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TEACHER'S CARE PUBLICATION

38/23, Vaigundaperumal Koil Street, Kancheepuram- 631502

Mobile : 95665 35080, 9786269980 Land Line : 044-2723 5080

**UG TRB
2023-2024**

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MCQ

(Multiple Choice Questions)



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HEAD OFFICE: NO. 38/23, VAIGUNDA PERUMAL KOIL,
SANNATHI STREET, KANCHIPURAM – 1. CELL: 9566535080

B.Off 2: 65C, Thillai Ngr(West), 4th Cross St, Trichy – 620018

B.Off 3: 266-C - Advaita Ashram Road, Opp to New Bus Stand, Salem – 4

Trichy: 76399 67359

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Major Subject				
S.No	Test Name	Test Category	Number of Questions	Test Type
1	Test Set 1 (With Explanation)	Unit Test (10 X 100)	1000	Q Bank
2	Test Set 2 (With Explanation)	Unit Test (10 X 100)	1000	Q Bank
3	Weekly Test (Without Explanation)	Unit Test (10 X 100)	1000	Q Bank
4	Full Test	Full Test (4 X 150)	600	Online
Total Number of Questions (3000 Q Bank + 600 Online)			3600	
தமிழ் கட்டாய தகுதித்தேர்வு				
S.No	Test Name	Test Category	Number of Questions	Test Type
1	Test Set 1 (Without Explanation)	Unit Test (10 X 100)	1000	Q Bank
2	Full Test	Full Test (4 X 30)	120	Online
Total Number of Questions (3000 Q Bank + 600 Online)			1120	
Total Number of Questions (Major & தமிழ் கட்டாய தகுதித்தேர்வு)			4,720 Questions	

நீங்கள் தேர்வில் வெற்றி பெற பின்பற்ற வேண்டிய

விதிமுறைகள் & செயல்முறைகள்:-

1. ஒவ்வொரு முறையும் படிப்பதற்கு முன் குளிர்ந்த நீரில் முகம் கழுவவும். பின்பு தொடரவும்.
2. ஒவ்வொருவரும் குறைந்தபட்சம் 5 பேர் அநிகபட்சம் 10 நபர்களை இணைத்து (அல்லது) உங்கள் விருப்பப்படி அமைத்தும் பாடத்திட்டங்களை விவாதம் செய்யு தெளிவுபெறலாம்.
3. கற்றல் கட்டுகளை படித்தபின் தேர்வை எழுதிப்பார்க்கவும். தெரியவில்லையெனில் கற்றல்களில் தேடி பார்க்கவும்.
4. ஒவ்வொரு நாளுக்கும் காலை, மாலை இரண்டு வேலையும் குறைந்தது 10 நிமிடமாவது மன அமைதிக்காக தியானம் செய்யவும்.
5. இரவு படுக்க போகும்முன் மிகவும் கடினமான (கூத்திரங்கள், தேதிகள், இலக்கண விதிகள்) முக்கிய தகவல்களை 10 நிமிடம் மனப்பாடம் செய்துகொடு படுக்கவும்.
6. மன அமைதிபெற சிறிதுநேரம் இயற்கைய ரசிக்கவும் அல்லது சிறு குழந்தைகளுடன் 10 அல்லது 20 நிமிடங்கள் விளையாடவும்.
7. உங்கள் குடும்ப நபர்கள் மற்றும் நண்பர்களிடம் ஆழமான நம்பிக்கையுடன் வெற்றிபெறுவேன் என சொல்லி மகிழ்ச்சி அடையுங்கள்.
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9. உங்கள் வண்ணக்கனவுகள் அனைத்தும் தினவுகளாக மாற தொடர்ந்து கடுமையாக உழைக்கவும்.
10. கற்றல் கட்டுகளில் படிக்கும்போது சிகப்பு பேனாவினால் அடிக்கொடிட்டு படிக்கவும்.

மன மகிழ்ச்சி கொள்வதற்கு



முடியும் என்று நம்பு அதுவே
உங்கள் முன்னேற்றத்திற்கான தெம்பு
முடியாது என்று முடங்கிக் கிடந்தால்
மூடகடப்பூச்சியும் மதுகில் ஏறி சுவாரி செய்யும்
அதுபோல் நீங்களும்
நீடமான முயற்சியோடும்
கடுமையான பயிற்சியோடும் இணையும்போது
TRB- தேர்வுகளில் மகத்தான வெற்றிபெற முடியும்
மகிழ்ச்சியோடு பணியில் சேர வாழ்த்துகிறோம்.



மன நெருக்கடி யிருந்த நண்பர்களுக்க்கு

நிகைத்ததற்கு மாறாக காரியங்கள் நடக்கும்போதும்
செல்லும் பாதைகள் அனைத்தும் கரடுமுடராய் இருக்கும்போது
குடும்ப பொறுப்புகள் எல்லாம் நம்கை அழுத்தும்போதும்
கையிருப்பு எல்லாம் கரைந்து கடன் தொல்லைகள் நம்கை நெருங்கும்போதும்
அநிகமானால் - அவசரமானால் - அவசரமாக சற்று ஓய்வு எடுத்துக்கொள்
எந்த நேரத்தில் TRB - தேர்வில் வெற்றிபெறும் ஸ்சியத்தை மறந்துவிடாதே
தொடர்ச்சியான பயிற்சி பாதைகொடு விஸகிவிடாதீர்கள். வெற்றி நீச்சயம்.

நல்வாழ்த்துக்களுடன்

UGTRB - ZOOLOGY

Questions - UNIT-1 : TEST-1

1. Study the four statements (I-IV) given below and select the two correct ones out of them:

- I. Definition of biological species was given by Ernst Mayr.
 II. Photoperiod does not affect reproduction in plants.
 III. Binomial nomenclature system was given by RH Whittaker.
 IV. In unicellular organisms, reproduction is synonymous with growth.

The two correct statements are

- A) II and III
 B) III and IV
 C) I and IV
 D) I and II

2. Which is correct for earthworm

- A) segments
 B) parapodia
 C) nephridia
 D) all of given

3. In Amoeba and Paramecium, the cell organelle for osmoregulation is

- A) nucleus
 B) body surface
 C) contractile vacuole
 D) pseudopodia

4. Bilaterally symmetrical and acoelomate animals are exemplified by

- A) aschelminthes
 B) annelida
 C) ctenophora
 D) Platyhelminthes

5. Metamerism is characteristic of

- A) Platyhelminthes
 B) Mollusca
 C) Porifera
 D) annelida

6. Which of the following animals does not undergo metamorphosis?

- A) moth
 B) tunicate
 C) earthworm
 D) starfish

7. Animals having well marked digestive cavity are included under

- A) Parazoa
 B) Enterozoa
 C) Mesozoa
 D) Metazoa

8. What is common about Trypanosoma, Noctiluca, Monocystis, and Giardia?

- A) These are all unicellular protists
 B) They have flagella
 C) They produce spores
 D) These are parasites

9. The similarity between Ascaris lumbricoides and Anopheles stephensi is:

- A) Sexual dimorphism
 B) Metamerism
 C) Anaerobic respiration
 D) Endoparasitism

10. Rattus rattus scientific name is an example of

- A) autonyms
 B) tautonyms
 C) synonyms
 D) homonyms

11. The book 'philosophic zoologique' published in 1809 was written by

- A) C.Darwin
 B) Huxley
 C) A.I. Oparian
 D) Lamark

12. Which one of the following species of an earthworm is not recommended for vermicomposting?

- A) Perionyx excavatus
 B) Pheretima posthuma
 C) Eudrilus eugeneae
 D) Eisenia foetidae

93. The structures which help in respiration as well as excretion are

- A) Dermal branchiae
B) Pedicellariae
C) Calcareous spines
D) Tubercles

94. Which of the following is mismatched?

- A) Clypeaster Cake urchin
B) Pentaceros Star fish
C) Ophiocoma Sand dollar
D) Echinocardium Heart urchin

95. The zygotes of all metazoans are single celled and quite comparable with the bodies of simple protozoans. This fact indicates that:

- A) Metazoans formed protozoans
B) Origin of metazoans has been from protozoan ancestors
C) Both protozoa and metazoa are not related to each other
D) Protozoans after degeneration formed metazonas

96. When any plane passing through the central axis of the body divides the organism into two identical halves it is radial symmetry. Which of the following set of animals base radial symmetry?

- A) Housefly, fish, human beings
B) Sponges, hydra, crabs
C) Coelenterates, ctenophores, echinoderms
D) Annelids, anthropods,housefly

97. Closed circulatory system is found in

- A) Earthworm
B) Arthropoda
C) Unio
D) Leech

98. Sponges are most primitive multicellular organisms with which or the following levels of organisation?

- A) Acellular
B) cellular
C) Tissue
D) Organ system

99. Incomplete alimentary canal with blind sac type of body plan is present in

- A) Annelids
B) Arthropods
C) Platyhelminthes
D) Sponges

100. In the course of evolution true coelom appeared for the first time in

- A) annelida
B) chordata
C) aschelminthes
D) echinodermata

UGTRB - ZOOLOGY

Answers - UNIT-1 : TEST-1

1. Correct Answer : (C) I and IV

Concept:

- There are numerous types of plants and animals in the living world. The structural and functional unit of life, cells constitute the foundation of the living world.
- with the help of carbon-based and related substances (during metabolism), they have the ability to change their shape and appearance in order to carry out growth and reproductive functions.

Explanation:

Option 1: The definition of biological species was given by Ernst Mayr - CORRECT

- Ernst Mayr defined species as a 'group of interbreeding natural populations that are reproductively isolated'.
- This is the most accepted species concept.

Option 2: Photoperiod does not affect reproduction in plants- INCORRECT

- Photoperiod is the duration of light for which an organism is illuminated with light.
- Plants show different physiological reactions in response to the length of light and dark periods.
- Photoperiod affects reproduction in both plants and animals. In plants, photoperiod affects flowering.

Option 3: Binomial nomenclature system was given by RH whittakerI - INCORRECT

- Binomial nomenclature was given by Carolus Linnaeus. He explained the rules of writing scientific names.
- Five kingdom classification was given by R. H. Whittaker. The five kingdom includes- Monera, Protista, Fungi, Plantae, and Animalia.

Option 4: In unicellular organisms, reproduction is synonymous with growth- CORRECT

- Growth is the characteristic of living organisms.
- Cell division in unicellular organisms is equivalent to reproduction.

So, the correct answer is option 3.

2. Correct Answer : (B) parapodia

- Earthworms are soil-dwelling invertebrates that are beneficial to the soil.
- They are segmented worms with small bristles called setae that help them move.
- Earthworms are hermaphrodites, meaning they have both male and female reproductive organs.

Segments:

- Earthworms have 100–150 segments.
- These segments are called metameres.
- The segments have muscles and bristles called setae that help the worm move.
- The setae hold a section of the body against the ground while the rest of the worm is pushed forward.

parapodia

- Earthworms do not have parapodia.
- Parapodia are paddle-like appendages that help with movement and gaseous exchange in polychaetes (marine annelids).
- Earthworms are terrestrial invertebrates that belong to the phylum Annelida.

They have bristles on each

- segment to move. They move by extending their body, anchoring it to a surface with setae, and contracting body muscles.

Other animals that have parapodia include:

- Sand worms, Tube worms, Clam worms.

Nephridia

- Nephridia are a pair of invertebrate kidneys that function like vertebrate kidneys.
- They are responsible for maintaining osmoregulation and removing metabolic wastes from an animal's body.

There are three types of nephridia in earthworms:

- Septal nephridia: Found on both sides of septa after the 15th segment in the earthworm body. Responsible for osmoregulation and water balance in the body.
- Integumentary nephridia
- Nephridia are of ectodermal origin.

98. Correct Answer : (B) cellular

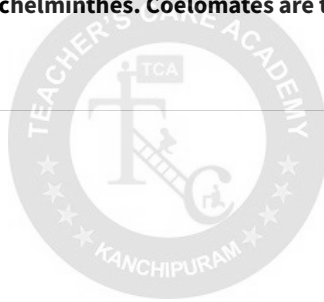
- Sponges are primitive multicellular organisms with a cellular level of organization.
- This means that their cells are specialized so that different cells perform different functions, but similar cells are not organized into tissues.
- Sponges are the simplest multicellular organisms, distinguished by their:
 - Primitive cellular structure
 - Porous bodies
 - Filter-feeding system
 - Specialized cells that can perform a variety of tasks within the body
- Sponges are the most primordial multicellular creatures, belonging to the class Porifera. They are stationary animals and remain fixed to substratum while water passes over them.

99. Correct Answer : (C) Platyhelminthes

- The blind sac body plan is found in animals with a single opening that acts as both mouth and anus. This type of body plan is seen in the phylum: Coelenterata, Ctenophora, Platyhelminthes.
- The blind sac body plan has a single cavity that functions as both digestive tract and coelom. An incomplete digestive system has only one opening, so food goes in the same opening that waste comes out.
- The blind sac body plan is also found in: Coelenterates, Flat worms, Annelids, Arthropods, Nir.

100. Correct Answer : (A) annelida

- True coelom appeared for the first time in the course of evolution in Annelida.
- Annelida includes earthworms and leeches. Species belonging to Annelida show evidence for the first true coelomates.
- The coelom is the fluid-filled body cavity present between the alimentary canal and the body wall. The true coelom has a mesodermal origin and is lined by mesoderm.
- The peritoneal cavity present in the abdomen and similar spaces around other organs such as lungs and heart are parts of the coelom.
- Acoelomates are those without coelom, for example - Platyhelminthes. Pseudocoelomates are those whose body cavity is not lined by mesoderm, for example - Aschelminthes. Coelomates are those which have a true body cavity, for example - Annelid, Arthropods etc.



UGTRB - ZOOLOGY

Questions - UNIT-1 : TEST-2

1. Correct order of excretory organs in cockroach, earthworm and rabbit respectively

- A) Skin, Malpighi tubules, kidney
 B) Malpighi tubules, nephridia, kidney
 C) nephridia, Malpighi tubules, kidney
 D) nephridia, kidney, greenglands

2. Which of the following group is Deuterostome

- A) Annelida, Arthropoda, Mollusca
 B) Echinodermata, Hemichordata, Chordates
 C) Annelida, Mollusca, Chordata
 D) Arthropoda, Mollusca, Echinoderms

3. In which phylum nerve cells are found but nerves are absent

- A) Porifera
 B) Coelenterata
 C) Platyhelminthes
 D) Nematelminthes

4. Classification of sponges is primarily based on the

- A) Body organisation
 B) Body plan
 C) Skeleton
 D) Canal system

5. In crustaceans, respiration takes place by

- A) Gills
 B) Book lungs
 C) Ctenidia
 D) Trachea

6. Ctenophora shows affinities with

- A) Cnidaria
 B) Aschelminthes
 C) Cephalopoda
 D) Turbellaria

7. which of the following molluscs is formed by a larva which have torsion

- A) Lamelledens
 B) Pila
 C) Sepia
 D) Octopus

8. Solenocytes and Nephridia are respectively found in

- A) Platyhelminthes and Annelids
 B) Annelids and Nematoda
 C) Cnidaria and Mollusca
 D) Mollusca and Echinodermata

9. Chitin exoskeleton is found in

- A) Cockroach
 B) Ascaris
 C) Nematoda
 D) None

10. The scientific name of lion is _____

- A) Pan thera Leo
 B) Pan thera Tigress
 C) Panthera Lion
 D) Panthera leo

11. The common name of *Drosophila melanogaster* is

- A) Round worm
 B) Fruit fly
 C) Sea horse
 D) Zebra fish

12. A mesodermal endoskeleton among invertebrates is found in

- A) porifera
 B) mollusca
 C) cephalochordata
 D) echinodermata

13. The organisms attached to the substratum generally possess

- A) Radial symmetry
 B) Cilia on the surface to create water current
 C) One single opening to the digestive canal
 D) Asymmetrical body.

UGTRB - ZOOLOGY

Answers - UNIT-1 : TEST-2

1. Correct Answer : (B) Malpighi tubules, nephridia, kidney

The correct order of excretory organs in cockroach, earthworm, and rabbit respectively is:

- *Cockroach: Malpighian tubules*
- *Earthworm: Nephridia*
- *Rabbit: Kidney*

Cockroach

- The malpighian tubule system is an excretory and osmoregulatory system found in cockroaches.
- There are about 150 malpighian tubules found at the junction of the midgut and hindgut.

Earthworm

- Nephridia are the excretory organs of
- There are three types of nephridia:
- septal, integumentary, and pharyngeal.

Rabbit

- Rabbits have two kidneys, like other mammals.

Hence the answer is Option B

2. Correct Answer : (B) Echinodermata, Hemichordata, Chordates

Deuterostomes include the following groups:

Echinoderms

- Such as sea stars, sea urchins, and sand dollars

Chordates

- Such as humans, birds, and small marine creatures called lancelets and tunicates

Other deuterostomes include:

- Hemichordata

Deuterostomes have mouths that are derived away from the blastopore.

- All other invertebrates are protostomes.
- Deuterostomes Examples
Examples: starfish, sea urchin, sea lily, sea cucumber, etc.
- They are characterised by the presence of the notochord, which is replaced by the vertebral column in the vertebrates
- Therefore the correct answer is Option B

3. Correct Answer : (B) Coelenterata

- Nerve cells are found in the *phylum Coelenterata*, but nerves are absent.
- Coelenterata includes the animal phyla Cnidaria and Ctenophora.
- Coelenterates have a simple nervous system with non-polar neurons scattered irregularly in the body.
- They have no brain and possess diffuse nerve nets and epithelial electrical conduction.

Nerve cells are not found in:

- Platyhelminthes, Echinoderms, Sponges.

Hence the answer is Option b

Porifera:

- No, Porifera, or sponges, do not have a nervous system.
- Sponges are the only multicellular animals without a nervous system.
- They do not have any nerve cells or sensory cells.

Nematodes:

- Have a simple nervous system that includes a nerve ring, longitudinal nerve cord, and head and tail ganglia.
- The central nervous system consists of a circumoral brain or nerve ring, which is a bunch of nerves in their throats.
- Nematodes also have chemosensory and mechanosensory neurons embedded in the cuticle to orient and respond to environmental stimuli.

UGTRB - ZOOLOGY

Questions - UNIT-1 : TEST-3

1. Anal itching is caused by

- A) Female Ancylostoma
B) Male Ancylostoma
C) Female Enterobius
D) Male Enterobius

2. The alternate intermediate host of Guinea worm is

- A) Fish
B) Dog
C) Cyclop
D) Domesticated animals

3. Blisters are produced on the body due to infection of worm called

- A) Trichinella
B) Dracunculus
C) Wuchereria
D) Echinococcus

4. Leech belongs to the class

- A) Polychaeta
B) Oligochaeta
C) Hirudinea
D) Archiannelida

5. Aphrodite (sea mouse) belongs to class

- A) Hirudinea
B) Oligoclaeta
C) Archiannelida
D) Polychaeta

6. Parapodia for locomotion are found in one of the following

- A) Earthworm
B) Hirudinaria
C) Nereis
D) Polygordius

7. In earthworm, the function of chloragogen cells is

- A) Excretion
B) Reproduction
C) Digestion
D) Regeneration

8. A temporary clitellum occurs during the breeding season in

- A) Pheretima
B) Heteronereis
C) Hirudinaria
D) Aphrodite

9. The septal and pharyngeal nephridia open into alimentary canal and are of enteronephric type. It is an adaptation for

- A) Conservation of water (osmo regulation)
B) Conservation of heat
C) Regulation of temperature
D) Regulation of amino acids

10. Blood of Pheretima is

- A) Blue with haemocyanin in corpuscles
B) Blue with haemocyanin in plasma
C) Red with haemocyanin in corpuscles
D) Red with haemoglobin in plasma

11. Hirudinaria shows locomotion by

- A) Looping
B) Swimming
C) Both (1) & (2)
D) Creeping

12. In earthworm, fertilization occurs in

- A) Oviduct
B) Spermathecae
C) Clitellum
D) Cocoon

13. One of the following is considered as a connecting link between annelida and arthropoda

- A) Pseudoscorpion
B) Limulus
C) Scolopendromorph
D) SpChenodon

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Answers - UNIT-1 : TEST-3

1. Correct Answer : (C) Female Enterobius

2. Correct Answer : (C) Cyclop

3. Correct Answer : (B) Dracunculus

4. Correct Answer : (C) Hirudinea

5. Correct Answer : (D) Polychaeta

6. Correct Answer : (C) Nerais

7. Correct Answer : (A) Excretion

8. Correct Answer : (C) Hirudinaria

9. Correct Answer : (A) Conservation of water (osmo regulation)

10. Correct Answer : (D) Red with haemoglobin in plasma

11. Correct Answer : (C) Both (1) & (2)

12. Correct Answer : (D) Cucoon

13. Correct Answer : (A) Pcripatus

14. Correct Answer : (C) trachea

15. Correct Answer : (D) All of these

16. Correct Answer : (B) Mantle

17. Correct Answer : (A) Neopilina

18. Correct Answer : (A) Urnax

19. Correct Answer : (D) Oslna

20. Correct Answer : (C) Trochophore and veliger

21. Correct Answer : (B) Devil fish

22. Correct Answer : (C) Radula

23. Correct Answer : (C) Loligo





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Questions - UNIT-2 : TEST-1

1. In the vertebrates _____ is the largest animal

- A) Rhineodon typus
 B) Balaenoptera musculus
 C) Loxodonta Africana
 D) Loxodonta cyclotis

2. Which of the following statement is correct about common morphological features of chrodates?

- A) Notochord
 B) Dorsal tubular nerve cord
 C) Pharyngeal gill-slits
 D) All of these

3. Select the correct statement about class-Aves

- A) They are warm blooded (homiothermous) animals and are able to maintain a constant body temperature
 B) Respiration occurs through lungs and air sacs connected to lungs for supplement respiration
 C) They are oviparous with separate sexes, internal fertilisation and direct development
 D) All of the above

4. 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
- A) . (a)and(b)
 B) (b) and (C)
 C) (d)and(c)
 D) (c) and (a)

5. Which one of the following is a matching pair of a body feature and the animal possessing it?

A Post - anal tail	octopus
B Ventral central nervous system	leech
C Pharyngeal gills slits absent in embryo	chamaeleon
D Ventral heart	Scorpion

- A) A
 B) B
 C) C
 D) D

6. In which of the following animals, the digestive tract has additional chambers like crop and gizzard?

- A) .Pavo, Psittacula, Corvus
 B) Corvus, Columba, Chameleon
 C) Bufo, Balaenoptera, Bun gurus
 D) Catla, Columba, Crocodilus

7. Given below are two statements: one is labeled as Assertion (A) and the other is labeled as Reason (R).

Assertion (A): All vertebrates are chordates but all chordates are not vertebrates.

Reason (R): Notochord is replaced by a vertebral column in the adult vertebrates.

In the light of the above statements, choose the most appropriate answer from the options given below:

- A) (A) is not correct but (R) is correct
 B) Both (A) and (R) are correct and (R) is the correct explanation of (A)
 C) Both (A) and (R) are correct but (R) is not the correct explanation
 D) (A) is correct but (R) is not correct

8. 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: Hem ichordata, Tunicata, and Cephalochordata
- A) (a) and (b)
 B) (b) and (c)
 C) (d) and (C)
 D) (c) and (a)

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Questions - UNIT-2 : TEST-2

1. What is the basis of classification of protochordata

- A) gut
B) Brain
C) Gills
D) Notochord

2. which of the following is not a character of chordates?

- A) notochord present
B) A post-anal metamerically segmented tail
C) Pharynx perforated by gill slits
D) Heart is dorsal in position

3. In which of the following animals the notochord is replaced by bony vertebral column in the adult?

- A) Ascidia
B) Branchistoma
C) Petromyzon
D) Labeo

4. In the sub-phylum (i) notochord is present only in the larval tail, while in (_ii_) it extends from head to tail region and is persistent throughout their life. In (iii) class of vertebrata notochord is replaced by cartilaginous vertebral column and (_iv_) class of vertebrata the notochord is replaced by bony vertebral column. Select the option which is correct for all (i) - (iv) blanks

- A) (i) -Cephalochordata (ii) -Urochordata (iii) -Agnatha (iv) -Osteichthyes
B) (i) -Protochordata (ii) -Urochordata (iii) -Agnatha (iv) -Osteichthyes
C) (i) -Urochordata (ii) -Cephalochordata (iii) -Chondrichthyes (iv) -Osteichthyes
D) (i) -Urochordata (ii) -Cephalochordata (iii) -Agnatha (iv) -Gnathostomata

5. which of the following statement is incorrect w.r.t class Cyclostomata

- A) All the members are ectoparasites on some fishes
B) Their body is devoid of scales and paired fins
C) Circulation is of open type
D) They are marine but migrate for spawning to fresh water

6. Acraniata includes

- A) Urochordata
B) Protochordata
C) Cephalochordata
D) All of these

7. In which of the following notochord is absent?

- A) Adult tunicate
B) Myxine
C) Amphioxus
D) Larval tunicates

8. which of the following is a common feature of Amphioxus, Frog, fish and crocodile?

- A) Skeleton made up of cartilage and bone
B) Pharyngeal gill starts at least in developmental stages
C) Dorsal solid nerve cord
D) Three chambered hearts

9. In which of the following fish the skin is tough containing minute placoid scales?

- A) Exocoetus
B) Hippocampus
C) Scoliodon
D) Labeo

10. Which of the following is not a characteristic feature of cartilaginous fish?

- A) Internal fertilisation
B) viviparous
C) Pelvic fins of males bear claspers
D) Gills are covered by an operculum on each side

11. Bony fishes can stay at a particular depth in water without beating their pectoral and pelvic fins due to the presence of

- A) Pneumatic bones
B) Lateral line sense organs (Neuromast organs)
C) Air bladder
D) Streamlined body

12. Ampulla of Lorenzini in Scoliodon act as

- A) Neuromast organs
B) Thermoreceptors
C) Electric organs
D) Rheoreceptors

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Questions - UNIT-2 : TEST-3

1. which animal is suriname toad

- | | |
|--------------------------|------------------|
| A) <i>Pipa americana</i> | B) <i>Bufo</i> |
| C) <i>Bombinator</i> | D) <i>alytes</i> |

2. National bird of India is

- | | |
|-------------------------|--------------------------|
| A) Flamingo | B) <i>Pavo cristatus</i> |
| C) <i>Columba levia</i> | D) <i>Psittacula</i> |

3. In Urochordata notochord is found in

- | | |
|------------------|------------------|
| A) Head of adult | B) Tail of adult |
| C) Tail of larva | D) Test of adult |

4. Microlecithal eggs are found in

- | | |
|---------------------------------|----------------------------|
| A) Reptilia + Aves | B) Amphibia+Ayes +Reptilia |
| C) Reptilia + Aves + Chiroptera | D) Eutheria |

5. which of the following shows the sexual dimorphism

- | | |
|-----------------------------------|-------------------------------------|
| A) <i>Hydra & Ascaris</i> | B) <i>Hydra & Oryctolagus</i> |
| C) <i>Ascaris & Pheretima</i> | D) <i>Ascaris & Oryctolagus</i> |

6. which is not aerial adaptation of Birds

- | | |
|-----------------|-------------------|
| A) Single ovary | B) Pneumatic bone |
| C) Gizzard | D) keeled sternum |

7. How does the Reptilia differ from other vertebrates

- | | |
|---------------------------|-------------------------|
| A) Due to epidermal scale | B) Due to cleidoic eggs |
| C) Due to tetrapod limb | D) None of them |

8. In which of the following notocord is absent

- | | |
|--|---|
| A) Adult <i>Herdmania & Balanoglossus</i> | B) Adult <i>Herdmania & adult Branchiostoma</i> |
| C) Larva of <i>Herdmania & Branchiostoma</i> | D) Larva of <i>Herdmania & Balanoglossus</i> |

9. which of the following are Anamniotes

- | | |
|--|------------------------------------|
| A) <i>Chondrichthyes. Osteichthyes. Amphibia</i> | B) <i>Reptilia. Ayes. Amphibia</i> |
| C) <i>Amphibia. Aves. Mammals</i> | D) <i>Reptilia. Mammals. Aves</i> |

10. which have macrolecithal eggs

- | | |
|--------------------------------------|------------------------------------|
| A) <i>Ayes. Reptilia</i> | B) <i>Aves. Rcptilia. Amphibia</i> |
| C) <i>Aves. Reptilia. Chiroptera</i> | D) <i>Aves. Eutheria</i> |

11. Cleidoic egg is an adaptation for

- | | |
|---------------------|----------------|
| A) Aquatic life | B) Marine life |
| C) Terrestrial life | D) Aerial life |

12. which type of scales are found on skin of cartilaginous fishes

- | | |
|------------|------------|
| A) Cycloid | B) Ctenoid |
| C) Gonoid | D) Placoid |

13. In which pair both characters are found without exception in all mammals

- | | |
|------------------------------|--|
| A) Hair & vivipary | B) Vivipary & internal fertilization |
| C) Vivipary & mammary glands | D) Mammary glands & internal fertilization |

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Questions - UNIT-3 : TEST-1

1. Because DNA is a highly charged polyanion, its stability to heat denaturation

- A) does not depend on hydrophobic interactions
 B) increases with increasing salt
 C) is independent of G - C content
 D) decreases with increasing salt

2. The sugar in RNA is _____, the sugar in DNA is _____

- A) deoxyribose, ribose
 B) ribose, deoxyribose
 C) ribose, phosphate
 D) ribose, uracil

3. Nucleoside is a pyrimidine or purine base

- A) covalently bonded to a sugar
 B) ionically bonded to a sugar
 C) hydrogen bonded to a sugar
 D) none of the above

4. Which pyrimidine base contains an amino group at carbon 4?

- A) Cytosine
 B) Thymine
 C) Uracil
 D) Adenine

5. Nucleotide bases and aromatic amino acids absorb light respectively at

- A) 280 and 260 nm
 B) 260 and 280 nm
 C) 270 and 280 nm
 D) 260 and 270 nm

6. The glycosidic bonds in DNA and RNA

- A) connect the sugar to the base
 B) can be hydrolyzed by OH- ion
 C) stabilize Watson-Crick H-bonds
 D) are free to rotate over about 180°

7. Nucleic acids can be analyzed experimentally by their

- A) molecular weight
 B) absorption of visible light
 C) absorption of uv light
 D) none of these

8. The most stabilizing force for nucleic acids is

- A) hydrogen bonds
 B) electrostatic bond
 C) Van der Waals
 D) conformational entropy

9. Building blocks of nucleic acids are _____

- A) Nucleotides
 B) Nucleosides
 C) Amino acids
 D) Histones

10. Which of the following is true about phosphodiester linkage?

- A) 5'-phosphate group of one nucleotide unit is joined to the 3'-hydroxyl group of the next nucleotide
 B) 3'-phosphate group of one nucleotide unit is joined to the 5'-hydroxyl group of the next nucleotide
 C) 5'-phosphate group of one nucleotide unit is joined to the 5'-hydroxyl group of the next nucleotide
 D) 3'-phosphate group of one nucleotide unit is joined to the 3'-hydroxyl group of the next nucleotide

11. Double-helix structure of DNA is discovered by _____

- A) Gobind Khurana
 B) Nirenberg
 C) Watson and Crick
 D) Darwin

12. Which of the following is a correct statement about the process of DNA replication?

- A) DNA synthesis takes place mainly by DNA polymerase I in E. coli
 B) Gap filling after the removal of primer is done by DNA polymerase III
 C) SSB proteins bind to the DNA strand in which the leading strand of replicating DNA is synthesized.
 D) Direction of DNA synthesis in the lagging strand is 5' → 3' direction

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Questions - UNIT-3 : TEST-2

1. Nucleic acids combine with which biomolecule?

- A) Fats
B) Lipids
C) Carbohydrates
D) Proteins

2. Nucleotides are linked together to form nucleic acid through

- A) Glycosidic bond
B) Phosphor-di-ester bond
C) Both
D) None

3. Left handed DNA

- A) A-DNA
B) B-DNA
C) Z-DNA
D) C-DNA

4. Z-DNA have a

- A) Double helical nature
B) Zig-Zag appearance
C) Uracil base
D) Single stranded nature

5. The length of DNA having 23 base pairs is

- A) 78 A0
B) 78.4 A0
C) 78.2 A0
D) 74.8 A0

6. The width of DNA molecule is

- A) 15 A0
B) 3.4A0
C) 20A0
D) 25A0

7. The basic repeating units of a DNA molecule is

- A) nucleoside
B) nucleotide
C) Histones
D) Amino acids

8. A segment of DNA has 250 thymine and 250 Guanine bases. The total number of nucleotides present in the segment is :

- A) 250
B) 500
C) 750
D) 1000

9. Base analogues cause mispairing and get incorporated into DNA during DNA replication. Choose the right option representing only natural base analogues:

- A) 5-bromouracil, 2-amino purine, 5-bromo deoxyuridine
B) 5-bromouracil, 5-hydroxy methyl cytosine, 2-amino purine
C) 5-methyl cytosine, 5-hydroxy methyl cytosine, 6-methyl purine
D) 5-methyl cytosine, 5-bromo deoxyuridine, 6-methyl purine

10. The double helical structure of DNA is developed through:

- A) scanning electron microscopy
B) x-ray crystallography
C) compound microscope
D) ultracentrifugation

11. Which of the following statement does not appropriately substantiate the concept of RNA being the initial genetic material?

- A) Self splicing property of RNA molecule
B) Involvement of molecules like NAD or FAD in the process of ATP synthesis.
C) Involvement of enzyme primase in DNA replication.
D) Phosphorylation of creatine to form high energy creatine phosphate molecule

12. Which of the following statement is not correct with respect to Deoxyribonucleic Acid (DNA)?

- A) It is found in all prokaryotic and eukaryotic cells and in many viruses.
B) The DNA molecule consists of a single strand that is made of deoxyribose and phosphate groups
C) DNA codes genetic information for the transmission of inherited traits.
D) Each strand has a backbone made of alternating sugar (deoxyribose) and phosphate groups.

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Questions - UNIT-3 : TEST- 3

1. Which of the following is not a structural motif in DNA binding proteins?

- A) bZIP
B) helix-turn-helix
C) TFIID
D) zinc finger

2. DNA with a G-C content of 50% will melt at approximately

- A) 60°C
B) 70 °C
C) 90 °C
D) 100 °C

3. Who's X-ray work aided Watson and Crick in their discovery of the double helix?

- A) W.H. Bragg
B) R. Franklin
C) L. Pauling
D) Leaderberg

4. DNA replication in eukaryotes occurs only in

- A) G1 phase
B) S phase
C) G2 phase
D) M phase

5. Which polymerase is active in DNA repairing

- A) Polymerase I
B) Polymerase II
C) Polymerase III
D) none of these

6. For the DNA replication in eukaryotes, the cell cycle consists of

- A) G1, G2 and M phases
B) S, G2 and M phases
C) G1,S, G2 and M phases
D) G2 and M phases

7. Which of the following in DNA replication and transcription are common?

- A) incorporation of deoxynucleotides
B) utilization the same enzyme
C) synthesis in the 5'-3' direction
D) none of the above

8. An important difference between eukaryotic and prokaryotic DNA replication is

- A) eukaryotic DNA polymerases are faster
B) more DNA polymerases are found in eukaryotes
C) multiple origins of replication in eukaryotes
D) RNA primers are not required in eukaryotes

9. In DNA, nucleotides are covalently joined together by

- A) 3', 5' phosphodiester bonds to form a repetitive sugar-phosphate chain
B) 2', 5' phosphodiester bonds to form a repetitive sugar-phosphate chain
C) 2', 3' phosphodiester bonds to form a repetitive sugar-phosphate chain
D) 3', 4' phosphodiester bonds to form a repetitive sugar-phosphate chain

10. What is the name given to the points at which a DNA helix is unwound and new strands develop?

- A) Replication origins
B) Replication forks
C) Leading strands
D) Okazaki fragments

11. The DNA is negatively super coiled, complexes to histone,

- A) HU
B) HSP-1
C) H-NS
D) All of these

12. During conventional transformation experiments E. coli cells and plasmid DNA interacts in an environment of

- A) high temperature and Ca⁺⁺
B) low temperature and Ca⁺⁺
C) high temperature and Mg⁺⁺
D) low temperature and Mg⁺⁺

13. What is the exact name of the classical Watson-Crick double helix DNA?

- A) A-DNA
B) B-DNA
C) Z-DNA
D) X-DNA

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Questions - UNIT-4 : TEST-1

1. The function of highly repeated satellite DNA sequence at the end of an eukaryotic chromosome is to protect the

- A) ends of chromosomes from being shortened during replication
 B) chromosomes from ionizing radiation
 C) chromosomes from random recombination
 D) chromosomes from incomplete separation during anaphase

2. In the ABO system, blood group 'O' is characterized by the:

- A) presence of antigen O
 B) presence of both antigen A and antigen B
 C) absence of both antigen A and antigen B
 D) presence of antigen A and absence of antigen B

3. In the ABO blood system is normally

- A) A
 B) B
 C) ABO
 D) A, B, AB, or O

4. Rarely observed phenotype in population is called

- A) Wild type
 B) Mutant type
 C) Variant type
 D) All of the above

5. One of the parents of a cross has a mutation in its mitochondria. In that cross, that parent is taken as a male. During segregation of F2 progenies that mutation is found in

- A) One-third of the progenies
 B) 50% of the progenies
 C) All the progenies
 D) None of the progenies

6. Assertion (A) Muton gene has fewer nucleotides than a cistron.

Reason (R) Benzer coined the term muton to the smallest unit of genetic material capable of mutational change.

- A) Both A and R are true and R is the correct explanation of A
 B) Both A and R are true, but R is not the correct explanation of A
 C) A is true, but R is false
 D) Both A and R are false

7. Mutagens are

- A) Chemical agents which cause change in DNA
 B) Physical agents which cause mutation
 C) Cancer producing agents
 D) Both 1 and 2

8. Certain mutations are not eliminated from gene pool because they are carried by

- A) Homozygous individuals
 B) Recessive homozygous individuals
 C) Heterozygous individuals
 D) Dominant heterozygous individuals

9. Haploids are able to express both recessive and dominant alleles/ mutations because there are

- A) Many alleles for each gene
 B) Two alleles for each gene
 C) Only one allele for each gene in the individual
 D) Only one allele in a gene

10. The reason why some mutations which are harmful and yet do not get eliminated from gene pool is that

- A) They have future survival value.
 B) They are recessive and carried by heterozygous individuals.
 C) They are dominant and show up more frequently.
 D) Genetic drift occurs because of a small population

11. Mutation is

- A) Recessive
 B) Useful
 C) Seldom useful
 D) Low frequency

12. Transition type of gene mutation is caused when

- A) GC is replaced by TA
 B) CG is replaced by GC
 C) AT is replaced by CG
 D) AT is replaced by GC

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Questions - UNIT-4 : TEST-2

1. A recessive allele is expressed in

- A) Homozygous condition only. B) Heterozygous condition only.
C) Both homozygous and heterozygous conditions. D) More than one of the above.

2. If the blood group of both the parents is AB, then the possible blood group of their children will be:

- A) A,B,AB and O B) A,B and AB
C) A and B D) A,B and O

3. In a plant, red fruit (R) dominant over yellow fruit (r) and tallness (T) is dominant over shortness (t). If a plant with RRTT genotype is crossed with a plant that is rrrt. Then

- A) 25% will be tall with red fruit B) 50% will be tall with red fruit
C) 75% will be tall with red fruit D) All of the offspring will be tall with red fruits

4. What is the genotypic ratio in a monohybrid cross?

- A) 4:2:0:1 B) 3:1
C) 1:2:1 D) 5:3

5. What is the basic unit of inheritance?

- A) Cell B) Mitochondria
C) Gene D) Tissue

6. Who is the father of Modern Genetics?

- A) Gregor John Mendel B) Hugo De vries
C) Charles Darwin D) Thomas hunt morgan

7. Which one is correctly matched?

- A) Down syndrome – 44 Autosome + XO B) Klinefelter's syndrome – 44 Autosome + XXY
C) Erythroblastosis fetalis – X linked D) Color blindness – Y linked

8. The Gene referred to as which of the following given options?

- A) Particular DNA segment which determines the heredity of a particular trait B) Half DNA segment of somatic cells
C) Whole DNA D) Half DNA segment

9. Which technique can be used to establish the paternity of a child from the given options?

- A) Protein analysis B) Quantitative
C) chromosome counting D) DNA fingerprinting

10. In the following given options, Hemophilia leads to which condition?

- A) Non-clotting of blood B) Decrease in WBC
C) Rheumatic heart disease D) Decrease in hemoglobin level

11. In the given options, which is not considered a genetic disease?

- A) Huntington's chorea B) Phenylketonuria
C) Rheumatic heart disease D) Tay Sach's disease

12. The no. of hydrogen bonds present between guanine and cytosine in the following given options?

- A) 4 B) 1
C) 3 D) 2

13. In the genetic dictionary, What is the meaning of "64 codons" in the given options?

- A) 64 amino acids are to be codes B) 64 types of t RNA are present
C) There are 44 nonsense codons and 20 codons D) Genetic code is a triplet

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Questions - UNIT-4 : TEST- 3

1. The sequence of nucleotides that determines the amino acid sequence of a protein is called:

- A) Gamete
B) Chromatid
C) Chromosome
D) Gene

2. All the genes found in a breeding population at a given time are collectively termed as:

- A) Gene frequency
B) Gene cluster
C) Gene operon
D) Gene pool

3. It is the genetic complement for a particular trait in an individual:

- A) Genotype
B) Phenotype
C) Genome
D) karyotype

4. Organism of pure line is that which

- A) Dominant characters
B) Its own character type
C) Recessive characters
D) Intermediate type

5. The organism chosen by G. Mendel

- A) Homo sapiens
B) Arabidopsis thaliana
C) Pisum sativum
D) Drosophila melanogaster

6. All of the following are recessive phenotypes found in Mendelian experimental plant except

- A) Constricted pod shape
B) Wrinkled seed shape
C) Green pod color
D) Short plant height

7. In Mendel's monohybrid cross, short stem trait becomes recessive in F₁ generation. It will express in F₂ generation only when/ in :

- A) Alleles express co-dominantly
B) Alleles express via incomplete dominance
C) Homozygous recessive condition
D) Homozygous dominant condition

8. The sequence of DNA from where replication starts is called _____

- A) selectable marker
B) origin of replication
C) ter sequence
D) genetic sequence

9. What helps in identifying the successful transformants?

- A) Ori
B) Viruses
C) Selectable markers
D) Enzymes

10. Selectable markers are the genes which code for resistance to _____

- A) disease
B) phages
C) antibiotics
D) foreign entity

11. A test cross is best described by

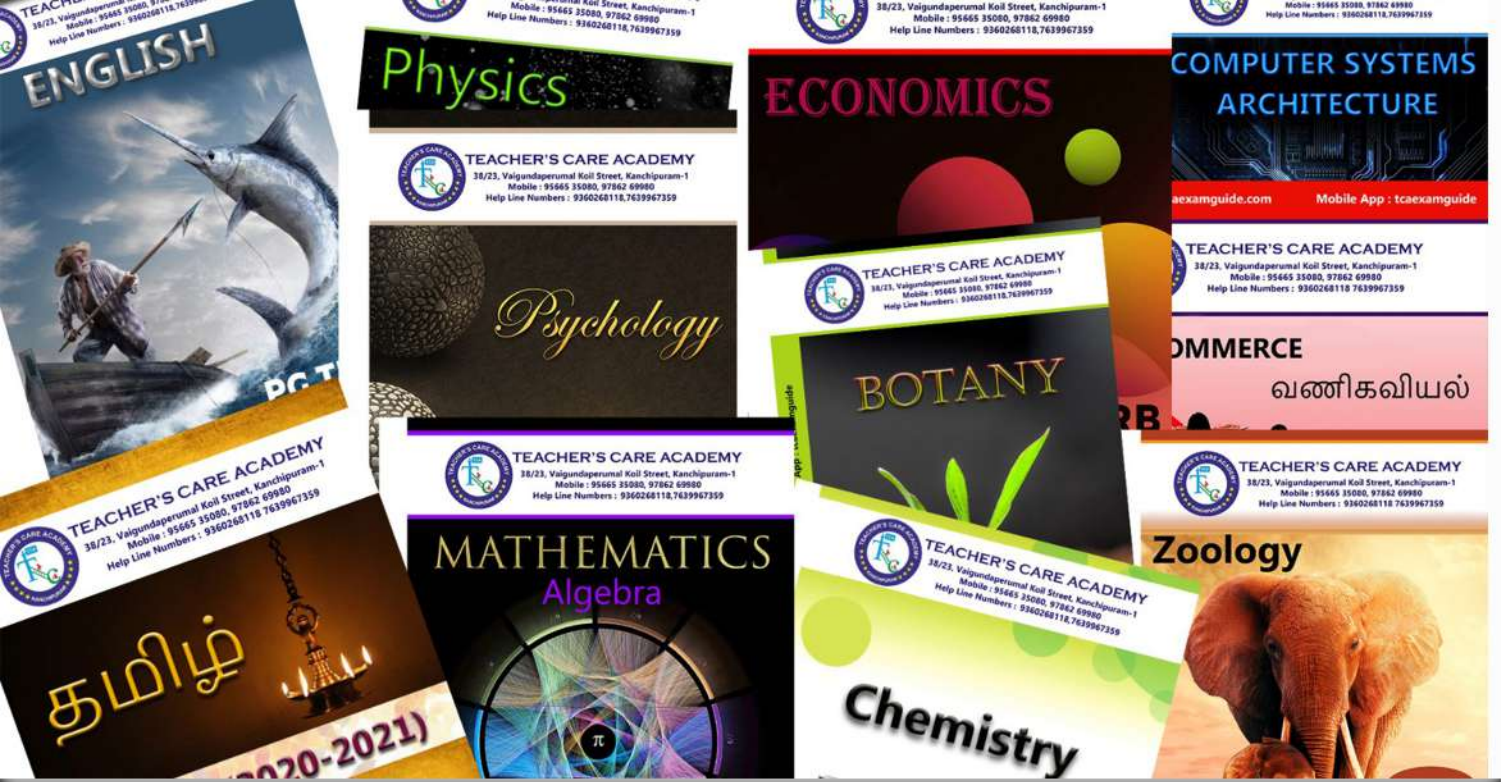
- A) TT x Tt
B) TT x tt
C) tt x tt
D) Tt x Tt

12. Mendel's law of independent assortment is not obeyed by

- A) Dominant genes
B) Mutant genes
C) Recessive genes
D) Linked genes

13. In Mendelian dihybrid cross, how many individuals are homozygous recessive for both traits in F₂ generation

- A) 1/16
B) 4/16
C) 2/16
D) 6/16



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UGTRB - ZOOLOGY

Questions - UNIT-5 : TEST-1

1. The mode of nutrition an organism de-rives its food from the body of another living organism without any harm is

- A) Saprotrophic nutrition
B) Parasitic nutrition
C) Holozoic nutrition
D) Autotrophic nutrition

2. The mode of nutrition possessing by fungi is:

- A) Parasitic nutrition
B) Holozoic nutrition
C) Autotrophic nutrition
D) Saprotrophic nutrition

3. In amoeba, digest its food in the:

- A) Food vacuole
B) Mitochondria
C) Pseudopodia
D) Chloroplast

4. single circulation is exhibited by which of the following:

- A) Hyla, Rana, Draco
B) Whale, dolphin, turtle
C) labeo, chameleon, salamander
D) Hippocampus, exocoetus, anabas

5. Kidneys connect to the urinary bladder through

- A) Urethra
B) Nephron
C) Tubule
D) Ureter

6. This is Not a Function of Insulin

- A) Decreasing glycogenolysis
B) Lipogenesis
C) Gluconeogenesis
D) Glycogenesis

7. Which part of a body secreted bile?

- A) Liver
B) Spleen
C) Pancreas
D) Gall bladder

8. Which is the smallest gland in the human body?

- A) liver
B) Pituitary
C) Thyroid
D) Pineal

9. Which of the following glands is known as the " Master gland"?

- A) Adrenal
B) Thyroid
C) Pancreas
D) Pituitary

10. Which one of the given is the largest gland in the human body?

- A) Pancreas
B) Stomach
C) Liver
D) Kidney

11. Which of the given hormones regulate blood calcium and phosphate in the human body?

- A) Glucagon
B) Parathyroid hormone
C) Thyroxine
D) Growth hormone

12. Which of the given glands is a ductless gland?

- A) Kidney
B) Liver
C) Stomach
D) Endocrine gland

13. Which hormone is also known as growth hormone?

- A) Pancreas
B) Cortisol
C) Somatotropin
D) Ethylene

UGTRB - ZOOLOGY

Questions - UNIT-5 : TEST-2

1. The process of converting large food molecules into small molecules which can be easily absorbed into human body is known as

- A) Nervous system
B) Digestive system
C) Respiratory system
D) Excretory system

2. Which of the following is the entry part of the digestive system?

- A) Rectum
B) Stomach
C) Mouth
D) Nose

3. The long tube which connects mouth to the stomach is

- A) Oesophagus
B) Liver
C) Gall bladder
D) Rectum

4. Which of the following part of trachea prevents food from entering the windpipe?

- A) Alveoli
B) Epiglottis
C) Teeth
D) Nose

5. A young infant may be feeding entirely on mother's milk which the infant passes out is quite yellowish. What is this yellow color due to ?

- A) Intestinal juice
B) Bile pigments passed through bile juice
C) Undigested milk protein casein
D) Pancreatic juice poured into duodenum

6. Anxiety and eating spicy food together in an otherwise normal human may lead to

- A) Indigestion
B) Jaundice
C) Diarrhea
D) Vomiting

7. Two friends are eating together on a dining table. One of them suddenly starts coughing while swallowing some food. This coughing would have been due to improper movement of

- A) Diaphragm
B) Neck
C) Tongue
D) Epiglottis

8. Rennin acts on

- A) Milk changing casein into calcium paracaseinate at 7.2-8.2 pH
B) Protein in stomach
C) Fat in intestine
D) Milk changing casein into calcium paracaseinate at 1-3 pH

9. Release of pancreatic juice is stimulated by

- A) Enterokinase
B) Cholecystokinin
C) Secretin
D) trypsinogen

10. The hormone that stimulates the stomach to secrete gastric juice is

- A) Gastrin
B) Rennin
C) Enterokinase
D) Enterogasterone

11. A dental disease characterised by molting of teeth is due to the presence of a certain chemical element in drinking water. Which of the following is that element?

- A) Mercury
B) Chlorine
C) Fluorine
D) Boron

12. Which one of the following pairs of food components in humans reaches the stomach

- A) Protein and starch
B) Starch and fat
C) Fat and cellulose
D) Starch and cellulose

UGTRB - ZOOLOGY

Questions - UNIT-5 : TEST- 3

1. The study of the structure of the body and the physical relationship between its constituent parts is called

- A) Physiology
B) Pathology
C) Anatomy
D) Pathophysiology

2. Atherosclerosis refers to ailment of

- A) Kidney
B) Heart
C) Lungs
D) Liver

3. Which one of the following statements is correct regarding blood pressure

- A) 190/110 mmHg may harm vital organs like brain and kidney
B) 130/90 mmHg is considered high and requires treatment
C) 100/55 mmHg is considered an ideal blood pressure
D) 105/50 mmHg makes one very active

4. A large proportion of oxygen is left unused in the human blood even after its uptake by the body tissues. This oxygen

- A) Helps in releasing more O₂ to the epithelium tissues
B) Acts as a reserve during muscular exercise
C) Raises the pCO₂ of blood to 75 mm of Hg
D) Is enough to keep oxyhaemoglobin saturation at 96%

5. A muscular wall is absent in

- A) Capillary
B) Vein
C) Venule
D) Arteriole

6. Adrenaline directly affects

- A) Oxyntic cells of stomach
B) Sinoatrial node
C) Islet of Langerhans
D) Dorsal Root Ganglia of spinal cord

7. All arteries carry oxygenated blood, except

- A) Pulmonary artery
B) Renal artery
C) Hepatic artery
D) Cardiac artery

8. An adult human has systolic and diastolic pressure as

- A) 80 mm Hg and 120 mm Hg
B) 120 mm Hg and 80 mm Hg
C) 50 mm Hg and 80 mm Hg
D) 80 mm Hg and 80 mm Hg

9. In sun our face becomes reddish due to

- A) Breakup of RBC and release of haemoglobin
B) Expansion of blood capillaries
C) Effect of light
D) Irritation of Skin

10. Anticoagulant of fresh water leech is

- A) Sodium citrate
B) Heparin
C) Hirudin
D) Chelating Agent

11. Arteries are best defined as the vessels which

- A) Carry blood from one visceral organ to another visceral organ
B) Supply oxygenated blood to the different organs
C) Carry blood away from the heart to different organs
D) Breakup into capillaries which reunite to form a vein

12. Artificial pace maker is transplanted in

- A) Inter auricular septum
B) Below the collar bone
C) Inter ventricular septum
D) Right auricle

13. Average Cardiac output

- A) 5.3 litre/ minute
B) 6.3 litre/ minute
C) 7.3 litre/ minute
D) 4 litre/ minute

UGTRB - ZOOLOGY

Questions - UNIT-6 : TEST-1

1. Choose the incorrect statement for cDNA libraries.

- A) They constitute of DNA copies produced from the RNA sequences and usually mRNA
 B) They represent expressed sequences
 C) Introns are not represented
 D) Comparison of cDNA sequences with genomic sequences leads to the determination of polyadenylation sites

2. A times partial sequencing of cloned cDNAs is carried out. These cDNA are known as _____

- A) expressed RNA sequences
 B) expressed sequence tags (ESTs)
 C) expressed cDNA sequences
 D) library

3. In bio methane, the percentage of carbon dioxide is

- A) 55-60
 B) 35-45
 C) 30-40
 D) 20-50

4. Bio ethanol is denatured alcohol, also referred to as

- A) methylene
 B) ethylene
 C) ethylene glycol
 D) methylated spirit

5. This forestry material is used as biomass

- A) fish oil
 B) logging residues
 C) manure
 D) tallow

6. What is the use of Rhizobium?

- A) fix large amounts of atmospheric nitrogen
 B) used as a source of protein
 C) promote plant growth by mechanisms of tolerance of abiotic stresses
 D) None of these

7. According to India's National Policy on Biofuels, which of the following can be used as raw materials for the production of biofuels?

1. Cassava
2. Damaged wheat grains
3. Groundnut seeds
4. Horse gram
5. Rotten potatoes
6. Sugar beet

Select the correct answer using the code given below:

- A) 1, 2, 5 and 6 only
 B) 1, 3, 4 and 6 only
 C) 2, 3, 4 and 5 only
 D) 1, 2, 3, 4, 5 and 6

8. One of the perfect alternatives for fossil fuel.

- A) Biohydrogen
 B) Biobutanol
 C) Bioethanol
 D) Biogas

9. The biofertilizer present in the roots of legumes is __

- A) Anabaena
 B) Rhizobium
 C) Azospirillum
 D) All of the above

10. Which chemical fertilizer is needed for better rhizobial nitrogen fixation?

- A) Phosphorus
 B) Potassium
 C) Calcium
 D) Sodium

11. Which of the following is green manure?

- A) Rice
 B) Oats
 C) Maize
 D) Sesbania

UGTRB - ZOOLOGY

Questions - UNIT-6 : TEST-2

1. Which among the Following Enzymes does not Participate in Galactose Metabolism?

- A) Glucokinase
B) Galactokinase
C) Galactose-1-Phosphate Uridyl transferase
D) UDP-Galactose 4- epimerase

2. Which of the Following Enzymes is Considered as Defective in Galactosemia- a Fatal Genetic Disorder in Infants?

- A) Glucokinase
B) Galactokinase
C) Galactose-1-Phosphate Uridyl transferase
D) UDP-Galactose 4- epimerase

3. Erythrocytes Undergo Glycolysis for Production of ATP. The Deficiency of Which Enzyme Leads to Hemolytic Anemia-

- A) Glucokinase
B) Phosphofructokinase
C) Phosphoglucomutase
D) Pyruvate Kinase

4. In the Liver, the Accumulation of which among the Following Metabolites Attenuates the Inhibitory of ATP on Phosphofructokinase?

- A) Glucose-6-Phosphate
B) Citrate
C) Fructose-1,6-Bisphosphate
D) Fructose-2,6-Bisphosphate

5. The Most Active Site of Protein Synthesis is the-

- A) Nucleus
B) Ribosome
C) Mitochondrion
D) Cell sap

6. How many Total Molecules of ATP are Synthesized from ADP via Glycolysis of a Single Molecule of Glucose?

- A) 36
B) 38
C) 2
D) 4

7. Mutation in which of the Following Enzymes Leads to a Glycogen Storage Disease Known as Tarui's Disease?

- A) Glucokinase
B) Phosphofructokinase
C) Phosphoglucomutase
D) Pyruvate Kinase

8. Cancer Cells have High Energy Demands for Replication and Division. Increased Flux of glucose into Glycolysis Replenishes the Energy Demand. Which of the Following Enzymes Plays an Important Role in Tumor Metabolism?

- A) Glucokinase
B) Phosphofructokinase
C) Phosphoglucomutase
D) Pyruvate Kinase M2

9. The Rate of Absorption of Sugars by the Small Intestine is Highest for -

- A) Pentoses
B) Disaccharides
C) Polysaccharides
D) Hexoses

10. Which of the Following is not a Polymer of Glucose?

- A) Glycogen
B) Cellulose
C) Amylase
D) Inulin

11. An Essential for the Conversion of Glucose to Glycogen in Liver is -

- A) UTP
B) GTP
C) Pyruvate kinase
D) Guanosine

12. Which of the Following Glucose Transporters (GLUT) are Important in Insulin-Dependent Glucose Uptake?

- A) GLUT1
B) GLUT2
C) GLUT3
D) GLUT4

13. Which of the Following Metabolites Negatively Regulates Pyruvate Kinase?

- A) Fructose-1,6-Bisphosphate
B) Citrate
C) Acetyl CoA
D) Alanine

UGTRB - ZOOLOGY

Questions - UNIT-6 : TEST-3

1. Which class of carbohydrates cannot be hydrolyzed further?

- A) Monosaccharides
B) Polysaccharides
C) Disaccharides
D) Proteoglycan

2. Maltose is a disaccharide of

- A) Fructose and lactose
B) Glucose and glucose
C) Glucose and galactose
D) Glucose and lactose

3. A sweetener used in sugarless gums and candies

- A) Ribitol
B) Xylitol
C) Inositol
D) Mannitol

4. Starch consists of

- A) Branched amylose and branched amylopectin
B) Unbranched amylose and branched amylopectin
C) Unbranched amylose and unbranched amylopectin
D) None of the above

5. Which of the following is also known as inverted sugar?

- A) Sucrose
B) Fructose
C) Dextrose
D) Glucose

6. Name the major storage form of carbohydrates in animals.

- A) Starch
B) Chitin
C) Glycogen
D) Cellulose

7. The only carbohydrate which does not have any chiral carbon atoms is

- A) Glyceraldehyde
B) Erythrose
C) Dihydroxyacetone
D) Erythrulose

8. A molecule of amylopectin contains 1500 glucose residues and is branched after every 30 residues. How many reducing ends are there?

- A) 5
B) 0
C) 2
D) 1

9. Which of the following glycosidic linkages is found in maltose?

- A) Glucose (α -1 - 2 β) Fructose
B) Glucose (α 1 - 4) Glucose
C) Galactose (β 1 - 4) Glucose
D) Glucose (β 1 - 4) Glucose

10. Oligosaccharides linked to proteins are called

- A) Glycolipids
B) Glycoproteins
C) Galactosides
D) Ganglioside

11. Which of the following Biomolecules is simply referred to as the "Staff of life"?

- A) Carbohydrates
B) Vitamins
C) Proteins
D) Lipids

12. Which of the following statements is true about Turanose?

- A) It is a 7-methyl sugar
B) It is a deoxy sugar
C) It's a reducing disaccharide of glucose and fructose
D) It's a non-reducing disaccharide

13. Examples of epimers are -

- A) Glucose and Ribose
B) Fructose and Glucose
C) Glucose and Galactose
D) Mannose and Glucose

UGTRB - ZOOLOGY

Questions - UNIT-7 : TEST-1

1. At which stage of spermatogenesis, sperms acquire their structural maturity and contain a haploid nucleus and other organelles?

- A) Spermiogenesis
B) Maturation phase
C) Multiplication phase
D) Growth phase

2. Spermioteleosis is another name of

- A) Maturation of ovum
B) Spermiogenesis
C) Spermatogenesis
D) Degeneration of sperms

3. What do you mean by the term spermioteleosis ?

- A) Conversion of spermatids to sperm
B) Conversion of spermatogonium to spermatid
C) Conversion of spermatid to spermatogonium
D) Conversion of primary spermatocyte to secondary spermatocyte

4. The term, 'spermatozoa' was coined by

- A) Von Baer
B) Leeuwenhoek
C) Spemann
D) Swammerdam

5. In the formation of spermatozoa, the spermatids attach to

- A) Leydig cells
B) corona radiata cells
C) Sertoli cells
D) First polar body

6. Androgen Binding Protein (ABP) is secreted by

- A) Interstitial cells
B) Leydig cells
C) Sertoli cell
D) None of these

7. The difference between spermiogenesis and spermiation is

- A) In spermiogenesis, spermatids are formed, while in spermiation, spermatozoa are formed
B) In spermiogenesis, spermatozoa are formed, while in spermiation, spermatozoa are released from Sertoli cells into the cavity of seminiferous tubules
C) In spermiogenesis, spermatozoa from Sertoli cells are released into the Cavity of seminiferous tubules, while in spermiation spermatozoa are formed
D) In spermiogenesis spermatozoa are formed, while in spermiation, spermatids are formed

8. What is the correct sequence of sperm formation?

- A) Spermatogonia, spermatocyte, spermatozoa, spermatid
B) Spermatogonia, spermatozoa, spermatocyte, spermatid
C) Spermatogonia, spermatocyte, spermatid, spermatozoa
D) Spermatid, spermatocyte, spermatogonia, spermatozoa

9. The release of leads to initiation of spermatogenesis.

- A) GnRH
B) lactic acid
C) Testosterone
D) oestrogen

10. GnRH stimulates two hormones and from anterior lobe of pituitary.

- A) FSH and GH
B) FSH and LH
C) LH and testosterone
D) Testosterone and LH

11. Synthesis of testosterone by Leydig cells is stimulated by

- A) LTH
B) TSH
C) FSH
D) ICSH

12. Spermatogenesis is induced by

- A) FSH
B) ICSH
C) STH
D) ATH

UGTRB - ZOOLOGY

Questions - UNIT-7 : TEST-2

1. The first phase in the sexual reproduction of organism is

- A) Spermatogenesis
B) Ovulation
C) Oogenesis
D) Gametogenesis

2. The process of formation of gametes from primordial germ cells of gonad is called

- A) Gametogenesis
B) Spermatogenesis
C) Spermatocytogenesis
D) Oogenesis

3. Germ cells in mammalian gonads are produced by

- A) Only mitosis
B) Only meiosis
C) Both mitosis and meiosis
D) Without cell division

4. Which is not associated with gametogenesis?

- A) Formation of ova
B) Formation of spermatid
C) Release of ova
D) Change of spermatids to spermatozoa

5. In spermatogenesis, a primary spermatocyte produces four similar sperms while in oogenesis, a primary oocyte forms

- A) Four similar ova
B) Three large ova and one polar body
C) Two large ova and two polar bodies
D) One large ovum and two polar bodies

6. How many ova and sperms would be produced from 100 secondary oocytes and 100 secondary spermatocytes during gametogenesis in humans?

- A) 100 ova, 100 sperms
B) 100 ova, 200 sperms
C) 50 ova, 100 sperms
D) 200 ova, 200 sperms

7. How many sperms and ova will be produced from 25 primary spermatocytes and 25 primary oocytes?

- A) 80 sperms and 80 ova
B) 80 sperms and 40 ova
C) 80 sperms and 20 ova
D) 100 sperms and 25 ova

8. The process of maturation of reproductive cells of testes in male so as to form the male gamete or sperm is known as

- A) Spermatogenesis
B) Gametogenesis
C) Oogenesis
D) None of the above

9. Spermatogenesis takes place in

- A) Epididymis
B) Seminiferous tubules
C) Vasa deferentia
D) Penis

10. Find the odd one out.

- A) Spermatocyte
B) Polar body
C) Spermatid
D) Spermatogonium

11. How many days do it take for spermatogenesis to take place?

- A) 40 to 65 days
B) 60 to 75 days
C) 70 to 95 days
D) 50 to 65 days

12. Consider the following statements.

1. Primary and secondary spermatocytes contain diploid number of chromosomes.
2. Spermatids contain haploid set of chromosomes.

Choose the correct option.

- A) Statement 1 is correct, but 2 is incorrect
B) Statement 1 is incorrect, but 2 is correct
C) Both statements 1 and 2 are correct
D) Both statements 1 and 2 are incorrect

UGTRB - ZOOLOGY

Questions - UNIT-7 : TEST-3

1. Neck of sperm contains

- A) Mitochondria
B) Centriole
C) lysosomes
D) Nucleus

2. Nebenkern represents

- A) Mitochondrial spiral of sperm
B) Acrosome of sperm
C) Centriole of sperm
D) Tail of sperm

3. The gives rise to the axial filament of the sperm.

- A) Distal centriole
B) Acrosome
C) Proximal centriole
D) Fibrillar sheath

4. The 9 + 2 arrangement of microtubules is found in of sperm.

- A) Head only
B) Head and neck
C) Tail
D) Middle piece

5. Except the end piece, the entire sperm is covered by

- A) Cytoplasmic membrane
B) Tunica vaginalis
C) Peritoneum
D) Tunica albuginea

6. Which is the longest part of sperm?

- A) Head
B) Neck
C) Middle part
D) Tail

7. The tail of sperm consists ofregions.

- A) Two
B) Three
C) Four
D) Single

8. Optimum temperature for sperm production is

- A) 25-30°C
B) 40-50°C
C) 35 -40°C
D) 30-35°C

9. Consider the following statements.

1. Clupein protein is not found in human sperm.
2. Clupein protein is highly basic arginine rich protein.

Choose the correct option.

- A) Statement 1 is correct, but 2 is incorrect
B) Statement 1 is incorrect, but 2 is correct
C) Both statements 1 and 2 are correct
D) Both statements 1 and 2 are incorrect

10. The fluid containing secretion of seminal vesicles, prostate gland and sperms from the testis is known as

- A) Serum
B) Semen
C) lymph
D) Coelomic fluid

11. Human male ejaculates ...A... to ...B...million sperm. At least ...C... should have normal shape and size and ...D... should show vigorous motility.

Here A, B, C, and D refer to

- A) A-100, B-200, C-30%, D-40%
B) A-200, B-300, C-60%, D-40%
C) A-300, B-400, C-60%, D-40%
D) A-400, B-500, C-60%, D-40%

12. Seminal plasma in humans is rich in

- A) Fructose and calcium, but has no enzymes
B) Glucose and certain enzymes, but has no calcium
C) Fructose and certain enzymes, but poor in calcium
D) Fructose, calcium and certain enzymes

UGTRB - ZOOLOGY

Questions - UNIT-8 : TEST-1

1. An important evidence in favour of organic evolution is the occurrence of

- A) homologous and analogous organs
 B) homologous and vestigial organs
 C) analogous and vestigial organs
 D) homologous organs only

2. Evolution and natural selection is demonstrated by

- A) DDT resistance in mosquito
 B) sickle cell anaemia in pygmies
 C) industrial mechanism
 D) all above

3. Which of the following leads to evolution ?

- A) Separation of species leading to evolution
 B) Differentiation of species
 C) Loss of few advanced characters
 D) Differentiation and adaptation of species as unique entities

4. Mesozoic era is called golden period of _____.

- A) birds
 B) amphibians
 C) reptiles
 D) pisces

5. A. Ear muscles of external ear in man are poorly developed
 R. These muscles are useful which move external ear freely to detect sound efficiently.

- A) If A and R both are true and R is correct explanation of A
 B) If A and R both are true but R is not correct explanation of A
 C) If A is true and R is wrong
 D) If A is wrong and R is true

6. Mark the correct set.

Column -I	Column -II
I. Slow evolution	A. Non-progressive
II. Environment is responsible for evolution	B. Aristotle
III. Homologous	C. Bird wing and butterfly wing
IV. Analogous organ	D. Wing of bird and hose limb

- A) I - A, II - B, III - D, IV - C
 B) I - B, II - A, III - D, IV - C
 C) I - B, II - A, III - C, IV - D
 D) I - B, II - C, III - D, IV - A

7. Which of the following cannot determine phylogenetic relationships ?

- A) Physiology
 B) Morphology
 C) Biogeography
 D) Embryology

8. The Jurassic period belongs to the era.

- A) proterozoic
 B) archezoic
 C) mesozoic
 D) cenozoic

9. Postanal tail can be traced in _____.

- A) cobra
 B) earthworm
 C) scorpion
 D) centipede

10. In external appearance the krait and lycodon are indistinguishable. This is an example of

- A) analogy
 B) imitation
 C) mimicry
 D) homology

UGTRB - ZOOLOGY

Questions - UNIT-8 : TEST-2

1. Which is related to reproductive isolation

- A) Genetic isolation
 B) Temporal isolation
 C) Behavioural isolation
 D) All of these

2. In which condition gene ratio remains constant in a species?

- A) gene flow
 B) mutation
 C) random mating
 D) sexual selection

3. Lamarck theory of organic evolution is usually known as

- A) Natural selection
 B) Inheritance of acquired characters
 C) Descent with change
 D) continuity of germ plasm

4. A species inhabiting different geographical areas is known as

- A) sympatric
 B) atlopatric
 C) sibling
 D) biospecies

5. Balancing selection is concerned with the successful reproduction of

- A) Homozygous recessives
 B) homozygous individuals
 C) heterozygous individuals
 D) all of the above

6. The first domesticated animal by primitive man was

- A) Cat
 B) Dog
 C) Horse
 D) Cow

7. which of the following is known as living fossils?

- A) Lepidosiren
 B) Lepidosteus
 C) Latimeria
 D) Neoceratodus

8. First life on earth was

- A) Cyanobacteria
 B) Autographs
 C) Chemoheterotrophs
 D) Photoautotrophs

9. Most abundant organic compound on earth is

- A) Protein
 B) Cellulose
 C) Steroids
 D) lipids

10. Which one of the following is regarded as the direct ancestor of modern man?

- A) Homo erectus
 B) Ramapithecus
 C) Homo habilis
 D) Cro-magnon man

11. Darwin and Wallace proposed which organic evolution sequence?

- A) Variations, natural selection, overproduction, constancy of population size
 B) Overproduction, variations, constancy of population size, natural selection
 C) Variations, overproduction, constancy of population size, natural selection.
 D) Overproduction, constancy of population size, variations, natural selection

12. Darwin's pangenesis theory is similar to the inheritance of acquired characters. Then what will be correct according to its function?

- A) Organs become strong and developed, while useless organs become extinct.
 B) These organs help in the struggle for survival sizes of organs increase with aging.
 C) The development of organs is due to willpower
 D) There should be some physical basis for inheritance.

UGTRB - ZOOLOGY

Questions - UNIT-8 : TEST-3

1. One of the oldest, best preserved and most complete hominid fossil commonly known as 'Lucy' belongs to the genus.
- A) Oreopithecus
B) Dryopithecus
C) Pithecanthropus
D) Australopithecus
-
2. Which one of the following ancestors of man first time showed bipedal movement ?
- A) Australopithecus
B) Cro-magnon
C) Java apeman
D) Peking man
-
3. Which of the following is correct match regarding cranial capacity and location of respective fossil.
- A) Australopithecus – Africa (450 600 CC)
B) Java man – Germany (800 CC)
C) Neanderthal – Africa (500–600 CC)
D) Homo sapiens – South east Asia
-
4. Peking man is known as _____.
- A) Australopithecus
B) Sinanthropus
C) Pithcanthropus
D) Homo sapiens
-
5. Human evolution actually started in _____.
- A) France
B) America
C) Central Asia
D) Africa
-
6. A human species who were more intelligent than the present human beings
- A) Ramapethicus
B) Australopithicus africanus
C) Homo erectus
D) Homo fossilis
-
7. The first man to use fire was _____.
- A) neanderthal man
B) Homo erectus
C) cro-magnon man
D) Australopithecus
-
8. There are two opposing views about origin of modern man, According to the view Homo erectus in Asia were the ancestors of modern man. A study of variation of DNA however suggested African origin of modern man. What kind of observation on DNA variation could suggest this ?
- A) Greater variation in Africa than in Asia
B) Variation only in Asia and no variation in Africa
C) Greater variation in Asia than in Africa
D) Similar variation in Africa and Asia
-
9. A. From evolutionary point of view, human gestation period is believed to be shortening. R. One major evolutionary trend in humans has been the larger head undergoing relatively faster growth rate in the foetal stage. Read the above statement the answer according
- A) If A and R both one correct and R is an explanation to A
B) If A and R both are correct and R is an explanation to A
C) If A is correct and R is wrong
D) If A is wrong and R is correct
-
10. A. Java man and peking men were called Homo erectus by Mayer.
R. They appeared same as both used fire.
- A) A is correct and R is its explanation.
B) A and R both are correct but R is not an explanation to A
C) A is correct and R is false
D) A is false and R is correct

UGTRB - ZOOLOGY

Questions - UNIT-9 : TEST-1

1. Rearing of honey bee is called

- A) Sericulture
B) Lac culture
C) Vermiculture
D) Apiculture

2. The process of rearing honeybee artificially for the production of Honey and Bee products is called as

- A) Horticulture
B) Apiculture
C) Sericulture
D) pisciculture

3. The primary objective of beekeeping is to increase

- A) Propagation
B) Honey extraction
C) Crop production
D) Wax production

4. The honey bees are belong to phylum-----

- A) Mollusca
B) Annelida
C) Arthropoda
D) Echinodermata

5. The honey bees are belong to class-----

- A) Hymenoptera
B) Insecta
C) Arthropoda
D) Aves

6. The honey bees are belong to order-----

- A) Hymenoptera
B) Insecta
C) Arthropoda
D) Aves

7. ----- species of honeybee is more medicinal importance

- A) Apis mellifera
B) Apis dorsata
C) Apis cerana indica
D) Apis florae

8. ----- is commonly known as Giant bee

- A) Apis mellifera
B) Apis dorsata
C) Apis cerana indica
D) Apis florae

9. ----- is commonly known as ferocious bee

- A) Apis mellifera
B) Apis dorsata
C) Apis cerana indica
D) Apis florae

10. -----is an Indian bee species is popularly domesticated in India.

- A) Apis mellifera
B) Apis dorsata
C) Apis cerana indica
D) Apis florae

11.enzyme convert sucrose into glucose in honey

- A) Endonuclease
B) Ribonuclease
C) Invertase
D) Lipases

12. Nature of honey is

- A) Acidic
B) Alkaline
C) Neutral
D) Turns basic after a few days

13. 'Apis' is a generic name of

- A) A fish
B) Lac insect
C) Honey bee
D) Prawn

UGTRB - ZOOLOGY

Questions - UNIT-9 : TEST-2

1. For how long does a worker bee live in the summer ?

- A) For 2 weeks
B) For 2 months
C) For 4 months
D) For 6 months

2. Honey is

- A) Nectar of a flower
B) Nectar stored in the honey sac
C) Nectar mixed with saliva and stored in the honey sac
D) Nectar and water sucked by honey bee

3. The bee carries the pollen back to its colony on:

- A) Its body
B) Its middle legs
C) Its front legs
D) Its rear legs

4. Apis dorsata is used to refer to

- A) Little bee
B) Indian bee
C) European bee
D) Rock bee

5. Amongst honey bees, the workers are:

- A) Female
B) Male
C) Both females and males
D) Hermaphrodite

6. The development of a male bee (drone) takes how long?

- A) 16 days
B) 19 days
C) 22 days
D) 24 days

7. what is apiary?

- A) honey bee rearing
B) a location where bees are kept
C) a location for breeding bees
D) Hybridization in honey bees

8. IARI means,

- A) International Agriculture Research institute
B) Indian Agriculture Research Institute
C) Imperial Agriculture Research Institute
D) Indian aeronautical Research Institute

9. which of the following group is right for fresh water fishes?

- A) Catla, Rohu, Mackerel
B) Major carp, Hilsa ,Sardines
C) Mrigal, Mackerel, Promfrets
D) Rohu, Mrigal, Catla

10. Cattle, Keepers play central role in dairy farming because

- A) They prepare house bold milk products
B) They have brought bite revolution in dairy farming
C) Their dairy products are sold at national as well as international level
D) They carries good varieties of cattle.

11. Honey is a viscous, sugary fluid ____

- A) It is thick liquid formed from the nectar within the stomach.
B) it is thick liquid formed from the nematocytes of honeybee
C) It is thick liquid formed from Salivary glands of honeybee.
D) It is secreted by the abdominal gland of bees.

12. Numbers of worker bees found in the colonies are

- A) 40,000 to 50,000
B) 30,000 to 50,000
C) 40,000 to 60,000
D) 30,000 to 60,000

13. which of the following group is right for edible marine fishes?

- A) Sardines, Pomfrets, Mackerel
B) Catla, Rohu, Mirgal
C) Hilsa, Pomfrets, Catla
D) Sardines, Mackerel, Mrigal

UGTRB - ZOOLOGY

Questions - UNIT-9 : TEST-3

1. The process of collection of pollen and nector by honey bees called

- A) Royal fidelity
B) Forging
C) Absconding
D) mylletophyly

2. Which of the following honey construct parallel combs

- A) Apis mellifera
B) Apis cerana indica
C) Apis florum
D) Both a and b

3. Brood cells of worker bee are

- A) Triangular
B) Hexagonal
C) Cylindrical
D) Spherical

4. What is royal jelly

- A) Jelly making by the use of honey
B) Artificial honey
C) Special honey for feeding the larvae of honey bee
D) None of the above

5. What is the scientific name of bumble bee

- A) Bombus lapidaries
B) Xylocopa Violacea
C) Xylocopa amethystina
D) None of the above

6. Which species of stingless bee produces honey?

- A) Melipona iridipennis
B) Melipona bicolor
C) Tetragona clavipes
D) All of the above

7. The first scientist to translate the meaning of bee dance

- A) Jurgen fautz
B) Karl Von Frisch
C) Ferdinand de Saussure
D) Gould J.L

8. Who studies bee dance?

- A) Biologist
B) entomologist
C) Ethologist
D) All the above

9. Bee dance is also known as?

- A) Western dance
B) Flee dance
C) Happy dance
D) Waggle dance

10. A honeycomb is _____

- A) Triagonal prismatic wax cell
B) Pentagonal prismatic wax cell
C) Octogonal prismatic wax cell
D) Hexagonal prismatic wax cell

11. What is bee propolis

- A) Bee glue
B) Bee wax
C) Honey bee
D) All the above

12. Beeswax consists of

- A) Fatty acids
B) Lactic acids
C) Oxalic acids
D) Formic acids

13. A person who keeps bee for honey and other product

- A) Bee keeper
B) Apiarist
C) Both a and b
D) None of the above

UGTRB - ZOOLOGY

Questions - UNIT-10 : TEST-1

1. Which is a bird or animal that is raised in largest scale in the world?

- A) Goat
B) Sheep
C) Hen
D) Turkeys

2. Who is the mother of Broiler Poultry Farming.?

- A) James Harbor
B) Wilmer Steel
C) William Hanna
D) Wilkinson

3. _____ is the agricultural practice of feeding, breeding, and raising livestock whose primary purpose is to provide meat and milk.

- A) Animal husbandry
B) Cattle improvement
C) Both (A) and (B)
D) Cattle farming

4. More than 70% of the world's livestock population is found in _____ A _____ and _____ B _____, but contribute only 25% to the world farm production.

- A) A-India, B-China
B) A-Japan, B-China
C) A-India, B-US
D) A-US, B-Brazil

5. The management of animals for milk and its products for human consumption is called

- A) Dairy farming
B) Poultry
C) Cattle farming
D) Cattle rearing

6. National Dairy Research Institute is located at

- A) Lucknow
B) Mumbai
C) Chennai
D) Karnal

7. Consider the following statements.

1. In dairy management, processes that improve and increase quality and yield of milk are used.
2. Animals like cow, sheep, buffaloes are found in dairy.

Choose the correct option.

- A) Statement 1 is correct, but 2 is incorrect
B) Statement 1 is incorrect, but 2 is correct
C) Both statements 1 and 2 are correct
D) Both statements 1 and 2 are in correct

8. Father of White Revolution in India is

- A) Dr. Verghese Kurien
B) Dr. MS Swaminathan
C) Alexander Fleming
D) Norman Borlaug

9. The practices involving improvement in animal husbandry can be brought about by

- A) Better management of farm and farm animals
B) Increasing the number of breeding animals
C) Managing the amount of feedstock given
D) None of the above

10. The milk-yielding capacity of buffalo is

- A) More than cows
B) Less than cows
C) Equal to cows
D) None of the above

11. Milk of which breed is nutritionally superior?

- A) Cow milk
B) Camel milk
C) Goat milk
D) Buffalo milk

UGTRB - ZOOLOGY

Questions - UNIT-10 : TEST-2

1. Blue Revolution refers to

1. The rapid expansion intensive commercial aquaculture.
2. Increase in global food production and reduction in widespread hunger.

Which of the statements given above is/ are correct?

- | | |
|------------|------------------|
| A) Only 1 | B) Only 2 |
| C) 1 and 2 | D) None of these |

2. Consider the following statements.

1. Isinglass is a gelatinous by product obtained from fishes.
2. Fish meal is a good source of protein.

Choose the correct option.

- | | |
|---|---|
| A) Statement 1 is correct, but 2 is incorrect | B) Statement 1 is incorrect, but 2 is correct |
| C) Both statements 1 and 2 are correct | D) Both statements 1 and 2 are incorrect |

3. The adhesive for paper, wood, etc., obtained from fish is

- | | |
|---------------|--------------|
| A) Fish guano | B) Fish glue |
| C) Fish oil | D) Fish chum |

4. Fish roes widely used for high biological value is rich in

- | | |
|---------------------------|-----------------------------|
| A) Thymine and creatine | B) Lecithin and cholesterol |
| C) Vitamin B6, C, and B12 | D) All of the above |

5. What is the nutritional classification of eggs?

- | | |
|--------------|------------|
| A) Dairy | B) Fruit |
| C) Vegetable | D) poultry |

6. What is the caloric content of a medium-sized boiled egg?:

- | | |
|-------------|-------------|
| A) 78 kcal | B) 150 kcal |
| C) 200 kcal | D) 250 kcal |

7. Which of the following vitamins is absent in eggs?:

- | | |
|--------------|--------------|
| A) Vitamin A | B) Vitamin C |
| C) Vitamin D | D) Vitamin E |

8. What are the essential amino acids in eggs?

- | | |
|-----------|-----------|
| A) Nine | B) Ten |
| C) Eleven | D) Twelve |

9. 'Pisciculture' is culture of

- | | |
|--------------------|----------------------|
| A) Aquatic animals | B) Prawns |
| C) Fishes | D) None of the above |

10. Fresh water fishes which have a great food value are

- | | |
|---------------------------------|---------------------------------|
| A) Rohu, Catla, Clarius, Mystus | B) Rohu, Catla, Eel, Hilsa |
| C) Rohu, Catla, Wallago, Hilsa | D) Rohu, Catla, Salmon, Clarius |

11. Estuarine fish culture is a culture of fish in

- | | |
|------------------------|---|
| A) Marine water | B) Fresh water of river |
| C) Fresh water of pond | D) Aquatic medium where fresh and marine water get mixed together |

12. Estuarine fish culture includes the fishes

- | | |
|----------------------|--------------------|
| A) Hilsa and Liza | B) Rohu and Hilsa |
| C) Wallago and Hilsa | D) Catla and Hilsa |

UGTRB - ZOOLOGY

Questions - UNIT-10 : TEST-3

1. The larvae of mud crab pass through -zoe stages before metatmorphosing into megalopa stage.

- A) Four
B) Six
C) Seven
D) Five

2. Generally EDTA is added as chelating agent in penaeid larval rearing tanks at the rate of.— ..—mg L⁻¹

- A) 10
B) 100
C) 1000
D) 0.1

3. colour is most commonly applied on inside surface of maturation tanks in penaeid shrimp hatcheries.

- A) White
B) Yellow
C) Green
D) Black

4. The larvae of *Macrobrachium rosenbergii* exhibit schooling behavior up to stage.

- A) Fifth
B) Seventh
C) Eighth
D) Ninth

5. The most important characteristic of an antibody utilized for detection of pathogen is

- A) Valence
B) Speciticity
C) Memory
D) Quantity

6. The primary lymphoid organs in teleosts are

- A) Spleen and epigonal organ
B) Thymus and head kidney
C) Liver and intestine
D) Skin and bone marrow

7. Pistia is a type of weed

- A) Floating
B) Submerged
C) Mar nal
D) Algal wted

8. the stocking density of freshwater prawn for monoculture practice is

- A) 20,000 numbers /ha
B) 40.000 numbers/ ha
C) 10,000 numbers/ ha
D) 25,000 numbers/ hab

9. Which chemical is used to control aquatic insect?

- A) Hi-oxide
B) Bleaching powder
C) Lime
D) Formalin

10. Which is the active ingredient content in Derris Root Powder

- A) Saponin
B) Rotenorie
C) Both1and2
D) None of these

11. Fishes feeding on single type of feed are known as

- A) Stenophagic
B) Monophagic
C) Euryphagic
D) Carnivorous

12. The complex or protein with carbohydrate is known as

- A) Lipoprotein
B) Glycoprotein
C) Metalloprotein
D) None of the above

13. The blood of freshwater fishes has an osmotic pressure or

- A) 300mosrnlit
B) 200 mosm lit
C) 400 mosm lit
D) 100mosnilit

UGTRB - ZOOLOGY

Questions - UNIT-11 : TEST-1

1. Which of the following statements is incorrect?

- | | |
|---|--|
| A) Viroids are smaller than viruses. | B) RNA was found to be free in viroid. |
| C) The RNA of the viroid is of high molecular weight. | D) In 1971, T.O. Diener discovered it. |

2. Which of the following diseases is not caused by Prions?

- | | |
|---|--------------------------------------|
| A) In cattle, bovine spongiform encephalopathy (BSE) occurs | B) Cr-Jacob disease (CJD) in humans. |
| C) Mad cow disease in cattle | D) Potato Spindle Tuber disease |

3. Which of the following pathogenic disease could have the symptoms like mosaic formation, leaf rolling and curling, yellowing and vein clearing, dwarfing, and stunted growth?

- | | |
|-----------|------------------------|
| A) Viral | B) Bacterial |
| C) Fungal | D) Deficiency syndrome |

4. Interferons curb infection of

- | | |
|-----------|------------------|
| A) Fungi | B) Bacteria |
| C) cancer | D) None of these |

5. First time a virus has been synthesized as a non-living crystal

- | | |
|-------------------------|------------------|
| A) Pox virus | B) Flu virus |
| C) Tobacco mosaic virus | D) Bacteriophage |

6. Causative of Chickenpox is

- | | |
|----------------------|--------------------|
| A) Bacteriophage T-2 | B) varicella virus |
| C) sv-40 virus | D) Adenovirus |

7. The causes of the "potato mosaic" disease are

- | | |
|----------|---------------|
| A) Fungi | B) Bacteria |
| C) Virus | D) Mycoplasma |

8. Which of the following shows the coiled strands of RNA and capsomeres?

- | | |
|------------------|-------------------------|
| A) Poliovirus | B) Tobacco mosaic virus |
| C) Measles virus | D) Retrovirus |

9. The rabies virus consists of

- | | |
|------------------------|------------------------|
| A) Single-stranded RNA | B) Double-stranded RNA |
| C) Single-stranded DNA | D) Double-stranded DNA |

10. The term "virion is used for

- | | |
|----------------------|---------------------|
| A) Mycoplasma colony | B) Group of viruses |
| C) Nostoc colony | D) Single virus |

11. The genetic material in viruses is

- | | |
|---------------------|--|
| A) Only RNA | B) Only DNA |
| C) RNA and DNA both | D) RNA or DNA i.e. one nucleic acid in a virus |

12. Each capsomere of TMV contains amino acids whose number is

- | | |
|--------|--------|
| A) 158 | B) 185 |
| C) 815 | D) 581 |

13. This is a communicable disease

- | | |
|-----------------|--------------------|
| A) Chicken box | B) Cancer |
| C) Alkaptonuria | D) Phenylketonuria |

UGTRB - ZOOLOGY

Questions - UNIT-11 : TEST-2

1. Immunoglobulin is the plasma protein that specifically binds to antigens. Identify the region of electrophoresis that consists of these major immunoglobulins.

- A) Alpha region
B) Beta region
C) Gamma region
D) None of the above

2. The five classes of immunoglobulin include the following, except?

- A) IgA
B) IgD
C) IgE
D) IgH

3. Which of the following class of immunoglobulin is pentameric structure?

- A) IgA
B) IgD
C) IgH
D) IgM

4. Which of the following class of immunoglobulin is dimeric structure?

- A) IgA
B) IgD
C) IgH
D) IgM

5. The IgA and IgMs consist of which of the following chain can allow its polymerization?

- A) H chain
B) L chain
C) J chain
D) V chain

6. The monomeric immunoglobulin consists of heterodimers of heavy (H) and light (L) chains bound together by non-covalent interaction and disulfide bonds.

Which of the following is the antigen-binding site?

- A) Fab
B) Fc
C) Hinge region
D) None of the above

7. The hinge region of the immunoglobulin consists of the disulfide bond that held the heterotetramer together. Also, it contributes to the flexibility of the antibody chain.

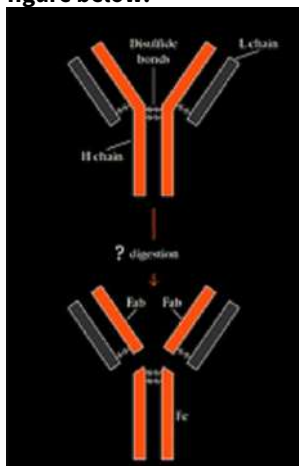
Which of the following antibody class do not have a hinge region?

- A) IgA
B) IgD
C) IgE
D) IgG

8. The hypervariable complementarity determining region (CDR) is responsible for which of the following function?

- A) binding to antigen
B) binding to FcR
C) binding to complement
D) None of the above

9. Identify the protease that results in two different fragments of antibodies namely Fab and Fc fragments as shown in the figure below:



- A) Pepsin
B) Trypsin
C) Papain
D) Fucin

UGTRB - ZOOLOGY

Questions - UNIT-11 : TEST-3

1. The process of making an object free from living organisms including bacterial and fungal spores and viruses is known as

- A) pasteurization
B) antiseptics
C) disinfection
D) sterilization

2. Media containing spores and thermolabile constituents are sterilized by

- A) pasteurization
B) UV radiation
C) dry heat
D) tyndalization

3. A(n) _____ is used to prevent infection by killing or inhibiting pathogen growth on animal tissues.

- A) bacteriostatic agent
B) sanitizer
C) disinfectant
D) antiseptic

4. One drawback to the use of ultraviolet light as a sterilizing agent is its

- A) failure to kill bacteria
B) failure to kill bacterial spores
C) failure to kill microbes in a closed environment
D) failure to kill microbes located in the center of an object

5. Ethylene oxide is used to destroy or kill which of the following microbes?

- A) Bacteria
B) Spores
C) Fungi
D) All of these

6. Which of the following was the first widely used antiseptic and disinfectant?

- A) Chlorine
B) Phenol
C) Iodine
D) Alcohol

7. If a 1:600 dilution of a test compound kills a standard population of *Staphylococcus aureus* in 10 minutes but not 5 minutes while a 1:60 dilution of phenol kills the population in the same time, what is the phenol coefficient of the test compound?

- A) 1
B) 5
C) 10
D) 50

8. Microbes can be removed from a liquid solution by the process of

- A) filtration
B) freeze-drying
C) osmosis
D) desiccation

9. Which of the following is bactericidal?

- A) Membrane filtration
B) Ionizing radiation
C) Freeze-drying
D) Deep freezing

10. Which of the following process can be efficiently carried out by incineration?

- A) Sterilization of scalpel blades and needles
B) Sterilization of all glass syringes
C) Sterilization of points of forceps
D) Destruction of contaminated materials

11. The organisms retained in the fluids filtered by Seitz filter is

- A) *Proteus*
B) *Staphylococcus*
C) *Clostridium*
D) None of these

12. Which of the following material is sterilized by heating at 160°C in a hot air oven for one hour?

- A) Swab sticks
B) All-glass syringes
C) Oils and jellies
D) All of these

13. For sterilization of which material gamma rays can be used?

- A) Catheters
B) Plastic syringes
C) Canulas
D) None of these

97. Monoclonal antibody production requires

- A) mouse splenic lymphocytes
B) mouse myeloma cells
C) both (a) and (b)
D) none of these
-

98. Quellung reaction is used for typing of

- A) klebsiella pneumoniae
B) Streptococcus pneumoniae
C) Both (a) and (b)
D) None of these
-

99. Antibodies combine with antigens

- A) Only if macrophages are present
B) At constant region
C) At variable region
D) Both a and c
-

100. Antigenic determinants of an antigen that are recognized by antibody are _____

- A) paratopes
B) epitopes
C) isotopes
D) Non determinants
-



**இந்த புத்தகத்தில் உள்ள வினாக்களுக்கான விடைகள் மற்றும்
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Password TCA-வின் Mobile App-ல் கொடுத்தபின் Register Button-ஐ Select செய்யவும்.**

Step 3: Type the OTP in “Your Verification Number” box (the OTP is sent to the given Phone number).

Step 3: உங்கள் பதிவு செய்த அகலபேசி எண்ணிற்கு அனுப்பப்பட்ட OTP-ஐ “Your Verification Number” என்ற box-இல் கொடுக்கவும்.

Step 4 : Select the Option Get Started.

Step 4 : Get Started என்ற Option-ஐ தேர்ந்தெடுக்கவும்.

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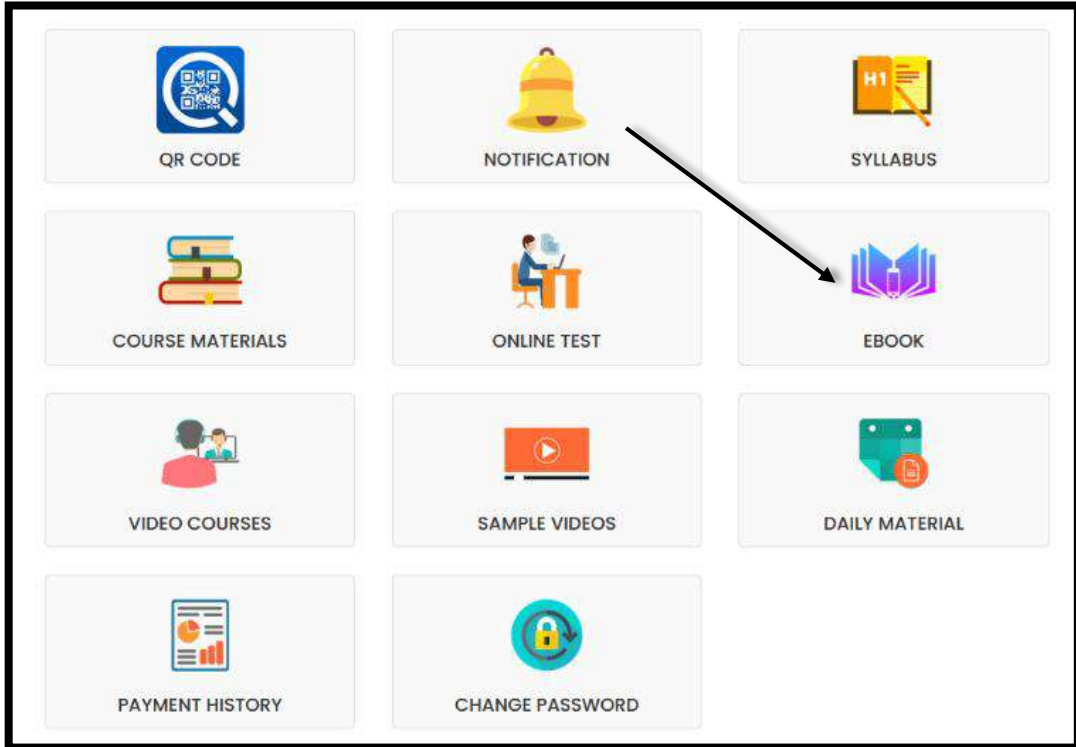
Step 6: Choose the Subject.

Step 6: எந்த Subject என்பதைத் தேர்ந்தெடுக்கவும்.



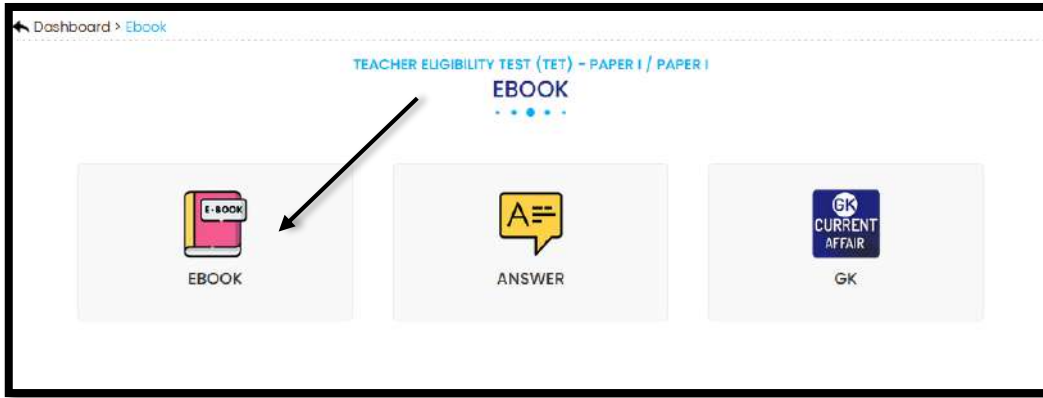
Step 7: Select E- Book.

Step 7: E- Book என்ற Option-ஐத் தேர்ந்தெடுக்கவும்.



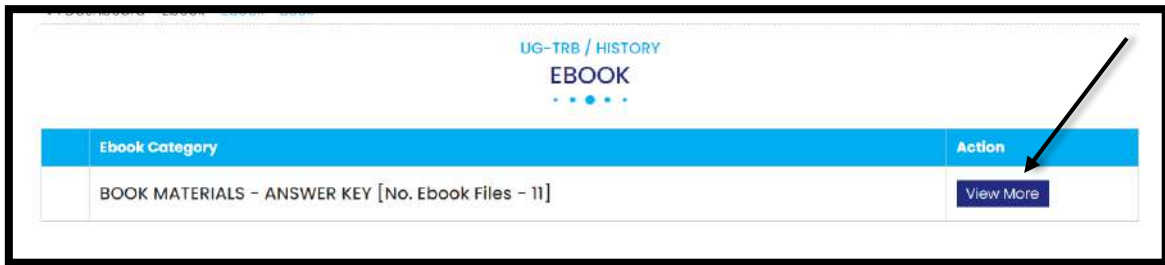
Step 8: Select Again E-Book Option.

Step 8: மீண்டும் E- Book என்ற Option-ஐ தேர்ந்தெடுக்கவும்.



Step 8: Select View More Option.

Step 8: View More என்ற Option-ஐ தேர்ந்தெடுக்கவும்

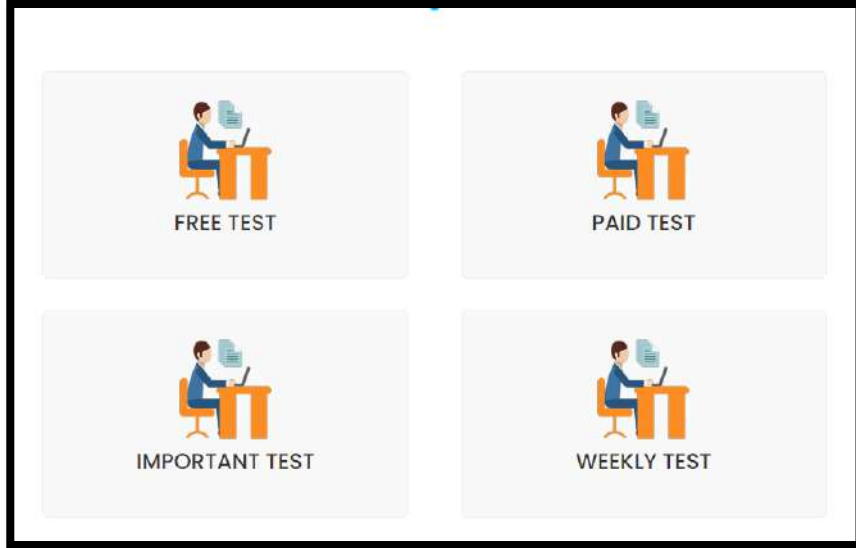
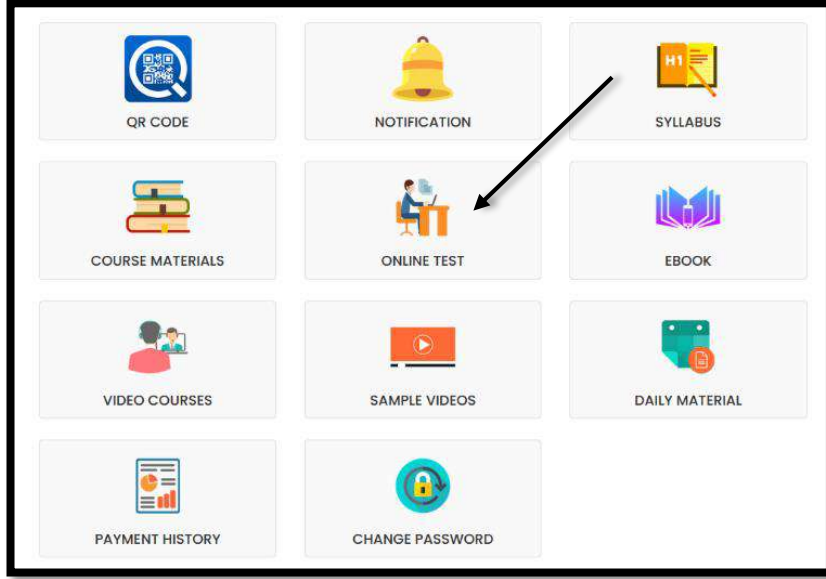


Step 9: After choosing View More Option its Display Units Wise Answer key

Step 9: View More Option-ஐ தேர்ந்தெடுத்த பின் அவை வாரியான விடைகள் மற்றும் விளக்கங்கள் Screen-ல் தெரியும் இதை உங்கள் Q.Bank புத்தகத்துடன் நீங்கள் சரிபார்த்துக் கொள்ளலாம்

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மேலும் TCA வழங்கும் முழு மாதிரி தேர்வுகளை (full Test) எழுத - Online Test என்ற ஆப்ஷனை தேர்வு செய்ய எழுதலாம்



TCA வழங்கும் Online தேர்வுகளை எழுதுவதற்கு கீழே கொடுக்கப்பட்டுள்ள எண்களை தொடர்புகொள்ளவும்.

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Thank You...