



Sky Tutorials

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 NEET

IIT-JEE | NEET | Foundation

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CLASSROOM CONTACT PROGRAMME

(ACADEMIC SESSION 2022-2023)

Ummeed Batch – Neet

Test Type: Chapter wise Test

Date: 17/10/2023

BIOLOGY

| BOTANY | ZOOLOGY |
|---|---|
| Cell: the unit of life, Cell Cycle & Cell Division, Biomolecules, The Living World, Biological Classification, Plant Kingdom, | Breathing exchange of gases + Body fluid and circulation + Animal Kingdom |

Instructions

Duration of test **60 min** and questions Paper contains **100** questions. The maximum marks are **360**.

This Question paper contain **Botany & Zoology** which is further divided into two sections.

Section –A contains 35 Questions Section B contains 15 questions. Please ensure that the Questions paper you have received contains **ALL THE QUESTIONS** in each Part.

In Section A all the 35 Questions are compulsory and in Section B Contain 15 Question, out of these 15 Questions, candidates can choose to attempt any 10 Questions.

Each Question has four choices (a), (b), (c), (d) out of which only one is correct & Carry 4 marks each 1 mark will be deducted for each wrong answer.

If you want to attempt any question then circle should be properly darkened as shown below, otherwise leave blank.



Name of CandidateID. No

Candidate's Signature:Invigilator's Signature:

DO MORE AND MORE PRACTICE, BECAUSE PRACTICE IS THE ONLY WAY TO ACCURACY.

BOTANY

SECTION - A

1. Which of the following is **correct** statement?
 - (a) Increase in mass and increase in number of individuals are twin characters of growth
 - (b) In animals, growth by cell division occurs continuously throughout their life-span
 - (c) In majority of higher plants and animals, growth and reproduction are mutually inclusive events.
 - (d) Growth can be taken as defining property of living organisms.

2. Which of the given asexual means of reproduction is seen in *Planaria* (flat worms)?
 - (a) Budding (b) True regeneration
 - (c) Binary fission (d) Fragmentation

3. The number and types of organisms present on the earth is called
 - (a) Identification (b) Biodiversity
 - (c) Taxonomy (d) Sytematics

4. Select the **incorrect** match w.r.t. taxonomic categories of wheat.
 - (a) Genus - *Triticum*
 - (b) Division - Angiospermae
 - (c) Family - Poaceae
 - (d) Order - Monocotyledonae

5. At which of the given taxonomic categories, the problem of classification becomes more complex in comparison to other given categories?
 - (a) Species (b) Class
 - (c) Family (d) Order

6. Biological name of mango is *Mangifera indica* Linn. What does Linn indicate in the name?
 - (a) Generic name
 - (b) Specific epithet
 - (c) Author's citation
 - (d) Native place

7. Classes comprising animals, like fishes, amphibians, reptiles, birds along with mammals, constitute the next higher category called
 - (a) Phylum (b) Genus
 - (c) Kingdom (d) Order

8. How many kingdoms w.r.t. Whittaker's classification system have autotrophis?
 - (a) 3 (b) 4 (c) 2 (d) 5

9. Aristotle classified animals into two groups on the basis of
 - (a) Cell type
 - (b) Presence or absence of nuclear membrane
 - (c) Body organisation
 - (d) Presence or absence of RBCs

10. Bacteria are sole members of which of the given kingdom according to five-kingdom classification?
 - (a) Monera (b) Protista
 - (c) Fungi (d) Animalia

11. Which of the given groups of bacteria live in extremely salty areas?
 - (a) Halophiles (b) Eubacteria
 - (c) Cyanobacteria (d) Methanogens

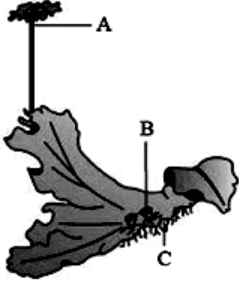
12. Select the **incorrect** statements w.r.t. *Mycoplasma*.
 - (a) Can survive without oxygen
 - (b) Are pathogenic in animals only
 - (c) Are smallest living cells
 - (d) Lacks cell wall

13. Cell walls in which of the given organisms forms two overlapping shells, which fit together as in a soap box?
 - (a) *Euglena* (b) Diatoms
 - (c) Dinoflagellates (d) Slime moulds

14. Sea appears red due to the presence of which of the given organisms?
 - (a) *Gonyaulax* (b) *Euglena*
 - (c) *Entamoeba* (d) Desmids

15. Select the **mismatch**
 - (a) Alkaloids - Codeine
 - (b) Toxins - Ricin
 - (c) Lectins - Abrin
 - (d) Drugs - Curcumin

16. All the molecules present in retentate are polymeric substances **except**
 - (a) Lipids (b) Proteins
 - (c) Nucleic acids (d) Polysaccharides

17. On the basis of compound analysis of living tissue, which of the following organic compound constitutes maximum percentage of total cellular mass?
 (a) Water (b) Proteins
 (c) Carbohydrates (d) Lipids
18. Read the following statements and Choose the option **correct**.
(A) Antibody fights infectious agents
(B) GLUT-4 enables insulin transport into cells
 (a) Both statements A and B are correct
 (b) Both statement A and B are incorrect
 (c) Only statement A is incorrect
 (d) Only Statement B is incorrect
19. Read the following statements and choose the option containing all **incorrect** statements
(A) Collagen is the most abundant protein in whole of the biosphere
(B) Cellulose is a homopolymer of glucose
(C) In glycogen, right end is non-reducing end.
(D) Starch forms helices and can hold I₂, like cellulose
 (a) A and B (b) B and C
 (c) A, C and D (d) Only C and D
20. Positional information about amino acids in a polypeptide chain is represented by its
 (a) Primary structure
 (b) Secondary structure
 (c) Tertiary structure
 (d) Quaternary structure
21. Which of the following are non-vascular cryptogams:
 (a) Algae and fungi
 (b) Thallophyta & Bryophyta
 (c) Thallophyta, Bryophyta & pteridophyta
 (d) Only pteridophyta
22. Which is the correct match for phaeophyceae members?
 (a) Major pigments - Chlorophyll a & b
 (b) Stored food - Floridian starch
 (c) Cell wall - Cellulose and algin
 (d) Flagella - 2-8 equal, apical
23. Choose correct statement:-
 (a) Female gametophyte of gymnosperm has one archegonium.
 (b) In *Cycas* male and female cones borne on the same tree but in *Pinus* male cones and megasporophylls are borne on different trees.
 (c) Pollination in gymnosperm is carried out by air.
 (d) In gymnosperms male and female gametophytes have independent free-living existence.
24. Examine the figure given below and choose the structure in which asexual buds are produced:-
- 
- (a) A (b) B (c) C (d) D
25. How many plants in the list given below are the members of non-vascular embryophytes?
Spirogyra, Volvox, Fucus, Polysiphonia, Polytrichum, Sphagnum, Marchantia, Funaria, Selaginella, Equisetum.
 (a) Six (b) Five (c) Four (d) Three
26. Diplontic algal genera is
 (a) *Ectocarpus* - Brown algae
 (b) *Polysiphonia* - Red algae
 (c) *Fucus* - Brown algae
 (d) *Spirogyra* - Green algae
27. Gametophyte of pteridophyte
 (a) Long lived haploid
 (b) Unicellular
 (c) Parasite
 (d) Bear sex organ
28. Winged pollen grain and polyembryony is found in-
 (a) *Pinus* (b) *Marchantia*
 (c) *Albugo* (d) *Chlamydomonas*

29. How many organisms belongs to Brown Algae, Bryophytes and Pteridophytes?

Organism are - *Chara*, *Sargassum*, *Sphagnum*, *Psilotum*, *Marchantia*, *Funaria*, *Equisetum*, *Spirogyra*, *Selaginella*, *Azolla*, *Laminaria*, *Cycas*, *Triticum*, *Fucus*, *Volvox*, *Porphyra*, *Anaebena*, *Adiantum*.

| | Brown algae | Bryophytes | Pteridophytes |
|-----|-------------|------------|---------------|
| (a) | 5 | 2 | 4 |
| (b) | 3 | 3 | 5 |
| (c) | 3 | 4 | 5 |
| (d) | 4 | 8 | 6 |

30. Which of the following is not correct?

- (a) Isogamous - *Spirogyra*
- (b) Isogamous - *Chlamydomonas*
- (c) Oogamous - *Volvox*
- (d) Zoospores - *Porphyra*

31. *Euglena*, *Nostoc*, *Chlorella* and *Spirogyra*.

- (a) All are unicellular eukaryotes.
- (b) All are autotrophic multicellular
- (c) All have chlorophyll 'a' and photosynthetic ability.
- (d) All are belong to green algae

32. Red tide is caused by:-

- (a) Rapid multiplication of red algae.
- (b) Rapid multiplication of euglenoids.
- (c) Rapid multiplication of slime moulds.
- (d) Rapid multiplication of dinoflagellates.

33. Which of the following is correct for euglenoids?

- (a) Majority - Marine
- (b) Cell wall - cellulosic
- (c) Flagella - 2 equal
- (d) Body flexible - pellicle

34. Prokaryotic cell type has

- (a) Body organisation - Tissue
- (b) Cell wall - Absent
- (c) Nuclear membrane - Present
- (d) Mode of nutrition - Autotrophic and Heterotrophic

35. Non cellular organisms are characterised by having-

- (a) An inert crystalline structure inside the living cell
- (b) Not mention in five kingdom classification of Linnaeus
- (c) Nucleoprotein
- (d) Symbiotic association with algae

SECTION - B

36. Bacteria are special since they live in some of the most harsh habitats differ from other bacteria in having a different-

- (a) Nucleus
- (b) Cell wall structure
- (c) Cell organelles
- (d) Cell type

37. The fungi of Deuteromycetes:

- (a) Permanently remain in this class only
- (b) When their sexual forms are discovered, are moved into other classes like Ascomycetes or Basidiomycetes they rightly belong to
- (c) Temporarily remains in this class
- (d) More than one option is correct

38. Read the following statements w.r.t. the class Ascomycetes of fungi:

- (A) These are commonly called sac fungi
- (B) These are mostly multicellular
- (C) They are saprotrophic, decomposers, parasitic or coprophilous
- (D) Their mycelium is aseptate
- (E) Conidia produced by them are endogenous

How many of the above statements are incorrect?

- (a) Two
- (b) Three
- (c) Four
- (d) Five

39. Identify the correct statements and select the right answer from the given options:

- I. Growth in living organisms is from inside
- II. Growth can be taken as characteristic of living systems only under special conditions.
- III. A dead organisms also grows.
- IV. Mountain, boulders and sand mounds never grow

- (a) Only I & II
- (b) Only III & IV
- (c) Only II & III
- (d) Only I & IV

40. Which statement is not correct about keys:

- (a) Keys is applicable only on the plants
- (b) Keys are based on the contrasting characters
- (c) Keys are generally in a pair that is called couplet
- (d) Keys are generally analytical in nature

41. Find the incorrect statement from the following:-
- Family is a group of related genera with still less number of similarities as compared to genus and species.
 - Lion, tiger, leopard and cat belong to the same genus.
 - Systematics takes into account evolutionary relationship between organisms.
 - Taxonomic aids are prime source for taxonomy, systematics, and future studies.
42. Which statement regarding B-DNA is correct?
- The pitch is 34 \AA
 - The rise per base pair is 34 \AA
 - At each step of ascent, the strand turns 30°
 - Both a and c
43. Which among the following is incorrect?
- Removal of CO_2 from amino acids making it an amino acid into an amine.
 - Proteins with catalytic power are named enzymes
 - There is uncatalysed metabolic conversion in living system
 - The most important form of energy currency in living systems is the bond energy in a chemical called adenosine triphosphate (ATP)
44. What will happen if we heat the holoenzyme:
- Both apoenzyme and co-factor will be denatured
 - Only apoenzyme will be denatured
 - Only co-factor will be denatured
 - There is no effect of heating
45. Read the following statements and choose the correct statements.
- Cilia and flagella are covered with plasma membrane.
 - Centrioles form the basal body of both cilia as well as flagella.
 - Approximately 2 m long thread of DNA is distributed among 46 pairs of chromosomes in a single human cell.
 - Movement of proteins and RNA into or out of nucleus occurs through nuclear pores.
- A, B, & D
 - A, B & C
 - B, C & D
 - A, C & D
46. Select the incorrect statement.
- Egg of ostrich is the largest isolated single cell
 - Ribosomes are organelle within the organelle
 - The shape of the cells may vary with the function they perform
 - Genetic material is present in well defined nucleus in both prokaryotes and eukaryotes
47. Which one of the following is wrong statements?
- Anything less than a complete structure of a cell does not ensure independent living
 - In eukaryotic cell there is an extensive compartmentalization of cytoplasm through the presence of membrane less cell organelles
 - One of the most important function of the plasma membrane is the transport of molecules across it
 - In active transport ATP is utilized
48. During which of the following phase chromosome lie at equator with one chromatid connected by kinetochore to spindle fibre of one pole and sister chromatid connected by kinetochore of spindle fibre of opposite pole
- Prophase
 - Metaphase
 - Anaphase
 - Telophase
49. Which of the following statements is not true?
- Meiosis-I resembles normal mitosis
 - Nuclear membrane disappears by the end of prophase-II
 - Chromosomes become compact in prophase-II
 - In metaphase-II chromosome align at equator and microtubules from opposite poles of spindle gets attached to kinetochore of sister chromatid
50. Which of the following statements is not true?
- Crossing over is exchange of genetic material between two homologous chromosomes
 - Enzyme involved during crossing over is recombinase
 - Recombination between homologous chromosomes is completed by the end of diakinesis
 - Synaptonemal complex is formed during zygotene

ZOOLOGY

SECTION - A

51. The statement related to respiratory organ of different animals are given below
- (A) In sponges, coelenterates, flatworms, exchange O_2 with CO_2 by simple diffusion over their entire body surface.
- (B) Insects have a network of tubes to transport atmospheric air within the body.
- (C) Branchial respiration are used by most of the aquatic arthropod, molluscs and fishes
- (D) Pulmonary respiration are used by the terrestrial forms like human.
- Choose the most appropriate answer from the option given below.
- (a) (A), (B) and (D) only
- (b) (B) and (D) only
- (c) (C) and (D) only
- (d) (A), (B), (C) and (D) all
52. During swallowing glottis can be covered by acalled epiglottis to prevent the entry of food into the larynx.
- (a) thick elastic cartilaginous flap
- (b) thin elastic cartilaginous box
- (c) thin elastic cartilaginous flap
- (d) thick elastic noncartilaginous flap
53. Trachea is a straight tube extending up to the....., which divides at the level of 5th thoracic vertebra into a right and left.....
- (a) Lower-thoracic cavity, primary bronchi
- (b) mid-thoracic cavity, secondary bronchi
- (c) Upper-thoracic cavity, primary bronchi
- (d) mid-thoracic cavity, primary bronchi
54. Which is not incorrect statement
- (a) We have two lungs which are covered by a double layered pleural fluid
- (b) The pleural fluid increase friction on the lung-surface.
- (c) The outer pleural membrane is in close contact with the lungs
- (d) inner pleural membrane is in contact with the lungs surface
55. The conducting part of our respiratory passage not involves in
- (a) Transports the atmospheric air to the alveoli
- (b) Clears atmospheric air from foreign particles
- (c) Humidifies atmospheric air after reaching to alveoli
- (d) Brings the air temperature to body temperature.
56. The thoracic chamber is formed laterally by the ribs and on the lower side by the
- (a) Dome-shaped diaphragm curved toward abdomen
- (b) Flate diaphragm
- (c) Dome-shaped diaphragm curved toward thorax
- (d) Dome-shaped diaphragm curved toward posterior side
57. The Inspiration can occur if intra-pulmonary pressure is
- (a) Positive pressure in the lungs with respect to atmospheric pressure
- (b) Negative pressure in the lungs with respect to thoracic pressure
- (c) Negative pressure in the atmosphere with respect to lung pressure
- (d) Negative pressure in the lungs with respect to atmospheric pressure
58. The increase in thoracic volume will result as
- (a) Increase intrapleural pressure
- (b) Decrease intrapulmonary pressure
- (c) Decrease pulmonary cavity volume
- (d) Increase intra pulmonary pressure
59. The Inspiration is initiated by the
- (a) Contraction of diaphragm
- (b) Contraction of internal intercostals muscles
- (c) Contraction of external intercostals muscles
- (d) Contraction of intercostals muscles

60. Given below are two statement
Statement I: At tissue, high $p\text{CO}_2$ promote release of O_2 to tissue

Statement II: Hb- O_2 dissociation curve is sigmoid for haemoglobin

In the light of above statements, chose the most appropriate answer from the option given below

Options

- (a) Both statement I and Statement II are correct
- (b) Both statement I and Statement II are incorrect
- (c) Statement I is correct but Statement II is incorrect
- (d) Statement I is incorrect but Statement II is correct

61. The statement related to pulmonary volume and capacity are given below

- A. Additional volume of air, a person can inspire by a forcible inspiration is Inspiratory Reserve Volume
- B. Additional volume of air, a person can expire by a forcible expiration is Expiratory Reserve Volume
- C. Volume of air remaining in the lungs even after a forcible expiration Functional Residual Volume
- D. Total volume of air a person can inspire after a normal expiration is Expiratory Capacity
- E. Total volume of air a person can expire after a normal inspiration is Inspiratory Capacity

Choose the most appropriate answer from the option given below

- (a) (A), (B) and (D) only
- (b) (A), (B) only
- (c) (C) and (D) only
- (d) (C), (D) and (E) only

62. Given below are two statements

Statement I: CO_2 trapped as bicarbonate at the tissue level and transported to the alveoli is released out as CO_2

Statement II: Every 100 ml of deoxygenated blood delivers approximately 4 ml of CO_2 to the alveoli.

In the light of above statements, chose the most appropriate answer from the option given below

Options

- (a) Both statement I and Statement II are correct
- (b) Both statement I and Statement II are incorrect
- (c) Statement I is correct but Statement II is incorrect
- (d) Statement I is incorrect but Statement II is correct

63. Given below are two statements

Statement I: More than 70% of carbon dioxide is transferred from tissue to lungs as carbamino compounds

Statement II: In lungs oxygen move from alveoli to blood through active transport
In the light of above statements, chose the most appropriate answer from the option given below

Options

- (a) Both statement I and Statement II are correct
- (b) Both statement I and Statement II are incorrect
- (c) Statement I is correct but Statement II is incorrect
- (d) Statement I is incorrect but Statement II is correct

64. Given below are two statements: one is labelled as Assertion (A) and other is labelled as Reason (R)

Assertion (A): Pneumotaxic centre can moderate the functions of the respiratory rhythm centre.

Reason (R): Neural signal from Pneumotaxic centre can reduce the duration of inspiration and thereby alter the respiratory rate.

In the light of above statements, chose the most appropriate answer from the option given below

Options

- (a) Both (A) and (R) are correct and (R) is correct explanation of (A)
- (b) Both (A) and (R) are correct and (R) is not correct explanation of (A)
- (c) (A) are correct but (R) are not correct
- (d) (A) are not correct but (R) are correct

65. Given below are two statements
Statement I: The CO₂ and H⁺ concentration detect by chemosensory area present at Pons
Statement II: Carotid artery not have any receptor to recognize CO₂ blood
 In the light of above statements, chose the most appropriate answer from the option given below

Options

- (a) Both statement I and Statement II are correct
- (b) Both statement I and Statement II are incorrect
- (c) Statement I is correct but Statement II is incorrect
- (d) Statement I is incorrect but Statement II is correct

66. The respiratory disorder asthma occurs due to

- (a) Inflammation in Trachea
- (b) Inflammation in Bronchi
- (c) Inflammation in bronchioles.
- (d) Inflammation in bronchi and bronchioles

67. The cigarette smoking is common cause of which respiratory disorder

- (a) Asthma
- (b) Emphysema
- (c) Silicosis
- (d) Tuberculosis

68. Flame cells present in platyhelminthes are specialized in

- (a) respiration and absorption.
- (b) osmoregulation and circulation.
- (c) respiration and excretion.
- (d) osmoregulation and excretion.

69. Aquatic annelids (like *Nereis*) possess lateral appendages called _____, which help in swimming.

- (a) Visceral hump
- (b) Parapodia
- (c) Radula
- (d) Spicules

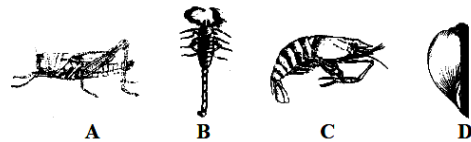
70. Match the features given in column I with their examples given in column II and choose the correct match from the option given below.

| | Column - I (Feature) | | Column - II (Example) |
|-----|--------------------------------|-------|----------------------------|
| A. | Pseudocoelomates | (i) | <i>Hydra, Adamsia</i> |
| (B) | Diploblastic | (ii) | <i>Ctenoplana, Aurelia</i> |
| (C) | Cellular level of organization | (iii) | <i>Ascaris, Wuchereria</i> |

| | | | |
|-----|-----------------|------|--------------------------|
| (D) | Radial symmetry | (iv) | <i>Sycon, Spongilla</i> |
| (E) | Metamerism | (v) | <i>Pheretima, Neries</i> |

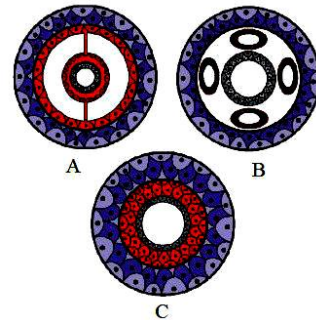
| | A | B | C | D | E |
|-----|-------|------|-------|-------|------|
| (a) | (v) | (ii) | (iv) | (iii) | (i) |
| (b) | (iii) | (i) | (iv) | (ii) | (v) |
| (c) | (ii) | (i) | (iii) | (v) | (iv) |
| (d) | (iii) | (ii) | (iv) | (i) | (v) |

71. Refer the figures A, B, C and D given below. Which of the following options shows the correct name of the animals shown by the figures A, B, C and D ?



- (a) A - Locust, B - Scorpion, C - Prawn, D - Pila
- (b) A - Locust, B - Prawn, C - Scorpion, D - Pila
- (c) A - Locust, B - Scorpion, C - Prawn, D - Snail
- (d) A - Butterfly, B - Scorpion, C - Prawn, D - Pila

72. Identify the figures and select the correct option

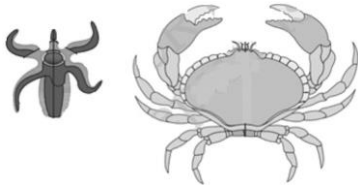


- (a) A - Pseudocoelomate; B - Coelomate, C-Acoelomate
- (b) A - Coelomate, B - Pseudocoelomate, C- Acoelomate
- (c) A - Coelomate; B- Acoelomate; C - Pseudocoelomate
- (d) A - Coelomate; B- Acoelomate; C-Euocoelomate

73. Identify the figure with its correct name and phylum.



- (a) *Cucumaria* - Echinodermata
 (b) *Ascidia* - Urochordata
 (c) *Balanoglossus* - Hemichordata
 (d) *Hirudinaria* - Annelida
74. The given figures of animals (A & B) are distinguished on the basis of symmetry. Select the correct option which shows the type of symmetry and its description against the animals.



- (a) A : Biradial, organisms is divided into unequal halves by any plane through the central axis.
 (b) B: Bilateral, body is divided into equivalent right and left halves by only one plane.
 (c) A: Asymmetrical, organisms is not divided into equal halves by any plane through the central axis.
 (d) B: Radial, in which any plane passing through the central axis of the body divides the organism into two identical halves.
75. Which of the following characteristics is correct for reptilia?
- (a) Body covered with dry and cornified skin, scales over the body are epidermal, they do not have external ears.
 (b) Body is covered with moist skin and is devoid of scales, the ear is represented by a tympanum, alimentary canal, urinary and reproductive tracts open into a common cloaca.

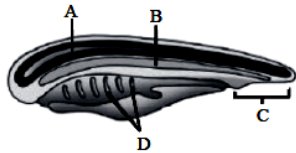
- (c) Fresh water animals with bony endoskeleton and air-bladder regulate buoyancy.
 (d) Marine animals with cartilaginous endoskeleton and body is covered with placoid scales.

76. Which of the following class is being correctly described by given statements (i - iv)?
 (i) All living members of this class are ectoparasites on some fishes.
 (ii) They have a sucking and circular mouth without jaws.
 (iii) Circulation is of closed type.
 (iv) They are marine but migrate for spawning to fresh water. After spawning, within a few days they die.
- (a) Cyclostomata (b) Chondrichthyes
 (c) Osteichthyes (d) Amphibia
77. Which of the following statement(s) is/are correct for class amphibia?
 (i) Body is divisible into head and trunk.
 (ii) Respiration is through gills only.
 (iii) The heart is two chambered i.e. one auricle and one ventricle.
 (iv) Fertilization is internal.
- (a) Only (i) (b) Only (iv)
 (c) (i), (ii) and (iii) (d) All of these
78. Match the types of animals given in column I with their examples given in column II and choose the correct option.

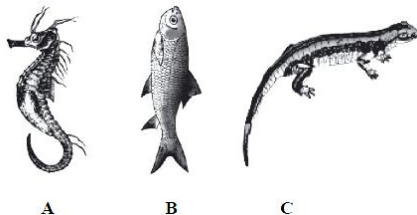
| Column - I (Type of animals) | | Column - II (Example) | |
|---------------------------------|----------------------------|--------------------------|--------------------|
| A. | Limbless reptiles | I. | Elephant |
| B. | Jawless vertebrates | II. | Lamprey |
| C. | Flightless bird | III. | <i>Ichthyophis</i> |
| D. | Largest terrestrial animal | IV. | Ostrich |
| E. | Limbless amphibian | V. | Cobra |

- (a) A - II; B - V; C - IV; D - I; E - III
 (b) A - V; B - II; C - IV; D - I; E - III
 (c) A - V; B - II; C - I; D - IV; E - III
 (d) A - V; B - IV; C - II; D - I; E - III

79. Which one of the following groups of animals is correctly matched with its characteristic feature without even a single exception ?
- Reptilia : possess 3 - chambered heart with one incompletely divided ventricle.
 - Chordata : Possess a mouth provided with an upper and lower jaw.
 - Chondrichthyes : Possess cartilaginous endoskeleton.
 - Mammalia : Give birth to young one.
80. The given figure shows some characteristic features marked as chordates. Identify the correct labelling A,B,C and D.



- A-Notochord; B-Post-anal part; C-Gill slits; D-Nerve cord
 - A-Nerve cord; B-Notochord; C-Post-anal part; D-Gill slits
 - A-Notochord; B-Nerve cord; C-Gill slits; D-Post-anal part
 - A-Gill slits; B-Post-anal part; C-Nerve cord; D - Notochord
81. Refer the figures A, B and C and choose the correct option which shows animals that regulate buoyancy with the help of air bladder.



- A and B
 - A and C
 - B and C
 - All of the above
82. Which of the following pairs of animals are similar to each other pertaining to the feature stated against them?
- Pteropus and Ornithorhyncus - Viviparity
 - Garden lizard and crocodile - Three chambered heart
 - Ascaris and Ancylostoma - Metameric segmentation
 - Sea horse and flying fish - Cold blooded (poikilothermal)

83. The following statement are associated with the occurrence of notochord. Identify the incorrect statement.
- It is present only in larval tail in ascidians.
 - It is replaced by a vertebral column in adult frog.
 - It is absent throughout the life in humans from the very beginning.
 - It is present throughout life in *Amphioxus*.
84. Nodal tissue/musculature in human heart has
- the ability to generate action potential due to any external stimuli.
 - two patches, one in atrium and other in ventricle.
 - purkinje fibres throughout the ventricular musculature.
 - atrioventricular node, also called pacemaker.
85. The first heart sound is
- 'LUBB' sound produced at the end of systole.
 - 'DUP' sound produced at the end of systole.
 - 'LUBB' sound produced at the beginning of systole.
 - 'DUP' sound produced at the beginning of systole.

SECTION - B

86. Match the characteristic feature/terms given in column I with the phylum to which they belongs given in column II and choose the correct option.

| | Column - I (Characteristic feature/term) | | Column - II (Phylum) |
|----|---|------|-------------------------|
| A. | Choanocytes | I. | Platyhelminthes |
| B. | Cnidoblasts | II. | Ctenophora |
| C. | Flame cells | III. | Porifera |
| D. | Nephridia | IV. | Coelenterata |
| E. | Comb plates | V. | Annelida |

- A - II; B - I; C - IV; D - V; E - III
- A - II; B - IV; C - I; D - V; E - III
- A - V; B - I; C - III; D - II; E - IV
- A - III; B - IV; C - I; D - V; E - II

87. Cardiac output is/are
 (i) Product of heart rate and stroke volume.
 (ii) Product of auricular and ventricular volume.
 (iii) A process in which blood pumped in one minute.
 Which of the above statements is true?
 (a) Only (i) (b) Only (ii)
 (c) Both (i) and (ii) (d) Both (i) and (iii)

88. Given below is the ECG of a normal human. Which one of its components is correctly interpreted?



- (a) Peak P and Peak R together - Systolic and diastolic blood pressures
 (b) Peak P - Initiation of left atrial contraction only
 (c) Complex QRS - One complete pulse
 (d) Peak T - Initiation of total cardiac contraction
89. Column I contains the characteristics features and column II contains the function/ location. Select the correct match from the option given below.

| | Column - I (Characteristic feature) | | Column - II (Function/Location) |
|----|--|--------|---|
| A. | Water canal system | (i) | Sponges |
| B. | Comb plates | (ii) | Help in swimming |
| C. | Nephridia | (iii) | Present in Mollusca |
| D. | Jointed appendages | (iv) | Characteristics of roundworm |
| | | (v) | A body part of Arthropoda |
| | | (vi) | Helps in reproduction |
| | | (vii) | Platyhelminthes |
| | | (viii) | Helps in osmoregulation and excretion |
| | | (ix) | Eight ciliated external rows present in a body of ctenophora. |

- | | A | B | C | D | E |
|-----|-------|------|--------|------|-------|
| (a) | (i) | (ix) | (viii) | (v) | (iii) |
| (b) | (iii) | (i) | (vi) | (ii) | (v) |
| (c) | (ii) | (v) | (i) | (iv) | (ix) |
| (d) | (iii) | (vi) | (iv) | (v) | (i) |

90. A student was given a specimen to identify on the basis of the characteristics given below.
 (i) They are metamerically segmented.
 (ii) They have closed circulatory system.
 (iii) They have circular and longitudinal muscles for locomotion. Identify the specimen.
 (a) *Prawn* (b) *Pheretima*
 (c) *Wuchereria* (d) *Ctenoplana*
91. Which of the following statement(s) is/are correct regarding class aves?
 (i) The forelimbs are modified into wings and the hindlimbs generally have scales and are modified for walking, swimming or clapping the tree branches.
 (ii) Heart is completely four-chambered.
 (iii) They are warm- blooded (homoiothermous) animals i.e., they are able to maintain a constant body temperature.
 (iv) They are oviparous and development is direct.
 (a) Both (i) and (iii) (b) Both (i) and (iv)
 (c) (i), (ii) and (iii) (d) All of these

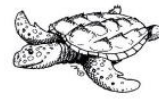
92. The given figures A, B, C and D are the examples of first true land vertebrates. They are dominant in mesozoic era and belong to phylum 'X'. Identify 'X' and the animals which have four chambered heart.



A



B



C

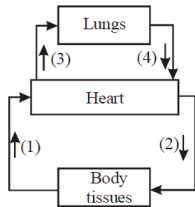


D

- (a) X - Reptile; B (b) X - Reptile; A
 (c) X - Amphibia, C (d) X - Pisces; D

93. QRS is related to
 (a) ventricular contraction
 (b) auricular contraction
 (c) cardiac cycle
 (d) auricular relaxation

94. The given figure represents the pathway of blood throughout the body



Identify the correct match of marked number 1, 2, 3 and 4.

- (a) 1- Artery
 (b) 2- Pulmonary vein
 (c) 3- Pulmonary artery
 (d) 4- Vein
95. Which is the correct route through which pulse making impulse travels in the heart?
 (a) SA node → AV node → Bundle of His → Purkinje fibres
 (b) AV node → Bundle of His → SA node → Purkinje fibres → heart muscles
 (c) AV node → SA node → Purkinje fibres → Bundle of His → heart muscles
 (d) SA node → Purkinje fibres → Bundle of His → AV node → heart muscles
96. In arteriosclerosis
 (a) arterial walls become very thin and weak so that the blood oozes out of the walls.
 (b) sex linked heredity is involved.
 (c) blood coagulates even in the arteries.
 (d) arterial walls become inelastic and thickened.
97. Which of the following statements is/are correct for blood group?
 (i) Blood group O is universal donor.
 (ii) Blood group AB is universal acceptor.
 (iii) Blood group A contains antigen B and anti-A antibodies.
 (iv) Blood group B contains antigen B and anti-A antibodies.
 (a) Only (i) and (ii).
 (b) Only (i), (ii) and (iii).
 (c) Only (i), (ii) and (iv).
 (d) Only (i), (iii) and (iv).

98. Match the following descriptions (given in column-II) of each type of blood cell to their names (given in column-I).

| | Column - I | | Column - II |
|----|-------------|------|--|
| A. | Erythrocyte | I. | Most abundant white blood cell, and the main phagocytic cell of the blood. |
| B. | Eosinophil | II. | Least abundant white blood cell; releases histamine granules |
| C. | Lymphocyte | III. | Resist infections and are associated with allergic reactions. |
| D. | Neutrophil | IV. | Blood cell that contains haemoglobin and transports oxygen. |
| E. | Basophil | V. | Specialized antibodyproducing white blood cells. |

- (a) A - IV; B - III; C - V; D - I; E - II
 (b) A - I; B - II, C - III; D - IV; E - V
 (c) A - II; B - III; C - I; D - V; E - IV
 (d) A - IV; B - I; C - II; D - III; E - V
99. Which one of the following will be the cardiac output (in litres per minute) of a heart that has a stroke volume of 0.07 litres and is beating at a rate of 90 per minute?
 (a) 63.30 (b) 63.00
 (c) 00.63 (d) 06.30
100. Which of the following set of events can occur simultaneously?
 (a) Auricular depolarization, ventricular depolarization, auricular systole.
 (b) Ventricular depolarization, auricular systole, ventricular diastole.
 (c) Auricular depolarization, ventricular repolarization, auricular diastole.
 (d) Auricular depolarization, ventricular diastole, auricular systole.