NEET 2020

13th September

Biology Video Solution & Discussion



NEET | JEE Main & Advanced | XI-XII Foundation | VI-X Pre-Foundation



- The transverse section of a plant shows following anatomical features:
 - (a) Large number of scattered vascular bundles surrounded by bundle sheath.
 - (b) Large conspicuous parenchymatous ground tissue.
 - (c) Vascular bundles conjoint and closed.
 - (d) Phloem parenchyma absent.

Identify the category of plant and its part:-

(1) Dicotyledonous root

(2) Monocotyledonous stem

(3) Monocotyledonous root

(4) Dicotyledonous stem

Answer (2)

- 47. Which of the following would help in prevention of diuresis?
 - (1) Decrease in secretion of renin by JG cells
 - (2) More water reabsorption due to undersecretion of ADH
 - (3) Reabsorption of Na⁺ and water from renal tubules due to aldosterone
 - (4) Atrial natriuretic factor causes vasoconstriction

Answer (3)

- 48. Which of the following statements is **not** correct?
 - (1) Genetically engineered insulin is produced in E-Coli
 - (2) In man insulin is synthesised as proinsulin
 - (3) The proinsulin has an extra peptide called C-peptide
 - (4) The functional insulin has A and B chains linked together by hydrogen bonds

Answer (4)

- 49. Embryological support for evolution was disapproved by:
 - (1) Oparin
- (2) Karl Ernst von Baer (3) Alfred Wallace

(4) Charles Darwin

Answer (2)

- **50.** Goblet cells of alimentary canal are modified from:
 - (1) Compound epithelial cells

(2) Squamous epithelial cells

(3) Columnar epithelial cells

(4) Chondrocytes

Answer (3)

- 51. The QRS complex in a standard ECG represents:
 - (1) Repolarisation of ventricles

(2) Repolarisation of auricles

(3) Depolarisation of auricles

(4) Depolarisation of ventricles

Answer (4)

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- **52.** In light reaction, plastoquinone facilitates the transfer of electrons from :
 - (1) PS-I to ATP synthase

(2) PS-II to Cytb6f complex

(3) Cytb6f complex to PS-I

(4) PS-I to NADP+

Answer (2)

- **53.** The product(s) of reaction catalyzed by nitrogenase in root nodules of leguminous plants is/are:
 - (1) Ammonia and hydrogen

(2) Ammonia alone

(3) Nitrate alone

(4) Ammonia and oxygen

Answer (1)

54. Match the following with respect to meiosis:

(a)	Zygotene	(i)	Terminalization
(b)	Pachytene	(ii)	Chiasmata
(c)	Diplotene	(iii)	Crossing over
(d)	Diakinesis	(iv)	Synapsis

Select the **correct** option from the following:

(a)

(b) (c)

(**d**)

(1) (ii)

(iv)

(iii) (i)

(2) (iii)

(iv) (i)

(ii)

(3) (iv)

(iii)

(ii)

(i)

(4) (i)

(iv)

(ii)

(iii)

Answer (3)

55. Match the following columns and select the **correct** option :

	Column-I		Column -II
(a)	6 - 15 pairs of gill slits	(i)	Trygon
(b)	Heterocercal caudal fin	(ii)	Cyclostomes
(c)	Air bladder	(iii)	Chondrichthyes
(d)	Poison sting	(iv)	Osteichthyes

(a)

(b)

(c)

(d)

(ii)

(i)

(ii)

(1) (i)

(iv)

(iii)

(iv)

(i)

(2) (ii)

(iii)

(iv)

(3) (iii) (4) (iv)

(ii)

(iii) (i)

Answer (2)

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Which	is the imp	ortant sit	e of forn	natio	n of glycopro	teins and glycolipids in eu	karyotic cells?
(1) Pol	ysomes		(2) End	oplas	smic reticulur	n(3) Peroxisomes	(4) Golgi bodies
ver (4)							
Match the organism with its use in biotechnology:							
(a) B	a) Bacillus thuringiensis			(i)	Cloning vect	or	
(b) T	hermus aq	uaticus		(ii)	Construction	n of first rDNA molecule	
(c) A	.grobacter	ium tume	faciens	(iii)	DNA polym	erase	
(d) S	almonella	typhimuri	ium	(iv)	Cry proteins		
Select	the correc	t option	from the	foll	owing:		
(a)	(b)	(c)	(d)				
(1) (iii	(iv)	(i)	(ii)				
(2) (ii)	(iv)	(iii)	(i)				
(3) (iv) (iii)	(i)	(ii)				
(4) (iii) (ii)	(iv)	(i)				
ver (3)							
Experi	mental ver	rification	of the cl	hrom	osomal theor	ry of inheritance was done	by:
(1) Mo	organ		(2) Mei	ndel		(3) Sutton	(4) Boveri
ver (1)							
Match	the follow	ing:					
(a) In	nhibitor of	catalytic	activity	(i)	Ricin		
(b) P	ossess pej	otide bon	ıds	(ii)	Malonate		
(c) C	ell wall ma	aterial in 1	fungi	(iii)	Chitin		
(d) Secondary metabolite				(iv)	Collagen		
Choos	e the corr e	ect option	n from tl	ne fo	llowing:		
(a)	(b)	(c)	(d)				
(1) (ii)	(iii)	(i)	(iv)				
(2) (ii)	(iv)	(iii)	(i)				
(3) (iii) (i)	(iv)	(ii)				
(4) (iii	(iv)	(i)	(ii)				
ver (2)							
		etrical an				-	
	nelida		(2) Cte	noph	ora	(3) Platyhelminthes	(4) Aschelminthes
ver (3)				Γ/ΙΛ:	TDIV NICE	T DIVICION	_
		Office					1911
	(1) Pole (er (4) Match (a) B (b) T (c) A (d) S Select (a) (1) (iii) (2) (ii) (3) (iv) (4) (iii) (7er (3) Experi (1) Motor (1) Match (a) Ir (b) P (c) C (d) S Choose (a) (1) (ii) (2) (ii) (3) (iii) (4) (iii) (7er (2) Bilater	(1) Polysomes Ver (4) Match the organi (a) Bacillus thur (b) Thermus aq (c) Agrobacter (d) Salmonella Select the correct (a) (b) (1) (iii) (iv) (2) (ii) (iv) (3) (iv) (iii) (4) (iii) (ii) Ver (3) Experimental ver (1) Morgan Ver (1) Match the follow (a) Inhibitor of (b) Possess per (c) Cell wall match the correct (a) (b) (1) (ii) (iii) (2) (i) (iv) (3) (iii) (i) (4) (iii) (iv) Ver (2) Bilaterally symmetrical symm	(1) Polysomes (2) Match the organism with it (a) Bacillus thuringiensis (b) Thermus aquaticus (c) Agrobacterium tume (d) Salmonella typhimum Select the correct option in (a) (b) (c) (1) (iii) (iv) (ii) (2) (ii) (iv) (iii) (3) (iv) (iii) (i) (4) (iii) (ii) (iv) (5) Experimental verification (1) Morgan (1) Morgan (2) Cell wall material in it (d) Secondary metabolic (a) Inhibitor of catalytic (b) Possess peptide born (c) Cell wall material in it (d) Secondary metabolic (a) (b) (c) (1) (ii) (iii) (i) (2) (ii) (iv) (iii) (3) (iii) (i) (iv) (4) (iii) (iv) (i) (4) (iii) (iv) (i) (5) (iv) (iii) (6) (iv) (iv) (7) (iv) (8) (iv) (iv) (9) (iv) (1) (iv) (1) (iv) (1) (iv) (2) (ii) (iv) (iii) (3) (iii) (iv) (iv) (4) (iii) (iv) (iv) (5) (iv) (6) (c) (7) (d) (iv) (iv) (8) (d) (d) (d) (d) (d) (d) (d) (d) (d) (d	(1) Polysomes (2) Endoter (4) Match the organism with its use in (a) Bacillus thuringiensis (b) Thermus aquaticus (c) Agrobacterium tumefaciens (d) Salmonella typhimurium Select the correct option from the (a) (b) (c) (d) (1) (ii) (iv) (ii) (i) (2) (ii) (iv) (iii) (i) (3) (iv) (iii) (i) (ii) (4) (iii) (ii) (iv) (i) (iv) (iii) (iv) (i) (iv) (iv	(1) Polysomes (2) Endoplaster (4) Match the organism with its use in biot (i) (a) Bacillus thuringiensis (i) (b) Thermus aquaticus (ii) (c) Agrobacterium tumefaciens (iii) (d) Salmonella typhimurium (iv) Select the correct option from the following (ii) (ii) (ii) (ii) (ii) (ii) (iii) (iiii) (iii) (iiii) (iiii) (iiii) (iiiiiii) (iiiiiiii	(1) Polysomes (2) Endoplasmic reticulur (er (4) Match the organism with its use in biotechnology: (a) Bacillus thuringiensis (i) Cloning vectors (b) Thermus aquaticus (ii) DNA polym (d) Salmonella typhimurium (iv) Cry proteins (a) (b) (c) (d) (1) (iii) (iv) (i) (ii) (2) (ii) (iv) (iii) (i) (3) (iv) (iii) (iv) (i) (iv) (ii) (2) (ii) (iv) (iii) (iv) (i) (iv) (iv) (iv	Match the organism with its use in biotechnology: (a) Bacillus thuringiensis (i) Cloning vector (b) Thermus aquaticus (ii) Construction of first rDNA molecule (c) Agrobacterium tumefaciens (iii) DNA polymerase (d) Salmonella typhimurium (iv) Cry proteins Select the correct option from the following: (a) (b) (c) (d) (1) (iii) (iv) (i) (ii) (2) (ii) (iv) (iii) (i) (3) (iv) (iii) (i) (ii) (4) (iii) (ii) (iv) (i) Per (3) Experimental verification of the chromosomal theory of inheritance was done (1) Morgan (2) Mendel (3) Sutton Per (1) Match the following: (a) Inhibitor of catalytic activity (i) Ricin (b) Possess peptide bonds (ii) Makonate (c) Cell wall material in fungi (iii) Chitin (d) Secondary metabolite (iv) Collagen Choose the correct option from the following: (a) (b) (c) (d) (1) (ii) (iii) (i) (iv) (2) (ii) (iv) (iii) (i) (3) (iii) (i) (iv) (ii) (4) (iii) (iv) (ii) (ii) (4) (iii) (iv) (ii) (ii) (5) (2) (2) (3) (4) (iii) (4) (iii) (4) (iii) (4) (iii) (4) (iii) (5) (5) (6) (6) (6) (6) (6) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7

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- **61.** Floridean starch has structure similar to:
 - (1) Laminarin and cellulose

(2) Starch and cellulose

(3) Amylopectin and glycogen

(4) Mannitol and algin

Answer (3)

- **62.** Identify the **correct** statement with regard to G₁ phase (Gap 1) of interphase.
 - (1) Nuclear Division takes place.
 - (2) DNA synthesis or replication takes place.
 - (3) Reorganisation of all cell components takes place.
 - (4) Cell is metabolically active, grows but does not replicate its DNA.

Answer (4)

- **63.** If the head of cockroach is removed, it may live for few days because:
 - (1) The head holds $1/3^{rd}$ of nervous system while the rest is situated along the dorsal part of its body
 - (2) The supra-oesophageal ganglia of the cockroach are situated in ventral part of abdomen
 - (3) The cockroach does not have nervous system
 - (4) The head holds a small proportion of nervous system while the rest is situated along the ventral part of its body

Answer (4)

- **64.** The enzyme enterokinase helps in conversion of:
 - (1) Pepsinogen into pepsin

(2) Protein into polypeptides

(3) Trypsinogen into trypsin

(4) Caseinogen into casein

Answer (3)

65. Match the following columns and select the **correct** option :

	Column-I		Column-II
(a)	Organ of Corti	(i)	Connects middle ear and pharynx
(b)	Cochlea	(ii)	Coiled part of the labyrinth
(c)	Eustachian tube	(iii)	Attached to the oval window
(d)	Stapes	(iv)	Located on the basilar membrane

	(a)	(b)	(c)	(d)
(1)	(i)	(ii)	(iv)	(iii)
(2)	(ii)	(iii)	(i)	(iv)
(3)	(iii)	(i)	(iv)	(ii)
(4)	(iv)	(ii)	(i)	(iii)

Answer (4)

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- Identify the **wrong** statement with reference to transport of oxygen: (1) Low pCO₂ in alveoli favours the formation of oxyhaemoglobin (2) Binding of oxygen with haemoglobin is mainly related to partial pressure of O₂

 - (3) Partial pressure of CO₂ can interfere with O₂ binding with haemoglobin
 - (4) Higher H⁺ conc. in alveoli favours the formation of oxyhaemoglobin

Answer (4)

- In water hyacinth and water lily, pollination takes place by: **67.**
 - (1) insects and water
- (2) insects or wind
- (3) water currents only
- (4) wind and water

Answer (2)

- Bt cotton variety that was developed by the introduction of toxin gene of Bacillus thuringiensis (Bt) is resistant **68.**
 - (1) Insect predators
- (2) Insect pests
- (3) Fungal diseases
- (4) Plant nematodes

Answer (2)

- 69. Select the **correct** statement:
 - (1) Insulin is associated with hyperglycemia
- (2) Glucocorticoids stimulate gluconeogenesis
- (3) Glucagon is associated with hypoglycemia
- (4) Insulin acts on pancreatic cells and adipocytes

Answer (2)

- **70.** Identify the basic amino acid from the following:
 - (1) Valine
- (2) Tyrosine
- (3) Glutamic acid
- (4) Lysine

Answer (4)

- 71. Flippers of Penguins and Dolphins are examples of:
 - (1) Natural selection
- (2) Adaptive radiation
- (3) Convergent evolution
- (4) Industrial melanism

Answer (3)

- 72. From his experiments, S.L. Miller produced amino acids by mixing the following in a closed flask:
 - (1) CH₂, H₂, NH₂ and water vapor at 600°C
- (2) CH₄, H₂, NH₂ and water vapor at 800°C
- (3) CH₃, H₂, NH₄ and water vapor at 800°C
- (4) CH₄, H₂, NH₂ and water vapor at 600°C

Answer (2)

- **73.** The specific palindromic sequence which is recognized by EcoRI is:
 - (1) 5' GGATCC 3'
 - 3' CCTAGG 5'
 - (2) 5' GAATTC 3'
 - 3' CTTAAG 5'
 - (3) 5' GGAACC 3'
 - 3' CCTTGG 5'
 - (4) 5' CTTAAG 3'
 - 3' GAATTC 5'

Answer (2)

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- 74. Secondary metabolites such as nicotine, strychnine and caffeine are produced by plants for their:
 - (1) Effect on reproduction

(2) Nutritive value

(3) Growth response

(4) Defence action

Answer (4)

- **75.** Presence of which of the following conditions in urine are indicative of Diabetes Mellitus?
 - (1) Renal calculi and Hyperglycaemia
 - (2) Uremia and Ketonuria
 - (3) Uremia and Renal Calculi
 - (4) Ketonuria and Glycosuria

Answer (4)

- **76.** Which of the following statements are **true** for the phylum-Chordata?
 - (a) In Urochordata notochord extends from head to tail and it is present throughout their life
 - (b) In Vertebrata notochord is present during the embryonic period only
 - (c) Central nervous system is dorsal and hollow
 - (d) Chordata is divided into 3 subphyla: Hemichordata, Tunicata and Cephalochordata
 - (1) (b) and (c)
- (2) (d) and (c)
- (3) (c) and (a)
- (4) (a) and (b)

Answer (1)

- 77. Cuboidal epithelium with brush border of microvilli is found in:
 - (1) Eustachian tube
 - (2) Lining of intestine
 - (3) Ducts of salivary glands
 - (4) Proximal convoluted tubule of nephron

Answer (4)

78. Match the following columns and select the correct option.

	Column-I		Column-II
(a)	Clostridium butylicum	(i)	Cyclosporin - A
(b)	Trichoderma polysporum	(ii)	Butyric Acid
(c)	Monascus purpureus	(iii)	Citric Acid
(d)	Aspergillus niger	(iv)	Blood cholesterol lowering agent

	(a)	(D)	(C)	(a)
(1)	(iv)	(iii)	(ii)	(i)
(2)	(iii)	(iv)	(ii)	(i)
(3)	(ii)	(i)	(iv)	(iii)
(4)	(i)	(ii)	(iv)	(iii)

Answer (3)

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- **79.** Which of the following is correct about viroids?
 - (1) They have free DNA without protein coat.
 - (2) They have RNA with protein coat.
 - (3) They have free RNA without protein coat.
 - (4) They have DNA with protein coat.

Answer (3)

- **80.** The body of the ovule is fused within the funicle at:
 - (1) Chalaza
- (2) Hilum
- (3) Micropyle
- (4) Nucellus

Answer (2)

- **81.** The oxygenation activity of RuBisCo enzyme in photorespiration leads to the formation of:
 - (1) 1 molecule of 4-C compound and 1 molecule of 2-C compound.
 - (2) 2 molecules of 3-C compound
 - (3) 1 molecule of 3-C compound
 - (4) 1 molecule of 6-C compound

Answer (3)

82. Match the following columns and select the **correct** option :

	Column-I		Column-II
(a)	Eosinophils	(i)	Immune response
(b)	Basophils	(ii)	Phagocytosis
(c)	Neutrophils	(iii)	Release histaminase, destructive enzymes
(d)	Lymphocytes	(iv)	Release granules containing histamine

- (a)
- **(b)**
- (c) (d)
- (1) (ii)
- (i)
- (iii) (iv)
- (2) (iii)
- (iv)
- (ii) (i)
- (3) (iv)
- (i)
- (ii)

(iv)

- (4) (i)
- (ii)
- (iii)

(iii)

Answer (2)

- **83.** Which of the following hormone levels will cause release of ovum (ovulation) from the graffian follicle?
 - (1) Low concentration of FSH

- (2) High concentration of Estrogen
- (3) High concentration of Progesterone
- (4) Low concentration of LH

Answer (2)

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- **84.** Select the **correct** events that occur during inspiration:
 - (a) Contraction of diaphragm
 - (b) Contraction of external inter-costal muscles
 - (c) Pulmonary volume decreases
 - (d) Intra pulmonary pressure increases
 - (1) only (d)
- (2) (a) and (b)
- (3) (c) and (d)
- (4)(a),(b) and (d)

Answer (2)

- **85.** In which of the following techniques, the embryos are transferred to assist those females who cannot conceive?
 - (1) GIFT and ICSI
- (2) ZIFT and IUT
- (3) GIFT and ZIFT
- (4) ICSI and ZIFT

Answer (2)

- **86.** The infectious stage of Plasmodium that enters the human body is:
 - (1) Male gametocytes
- (2) Trophozoites
- (3) Sporozoites
- (4) Female gametocytes

Answer (3)

87. Match the following columns and select the **correct** option :

	Column-I		Column-II
(a)	Placenta	(i)	Androgens
(b)	Zona pellucida	(ii)	Human Chorionic Gonadotropin (hCG)
(c)	Bulbourethral glands	(iii)	Layer of the ovum
(d)	Leydig cells	(iv)	Lubrication of the Penis

- (a) (b) (c)
 - (iii) (iv)
 - (iv) (i)
- (2) (iv)

(1) (ii)

(iii) (i)

(ii)

(iv)

(ii)

(d)

- (3) (i) (4) (iii)
- (ii)

(iv)

(iii) (i)

Answer (1)

- **88.** Select the **correct** match:
 - (1) Thalassemia X linked
 - (2) Haemophilia Y linked
 - (3) Phenylketonuria Autosomal dominant trait
 - (4) Sickle cell anaemia Autosomal recessive trait, chromosome-11

Answer (4)

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-	•						
89.	Which of the followi	ng statements is correct ?					
	(1) Adenine does not	pair with thymine	(2) Adenine pairs with thym	nine through two H-bonds			
	(3) Adenine pairs wit	h thymine through one H-b	ond (4) Adenine pairs with thym	nine through three H-bonds			
Ansv	ver (2)						
90.	Which of the following	ng is the most abundant pro	tein in the animals?				
	(1) Insulin	(2) Haemoglobin	(3) Collagen	(4) Lectin			
Ansv	ver (3)						
91.	Which of the following	ng pairs is of unicellular alga	ne?				
	(1) Chlorella and Sp	pirulina	(2) Laminaria and Sargassum				
	(3) Gelidium and Gr	racilaria	(4) Anabaena and Volvox				
Ansv	ver (1)						
92.	The plant parts which	n consist of two generations	s one within the other:				
	(a) Pollen grains insid	de the anther	(b) Germinated pollen grain	with two male gametes			
	(c) Seed inside the fr	uit	(d) Embryo sac inside the o	vule			
	(1) (a) and (d)	(2) (a) only	(3) (a), (b) and (c)	(4) (c) and (d)			
Ansv	ver (1)						
93.	Identify the incorrec	t statement.					
	(1) Due to deposition	n of tannins, resins, oils etc	, heart wood is dark in colour				
	(2) Heart wood does	not conduct water but give	es mechanical support				
	(3) Sapwood is invol	ved in conduction of water	and minerals from root to leaf				
	(4) Sapwood is the in	nermost secondary xylem	and is lighter in colour				
Ansv	ver (4)						
94.	By which method wa	as a new breed 'Hisardale' o	of sheep formed by using Bikane	eri ewes and Marino rams?			
	(1) Inbreeding	(2) Out crossing	(3) Mutational breeding	(4) Cross breeding			
Ansv	ver (4)						
95.	Some dividing cells	exit the cell cycle and enter	vegetative inactive stage. This is	s called quiescent stage (G_0)			
	This process occurs	at the end of:					
	(1) G_2 phase	(2) M phase	(3) G ₁ phase	(4) S phase			
Ansv	ver (2) / (3)						
96.	Identify the correct s	statement with reference to	human digestive system:				
	(1) Vermiform appen	dix arises from duodenum					
	(2) Ileum opens into s	small intestine					
	(3) Serosa is the inne	rmost layer of the alimentar	ry canal				
	(4) Ileum is highly co	iled part					
Ansv	ver (4)						

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- **97.** Which of the following refer to **correct** example(s) of organisms which have evolved due to changes in environment brought about by anthropogenic action?
 - (a) Darwin's finches of Galapagos islands

(b) Herbicide resistant weeds

(c) Drug resistant eukaryotes

(d) Man-created breeds of domesticated animals like dogs

(1) Only (d)

(2) Only (a)

(3) (a) and (c)

(4) (b), (c) and (d)

Answer (4)

98. Match the following columns and select the **correct** option :

	Col	Column-I		Column-II
(a)	Pituita	Pituitary gland		Grave's disease
(b)	Thyro	id gland	(ii)	Diabetes mellitus
(c)	Adren	Adrenal gland		Diabetes insipidus
(d)	Pancr	Pancreas		Addision's disease
	(a)	(b)	(c)	(d)
(1)	(ii)	(i)	(iv)	(iii)
(2)	(iv)	(iii)	(i)	(ii)
(3)	(iii)	(ii)	(i)	(iv)
(4)	(iii)	(i)	(iv)	(ii)

Answer (4)

- **99.** Select the option including all sexually transmitted diseases:
 - (1) Cancer, AIDS, Syphilis
 - (2) Gonorrhoea, Syphilis, Genital herpes
 - (3) Gonorrhoea, Malaria, Gential herpes
 - (4) AIDS, Malaria, Filaria

Answer (2)

100. The number of substrate level phosphorylations in one turn of citric acid cycle is:

(1) Three

(2) Zero

(3) One

(4) Two

Answer (3)

- **101.** Montreal protocol was signed in 1987 for control of:
 - (1) Disposal of e-wastes
 - (2) Transport of Genetically modified organisms from one country to another
 - (3) Emission of ozone depleting substances
 - (4) Release of Green House gases

Answer (3)

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102. Match the following concerning essential elements and their functions in plants:

(a)	Iron	(i)	Photolysis of water
(b)	Zinc		Pollen germination
(c)	Boron	(iii)	Required for chlorophyll biosynthesis
(d)	Manganese	(iv)	IAA biosynthesis

Select the **correct** option:

	(a)	(b)	(c)	(d)
(1)	(iv)	(i)	(ii)	(iii)

(2) (ii) (i) (iv) (iii)

(3) (iv) (iii) (ii) (i)

(4) (iii) (iv) (ii) (i)

Answer (4)

103. Match the following columns and select the **correct** option:

	Column-I		Column-II
(a)	Gregarious, polyphagous pest	(i)	Asterias
(b)	Adult with radial symmetry and larva with bilateral symmetry	(ii)	Scorpion
(c)	Book lungs	(iii)	Ctenoplana
(d)	Bioluminescence	(iv)	Locusta

(a) **(b) (c) (d)** (1) (ii) (i) (iii) (iv) (2) (i) (iii) (ii) (iv) (3) (iv) (i) (ii) (iii) (4) (iii) (ii) (i) (iv)

Answer (3)

104. According to Robert May, the global species diversity is about :

(1) 7 million (2) 1.5 million (3) 20 million

Answer (1)

105. Ray florets have:

(1) Half inferior ovary (2) Inferior ovary (3) Superior ovary (4) Hypogynous ovary

Answer (2)

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(4) 50 million



- 106. If the distance between two consecutive base pairs is 0.34 nm and the total number of base pairs of a DNA double helix in a typical mammalian cell is 6.6×10^9 bp, then the length of the DNA is approximately:
 - (1) 2.7 meters
- (2) 2.0 meters
- (3) 2.5 meters
- (4) 2.2 meters

Answer (4)

107. Match the following columns and select the **correct** option:

	Column-I		Column-II
(a)	Bt cotton	(i)	Gene therapy
(b)	Adenosine deaminase deficiency	(ii)	Cellular defence
(c)	RNAi	(iii)	Detection of HIV infection
(d)	PCR	(iv)	Bacillus thuringiensis

(d)

(iv)

(iii)

(iv)

- (a) **(b)**
- **(c)**
- (1) (i)
- (ii) (iii)
- (2) (iv)
- (i) (ii)
- (3) (iii)

(4) (ii)

- (ii) (i)
- (iii)
- (iv) (i)

Answer (2)

108. Match the trophic levels with their **correct** species examples in grassland ecosystem.

(a)	Fourth trophic level	(i)	Crow
(b)	Second trophic level	(ii)	Vulture
(c)	First trophic level	(iii)	Rabbit
(d)	Third trophic level	(iv)	Grass

Select the **correct** option :

(b)

- (a)
- **(c)**

(iii)

(iv)

(d)

(iv)

(i)

- (1) (i)
- (ii)
- (iv) (i)
- (2) (ii) (3) (iii)
- (iii)
- (ii)
- (i)
- (4) (iv) (iii)
- (ii)

Answer (2)

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109. Match the following diseases with the causative organism and select the **correct** option :

	Column-I		Column-II
(a)	Typhoid	(i)	Wuchereria
(b)	Pneumonia	(ii)	Plasmodium
(c)	Filariasis	(iii)	Salmonella
(d)	Malaria	(iv)	Haemophilus

(a)	(b)	(c)	(d)
(1) (iv)	(i)	(ii)	(iii)
(2) (i)	(iii)	(ii)	(iv)
(3) (iii)	(iv)	(i)	(ii)
(4) (ii)	(i)	(iii)	(iv)

Answer (3)

110. The roots that originate from the base of the stem are:

(1) Lateral roots

(2) Fibrous roots

(3) Primary roots

(4) Prop roots

Answer (2)

- **111.** Meiotic division of the secondary oocyte is completed:
 - (1) At the time of fusion of a sperm with an ovum
 - (2) Prior to ovulation
 - (3) At the time of copulation
 - (4) After zygote formation

Answer (1)

- 112. Identify the **wrong** statement with regard to Restriction Enzymes:
 - (1) Sticky ends can be joined by using DNA ligases
 - (2) Each restriction enzyme functions by inspecting the length of a DNA sequence
 - (3) They cut the strand of DNA at palindromic sites
 - (4) They are useful in genetic engineering

Answer (1)

- **113.** In relation to Gross primary productivity and Net primary productivity of an ecosystem, which one of the following statements is **correct**?
 - (1) There is no relationship between Gross primary productivity and Net primary productivity.
 - (2) Gross primary productivity is always less than net primary productivity.
 - (3) Gross primary productivity is always more than net primary productivity.
 - (4) Gross primary productivity and Net primary productivity are one and same.

Answer (3)

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114.	The	The process of growth is maximum during:						
	(1) I	Dormancy		(2) Log phase	(3) Lag phase		(4) Senescence	
Answ	er (2)							
115.	The	sequence that co	ontro	ls the copy number of the	e linked DNA in the	vector, is terr	med:	
	(1) F	Recognition site		(2) Selectable marker	(3) Ori site		(4) Palindromic sequence	
Answ	er (3)							
116.	Nan	ne the enzyme th	at fac	cilitates opening of DNA l	nelix during transcri	ption.		
	(1) F	RNA polymeras	e	(2) DNA ligase	(3) DNA helicase	e	(4) DNA polymerase	
Answ	er (1)							
117.	Snov	Snow-blindness in Antarctic region is due to:						
	(1) I	Damage to retina	a cau	sed by infra-red rays				
	(2) F	Freezing of fluid	s in tl	ne eye by low temperatur	e			
	(3) I	nflammation of	corn	ea due to high dose of UV	V-B radiation			
	(4) F	High reflection of	fligh	t from snow				
Answ	er (3)							
118.	Stro	bili or cones are	foun	d in:				
	(1) I	Equisetum		(2) Salvinia	(3) Pteris		(4) Marchantia	
Answ	er (1)							
119.	Mate	ch the following	colu	mns and select the corre	ct option:			
		Column-I		Column	Column-II			
	(a)	Floating ribs	(i)	Located between second	d and seventh ribs			
	(b)	Acromion	(ii)	Head of the humerus				
	(c)	Scapula	(iii)	Clavicle				
	(d)	Glenoid cavity	(iv)	Do not connect with the	sternum			
		(a) (b)	(c)	(d)		1		

	(a)	(b)	(c)	(d)
(1)	(iv)	(iii)	(i)	(ii)
(2)	(ii)	(iv)	(i)	(iii)
(3)	(i)	(iii)	(ii)	(iv)
(4)	(iii)	(ii)	(iv)	(i)

Answer (1)

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120.	Which of the following is put into Anaerobic sludge digester for further sewage treatment?						
	(1) Activated sludge		(2) Primary sludge				
	(3) Floating debris		(4) Effluents of primary to	reatment			
Answ	rer (1)						
121.	Identify the wrong st	atement with reference to the	e gene 'I' that controls ABO	blood groups.			
	(1) Allele 'i' does not produce any sugar.						
	(2) The gene (I) has t	hree alleles.					
	(3) A person will have	e only two of the three alleles	5.				
	(4) When I ^A and I ^B are	e present together, they expr	ress same type of sugar.				
Answ	rer (4)						
122.	The ovary is half infer	rior in:					
	(1) Plum	(2) Brinjal	(3) Mustard	(4) Sunflower			
Answ	rer (1)						
123.	The first phase of tran	aslation is:					
	(1) Recognition of an	anti-codon	(2) Binding of mRNA to ribosome				
	(3) Recognition of Di	NA molecule	(4) Aminoacylation of tR	NA			
Answ	rer (4)						
124.	In gel electrophoresis	s, separated DNA fragments of	can be visualized with the he	elp of :			
	(1) Ethidium bromide	in infrared radiation	(2) Acetocarmine in brigh	nt blue light			
	(3) Ethidium bromide	e in UV radiation	(4) Acetocarmine in UV	radiation			
Answ	rer (3)						
125.	Dissolution of the syr	aptonemal complex occurs d	uring:				
	(1) Leptotene	(2) Pachytene	(3) Zygotene	(4) Diplotene			
Answ	rer (4)						
126.	Identify the substance	es having glycosidic bond and	d peptide bond, respectively	in their structure:			
	(1) Inulin, insulin	(2) Chitin, cholesterol	(3) Glycerol, trypsin	(4) Cellulose, lecithin			
Answ	rer (1)						
127.	Name the plant grow	th regulator which upon spra	aying on sugarcane crop, in	creases the length of stem, thus			
	increasing the yield o	f sugarcane crop.					
	(1) Abscisic acid	(2) Cytokinin	(3) Gibberellin	(4) Ethylene			
Answ	rer (3)						

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- **128.** Which of the following statements about inclusion bodies is **incorrect**?
 - (1) These represent reserve material in cytoplasm. (2) They are not bound by any membrane.
 - (3) These are involved in ingestion of food particles. (4) They lie free in the cytoplasm.

Answer (3)

- **129.** Which of the following regions of the globe exhibits highest species diversity?
 - (1) Amazon forests
- (2) Western Ghats of India (3) Madagascar

(4) Himalayas

Answer (1)

- **130.** How many true breeding pea plant varieties did Mendel select as pairs, which were similar except in one character with contrasting traits?
 - (1)8

(2)4

(3)2

(4) 14

Answer (4)

- **131.** Identify the **wrong** statement with reference to immunity:
 - (1) Foetus receives some antibodies from mother, it is an example of passive immunity
 - (2) When exposed to antigen (living or dead) antibodies are produced in the host's body. It is called "Active immunity"
 - (3) When ready-made antibodies are directly given, it is called "Passive immunity"
 - (4) Active immunity is quick and gives full response

Answer (4)

- **132.** Which of the following is **not** an attribute of a population?
 - (1) Species interaction
- (2) Sex ratio
- (3) Natality

(4) Mortality

Answer (1)

- **133.** Choose the **correct** pair from the following:
 - (1) Exonucleases : Make cuts at specific positions within DNA
 - (2) Ligases : Join the two DNA molecules
 - (3) Polymerases : Break the DNA into fragments
 - (4) Nucleases : Separate the two strands of DNA

Answer (2)

- **134.** The process reponsible for facilitating loss of water in liquid form from the tip of grasss blades at night and in early morning is:
 - (1) Plasmolysis
- (2) Transpiration
- (3) Root pressure
- (4) Imbibition

Answer (3)

- **135.** Which of the following is **not** an inhibitory substance governing seed dormancy?
 - (1) Para-ascorbic acid
- (2) Gibberellic acid
- (3) Abscisic acid
- (4) Phenolic acid

Answer (2)

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