NEW TREND BIOLOGY

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COMBINED CLASS TEST - 08

Test Code - 08

CCT paper contains 6 pages

Important Instructions :

1. The Answer Sheet is provided beside this Test Paper. When you are directed to open the Test Paper, fill in the particulars carefully with blue/black ball point pen only.
2. The test is of 45 minutes duration and Test Paper contains 45 questions. Each question carries 4 mark. For each correct response, the candidate will get 4 marks. For each incorrect response, 1 mark will be deducted from the total scores. The maximum marks are 180.
3. Use Blue/Black Ball Point Pen only for writing particulars on this page/marking responses.
4. On completion of the test, the candidate must handover the Answer Sheet to the invigilator before leaving the Room/Hall. The candidates are allowed to take away this Test Paper with them.
5. Name, Batch and NTB I.D. must be written in the answer sheet.
6. The candidates should ensure that the Answer Sheet is not folded. Do not make any stray marks on the Answer Sheet. Do not write your roll no. anywhere else except in the specified space in the Test Paper/Answer Sheet.
7. Use of white fluid for correction is NOT permissible on the Answer Sheet.

To be filled by Candidate

Name of the Candidate : _____

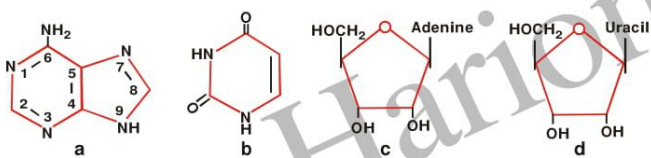
Roll Number (NTB I.D.) : _____

Batch : _____

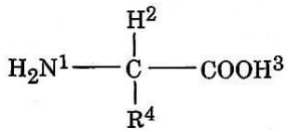
Candidate's Signature : _____

Date : **December 14, 2017**

1. Human heart consists of
   (A) Epithelial and connective tissue
   (B) Muscular and neural tissue
   (C) Connective and muscular tissue
   (D) Both A and B.
2. Read the following statements and find out the incorrect statement.
   (A) Jute, flax & hemp are sclerenchymatous fibres
   (B) The first formed primary phloem called protophloem consists of bigger sieve tubes and later formed phloem called metaphloem has narrow sieve tubes
   (C) Phloem parenchyma is absent in most of the monocotyledonous
   (D) Bast fibre are made up of sclerenchymatous cells. They are generally absent in the primary phloem but are found in secondary phloem.
3. Recognise the figure and find out the correct matching



   (A) a-adenine, b-thymine, c-adenylic acid, d-uridylic acid
   (B) a-adenine, b-uracil, c-adenosine, d-uridine.
   (C) a-guanine, b-thymine, c-adenosine, d-uridine
   (D) a-adenine, b-cytosine, c-adenylic acid, d-uridylic acid
4. A species is reproductively isolated from the another species, The concept of reproductive isolation was given by
   (A) Linnaeus (B) Aristotle
   (C) E. Mayr (D) de Condolle.
5. Read the following statements and find out the correct statement.
   (A) Ligaments, which attach skeletal muscles to bones and tendons which attach one bone to another are examples of dense regular connective tissue
   (B) Blood, bones and cartilage are various types of specialised muscular tissues.
   (C) Most of the bones in vertebrate embryos are replaced by cartilages in adults
   (D) None of the above.
6. Which two groups of the following formula are involved in peptide linkage between different amino acids



   (A) 2 and 3 (B) 1 and 4
   (C) 1 and 3 (D) 2 and 4
7. Fill in the blanks
   a. Leaves originate from ...1... meristems and are arranged in an ...2... order.
   b. Leaf develops at the node and bears a ...3... in its axil
   c. The lamina or the ...4... is the green expanded part of the leaf with veins and veinlets
   (A) 1-shoot apical, 2-acropetal, 3-bud, 4-leaf blade
   (B) 1-intercalary, 2-acropetal, 3-leaflet, 4-leaf base
   (C) 1-secondary, 2-basipetal, 3-bud, 4-leaf blade
   (D) 1-shoot apical, 2-acropetal, 3-leaflet, 4-leaf blade
8. Match the columns I and II, and choose the correct combination from the options given

	Columns I		Columns II
a.	Limbless amphibia	1.	*Icthyophis*
b.	Jawless vertebrate	2.	*Icthyosaurs*
c.	Tailesss amphibia	3.	Frog
d.	Limbless reptile	4.	Lamprey
e.	Fish like reptile	5.	Snake

   (A) a-1, b-2, c-3, d-5, e-4
   (B) a-1, b-4, c-2, d-5, e-3
   (C) a-2, b-4, c-3, d-1, e-5
   (D) a-1, b-4, c-3, d-5, e-2.
9. Peptide bond is formed when the
   (A) Carboxyl group of one amino acid reacts with the carboxy, group of the next amino acid
   (B) Amino group of one amino acid reacts with the amino group of the next amino acid
   (C) Carboxyl group of one amino acid reacts with amino group of the next amino acid
   (D) Amino group of one amino acid reacts with carboxyl group of the next amino acid.
10. Some proteins are an assembly of more than one polypeptide or subunits. The manner is which these individuals folded polypeptides are subnits are arranged with respect to each other is the architecture of a protein otherwise called the

(A) Primary structure (B) Secondary structure
(C) Tertiary structure (D) Quaternary structure

11. Botanical gardens and zoological parks have
(A) Collection of endemic & exotic living species
(B) Collection of only exotic living species
(C) Collection of only endemic living species
(D) Collection of only local plants and animals.

12. Cartilage is present
a. In the tip of nose and middle ear joints
b. Between adjacent bones of vertebral column
c. Between adjacent bones of limbs & hands in adults
(A) a, b and c (B) a and b
(C) b and c (D) a and c.

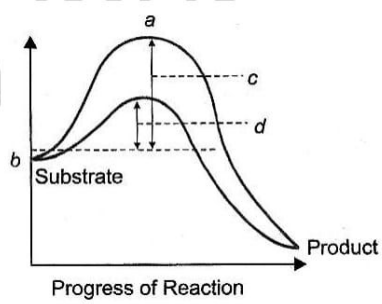
13. Read the following statements and find out the correct statements.
a. Mustard have hypogynous, actinomorphic flower, parietal placentation syncarpus gynoecium & belongs to family Brassicaceae.
b. China rose have superior ovary, twisted aestivation, monoadephous stamens and axile placentation.
c. Pea have bilateral symmetry, vexillary aestivation, diadelphous stamens, marginal placentation and belongs to family fabaceae.
d. Chilli have radial symmetry, epipetalous stamen, swollen placenta, monocarpellary gynoecium and belongs to family solanaceae.
e. Lily have actinomorphic flower, axile placentation, imbricate aestivation, tricarpellary and trilocular gynoecioum belonging to family liliaceae.
(A) 3 (B) 1
(C) 4 (D) 2.

14. A fatty acid has a carboxyl group attached to an R group. The number of carbon atoms in a fatty acid may be
(A) 1 carbon to 19 carbons
(B) 2 carbon to 19 carbons
(C) 1 carbon to 20 carbons
(D) 2 carbon to 20 carbons.

15. Read the following statements and find out the incorrect statement.
a. Cnidoblasts are used for anchorage, defense and for the capture of prey
b. The property of living organism to emit light is called bioluminescence
c. Porifers, sea walnuts, platyhelminthes and earthworms are monoecious or hermaphoridite
d. Aschelminthes, molluscs, echinoderms and hemichordates are dioecious or unisexual
e. Vertebrates have ventral muscular heart, kidney for excretion and osmoregulation and paired appendages (limbs)
(A) 2 (B) 3
(C) 4 (D) 1.

16. The living state is defined as a/an
(A) Non-equilibrium steady-state to not be able to perform work
(B) Equilibrium non-steady state to be able to perform work
(C) Non-equilibrium non-steady state to be able to perform work
(D) Non-equilibrium steady state to be able to perform work.

17. The figure given shows the conversion of substrate into product by an enzyme. In which one of the four options, A—D, the components of the reaction labelled a, b, c, d are identified correctly



1. Potential energy 2. Transition state
3. Activation energy with enzyme
4. Activation energy without enzyme
(A) a-1, b-2, c-3, d-4 (B) a-2, b-1, c-4, d-3
(C) a-2, b-1, c-3, d-4 (D) a-1, b-2, c-4, d-3.

18. Which disease is caused by bacteria in plant
(A) Late blight of potato
(B) Citrus canker
(C) Mosaic disease of tobacco
(D) Potato spindle tuber disease.

19. The world famous Watson-Crick double helical model of B-DNA exhibits
(A) Secondary structure
(B) Tertiary structure

(C) Quaternery structure

(D) All of the above.

20. Match the columns I, II and III choose the correct combination from the options given

Column I Product	Column II Obtained from	Column III Class
(a) Iodine & Algin	(1) *Macrocystis*	(K) Red algae
(b) Bromine	(2) *Chondrus*	(L) Brown algae
(c) Potash	(3) *Fucus* and *Laminaria*	
(d) Agar		
(e) Carrageen	(4) *Gelidium* and *Gracilaria*	
	(5) *Polysiphonia*	

(A) a-5-K, b-3-L, c-4-K, d-2-K, e-1-L

(B) a-3-L, b-5-K, c-1-L, d-4-K, e-2-K

(C) a-3-L, b-5-K, c-1-K, d-4-L, e-2-L

(D) a-3-K, b-5-L, c-2-K, d-1-L, e-4-L.

21. Read the following statements and find out the incorrect statement.

(A) Aves - Skin in dry without gland except the oil gland at the base of the limb

(B) Mammalia - some of them have adapted to fly (*Pteropus*) or live in water (whale, dolphin, seals, sea cow).

(C) Reptilia - Heart is usually three-chambered, but four chambered in crocodiles

(D) Birds - The digestive tracts has additional chambers, the crop and gizzard.

22. The climatic conditions are not uniform through the year in

(A) Temperate regions

(B) Tropical regions

(C) Tropics and sub-tropics

(D) All of the above.

23. Which family is characteristic representative of monocotyledonous plants

(A) Liliaceae (B) Solanaceae

(C) Fabaceae (D) Brassicaceae.

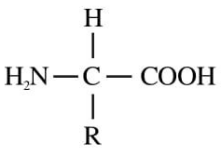
24. Read the following statement and the select incorrect statement

(A) The name virus means venom or poisonous fluid

(B) Many mycoplasma are pathogenic in animals and plants

(C) Toxins released by large number of red dinoflagellates may even kill marine animals such as fishes

(D) Beside the cell wall, euglenoids have a protein rich layer called pelicle which makes their body flexible.

25. 

is general formula of amino acid, Here R stands for

(A) An amino acid (B) A carboxylic group

(C) A variable group (D) A hydroxyl group.

26. Detailed study on bacteriophage was done by

(A) Twort (B) d' Herelle

(C) Stanley (D) Both A and B.

27. Flower of Fabaceae is

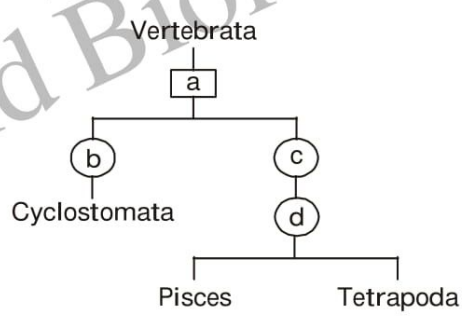
(A) Incomplete, actinomorphic, pentamerous

(B) Complete, actinomorphic, trimerous

(C) Incomplete, zygomorphic, trimerous

(D) Complete, zygomorphic, pentamerous.

28. Fill in the blanks



(A) a-subphylum, b-chondrichthyes, c-osteichthyes, d-class

(B) a- subphylum, b-agnatha, c-gnathostomata, d-class

(C) a- superclass, b-agnatha, c-gnathostomata, d-class

(D) a- division, b-agnatha, c-gnathostomata, d-superclass.

29. Read the following statement and find out the incorrect statement.

(A) Our understanding of the plant kingdom has changed over time. Fungi, and members of the Monera and Protista having cell walls have now been excluded from Plantae

(B) Cyanobacteria that are also referred to as

blue green algae are not 'algae' any more

(C) Numerical taxonomy is based on chromosome number, structure and behaviour

(D) Chemotaxonomy that uses the chemical consitutents of the plant to resolve confusions, are also used by taxonomists these days.

30. How many plants among *Cicer*, *Vigna*, Soyabean, *Gloriosa*, *Aloe*, Sweet pea, Sunnhemp, *Lupin*, *Trifolium*, Belladona, Tamarind, *Cassia*, *Dalbergia*, *Acacia* and *Withania* belong to Fabaceae

(A) Eight (B) Ten

(C) Nine (D) Seven.

31. In *Fucus* the male and female gametes are

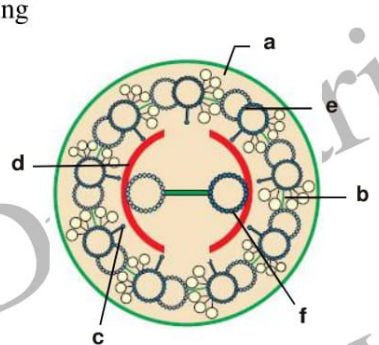
(A) Motile

(B) Non-motile

(C) Non-motile and motile respectively

(D) Motile and non-motile respectively.

32. Recognise the figure and find out the correct matching



(A) d-plasma membrane, b-radial spoke, a-central sheath, c-interdoublet bridge, f-peripheral microtubule, e-central microtbule

(B) d-plasma membrane, c-radial spoke, a-central sheath, b-interdoublet bridge, e-peripheral microtubule, f-central microtbule

(C) a-plasma membrane, c-radial spoke, d-central sheath, b-interdoublet bridge, e-peripheral microtubule, f-central microtbule

(D) a-plasma membrane, b-radial spoke, d-central sheath, c-interdoublet bridge, e-peripheral microtubule, f-central microtbule

33. Read the following statements and find out the correct statement.

(a) The shape of cell may vary with the function they perform

(b) The prokaryotic cells lack all membrane bound organellos

(c) Schleiden, a German botanist concluded, based on his studies on plant tissues, that the presence of cell walll is a unique character of the plant cells

(d) Based on their studies on plant animals, Schwann, a British Zoologist, proposed the hypothesis that the bodies of animals and plants are composed of cells & products of cells

(e) Schleidan & Schwann modified the hypothesis Rudolf Virchow and give the cell theory of final shape

(A) b, d, e (B) a, c, d

(C) a, b, e (D) a, b, d.

34. Bryophytes are called amphibians of the plant kingdom because

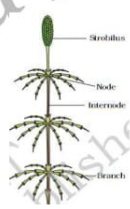
(A) Bryophytes can live in soil but are dependent on water for sexual reproduction

(B) They usually occur in damp, humid and shaded area

(C) They play an important role in plant succession on bare rocks and soil.

(D) All of the above.

35. Match the columns I and II, and choose the correct combination from the options given

Column I		Column II
i.		a. Fern
ii.		b. *Equisetum*
iii.		c. *Selaginella*
iv.		d. *Salvinia*

Find the correct match

(A) a-ii, b-iv, c-iii, d-i (B) a-iii, b-iv, c-ii, d-i

(C) a-iii, b-i, c-ii, d-iv (D) a-iii, b-i, c-iv, d-ii

36. Read the statement carefully :

Notochord is a mesodermally derived rod-like structure formed on the ventral side during embryonic development in some animals (chordates). Point out, if any misprinting is observed in this statement

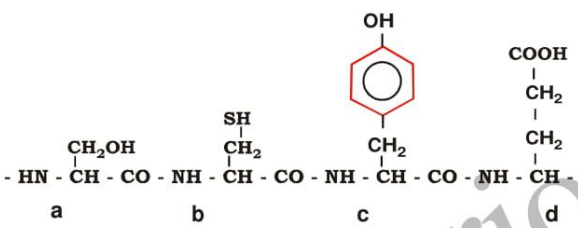
(A) Origin is not mesodermal

(B) Structure is not rod like

(C) Dorsal side instead ventral side

(D) No misprinting is observed in this statement.

37. Recognise the figure and find out the correct matching



(A) a-Cysteine, d-tyrosine, c-glutamic acid, b-serine

(B) b-Cysteine, c-tyrosine, d-glutamic acid, a-serine

(C) d-Cysteine, a-tyrosine, b-glutamic acid, c-serine

(D) c-Cysteine, b-tyrosine, a-glutamic acid, d-serine.

38. When a simple structure form a more complex structure for example, acetic acid becomes cholesterol is called

(A) Anabolic pathway

(B) Catabolic pathway

(C) Biosynthetic pathway

(D) Both A and C.

39. Which of the following is not correctly matched

(A) Gregarious pest - *Locusta* (locust)

(B) Living fossil - *Limulus* (king crab)

(C) Economically important insects - *Apis* (honey bee), *Bombyx* (silkworm)

(D) Vectors - Mosquitoes (*Anopheles, Culex* and *Aedes*) and Lac insect *(Laccifer)*.

40. By using the carbonic anhydrase enzyme the reaction ($CO_2 + H_2O \rightarrow H_2CO_3$) speeds dramatically with about

(A) 6,00,000 molecules being formed every hour

(B) 6,00,000 molecules being formed every second

(C) 36 ,00,000 molecules being formed every minute

(D) Both B and C.

Read the assertion and reason carefully to mark the correct option in question.

(A) If both assertion and reason are true and the reason is the correct explanation of the assertion

(B) If both assertion and reason are true but reason is not the correct explanation of the assertion

(C) If assertion is true but reason is false.

(D) If both assertion and reason are false.

41. Assertion : Amino acids are organic compounds containing an amino group and an carboxyl group as substituents on the same carbon, i.e.; the chiral carbon.

Reason : Amino acids are called *l*-amino acids.

42. Assertion : The acid soluble pool represents roughly the cytoplasmic composition

Reason : The macromolecules from cytoplasm and organelles become the acid insoluble fraction.

43. Assertion : Golgi apparatus remains in close association with the endoplasmic reticulum

Reason : A number of proteins synthesised by ribosomes on the ER are modified in the cisternae of the GB before they are released from the trans face.

44. Assertion : The nuclear pores are the passage through which movement of RNA and protein molecules takes place in both directions between the cytoplasm and nucleoplasm

Reason : Nuclear pores are formed by the fusion of two membranes of nucleus.

45. Assertion : Secondary constriction gives appearence of small fragment called the satellite

Reason : Few chromosomes have non-staining secondary constrictions at a variable location.

☺☺☺

Your next test CCT - 9 will held on **December 28, 2017**

Topic : Unit - I, Unit - II, Unit - III, Unit - IV