDS is caused by HIV that principally infects:
	(1) All lymphocytes (2) T4 lymphocytes
	(3) Activator B cells (4) Cytotoxic T cells
97.	Which of the following post-translational modifications of proteins does not occur in
	the lumen of the endoplasmic reticulum?
	(1) Glycosylation
	(2) Formation of disulphide
	(3) Folding and formation of quaternary structure
	(4) Ubiquintination
98.	The p21 and P15 proteins are examples of :
	(1) Cdk inhibitors (2) Cyclins
	(3) Oncogenes (4) Growth factors
99.	Which of the following compounds does not act as second messenger during
	signaling process?
	(1) cAMP (2) Calcium ions
	(3) Inositol 3,4,5- triphosphate (4) Triacylglycerol
100.	G protein activation:
100.	(1) Leads to changes in gene expression
	(2) Always causes an increase in cyclic AMP
	(3) Leads to the generation of second messengers
*	(4) Always results in s decrease in cyclic AMP
	· · ·

Maharshi Dayanand University, Rohtole

Ph.D/URS 2018 Life Sciences Entrance Test Answer Key

Q.No	Pn.D/URS 2018	Life Sciences Enti	rance Test Answe	er Key
1	Set-A	Set-B	Set-C	Set-D
2	2	3	1	2
3	4	2	4	1
4	3	1	3	2
5	1	3	2	4
6	1	2	2	1
7	4	4	3	3
8	3	2	1	2
9	1	1	4	3
	3	2	1	2
10	1 .	3	3	3
11	3	1	1	4
12	3	3	4	2
13	3	4	2	4
14	2	2	4	4
15	1	4	2	3
16	2	1	1	1
17	4	4	4	2
18	1	4	3	
19	4	2	3	2
20	3	4	2	2
21	1	2	4	1
22	4	1	1	1
23	3	2	2	3
24	2	4	1	4
25	2	1	4	2
26	3	3	3	4
27	1	2	3	1
28	4	3		4
29	1	2	1	4
30	3	3	3	2
31	4	2	4	4
32	2	4	1	1
33	4	3	3	4
34	4	1	4	3
35	3		2	2
36	1	1	4	2
37	2	3	1	3
38	2		4	1
39	2	1	4	4
40	1	3	2	1
41	3	1	4	3
42	2	1	2	3
43	1	4	4	1
44	3	2	3	3
45	2	4	1	1
46		2	1	4
.5	4	1	4	2

Line Makenth

Cled 11/18 0 18 11/18

Maharshi Dayanand University Rolle

Q.NO	Set-A	life Sciences Entr	Set-C	Set-D
47	2	4	3	3
48	1	3	1	1
49	2	3	3	3
50	3	2	1	4
51	1	3	4	4
52	4	1	2	1
53	2	3	4	2
54	4	1	4	1
55	2	4	2	
56	1	2	1	3
57	4	3	2	3
58	3	1	2	
59	3	3	2	1
60	2	4	1	3
61	3	1	3	4
62	1	4	3	3
63	3	3	3	2
64	1	2	2	1
65	4	2	1	3
66	2	3		2
67	3	1	2 4	4
68	1	4		2
69	3	1	1 4	1
70	4	3	3	2
71	1	3		3
72	3	3	3	1
73	4	3	2	4
74	2	2	1	2
75	4	1	3	4
76	1	2	2	2
77	4	4	4	1
78	4		2	4
79	2	4	1	3
80	4	3	2	3
81	4	4	3	2
82	1		2	2
83	2	2	1	4
84	1		2	3
85	4	1	4	1
86	3	4	1	1
87	3	3	3	4
88	1	3	2	3
89	3	1	3	1
90	4	3	2	3
91		4	3	1
92	2	4	3	3
93	1	2	1	3
94	2	4	3	3
95	4	4	1 .	2
	1	3	4	1
96	3	1	2	2

4 1

