

UNIT I: DIVERSITY IN THE LIVING WORLD

1. THE LIVING WORLD

1 OMQ + 1 VSAQ [1 M + 2M = 3 M]

I.MULTIPLE CHOICE Q'S(MCQ)**OMQ'S****1×1= 1 Mark**

1. What is the first process in taxonomy? [4]
 1) Identification 2) Nomenclature 3) Classification 4) **Characterisation**
2. The second word in Binomial nomenclature represents [3]
 1) genus 2) family 3) **species** 4) class
3. Select the correctly written scientific name of the human being **[BMP2]** [2]
 1) Homo Sapiens 2) **Homo sapiens** 3) homo sapiens 4) homo Sapiens
4. In a taxonomic hierarchy, family is placed between [3]
 1) class and kingdom 2) order and class 3) **genus and order** 4) genus and class
5. The lowest taxonomic category is [3]
 1) genus 2) family 3) **species** 4) taxon
6. Which of the following is not a taxon in Linnaeus hierarchy? [3]
 1) Class 2) Kingdom 3) **Population** 4) Family
7. Which of the following belongs to the family Muscidae? [1]
 1) **Housefly** 2) Grasshopper 3) Firefly 4) Cockroach
8. Nomenclature is governed by the rules of ICZN. Which of the following [4]
is contrary to the rules of nomenclature?
 1) Handwritten scientific names should be underlined
 2) Every organism should have a generic name and a specific epithet.
 3) Scientific names are in Latin and should be printed in italics.
 4) **Both genus and species names start with a capital letter**
9. Can you identify the correct sequence of taxonomical categories? [3]
 1) Species - Order - Genus - Kingdom 2) Genus - Species - Order - Kingdom
 3) **Species - Genus - Order - Phylum** 4) Genus - Family - Class - Order
10. Biological names are printed in **[MAR-26]** [3]
 1) bold letters 2) capital letters 3) **Italics** 4) small letters

II. FILL IN THE BLANKS(FIB)

1. The book "Systema Naturae" was written by Linnaeus. [BMP1]
2. The system of providing a scientific name with two components is called Binomial nomenclature.
3. The first word in binomial nomenclature represents Genus.
4. In binomial nomenclature, the word denoting the genus starts with a Capital letter.
5. The process of classification is called Taxonomy.
6. Biological names are generally derived from Latin.
7. The group of individual organisms with fundamental similarities is called Species.
8. The scientific name of lion is Panthera leo.

III. ONE WORD ANSWER Q'S

1. Which taxonomic category comprises a group of related species?

A: Genus.

2. Who proposed binomial nomenclature?

A: Linnaeus.

3. Who is known as 'the Darwin of the 20th century'?

A: Ernst Mayr.

4. Write the generic name of tiger

A: *Panthera*.

5. What is the scientific term used to describe the categories in biological classification?

A: Taxa

6. What is the highest category in taxonomic hierarchy?

A: Kingdom

7. Name the immediate higher category of "family" in the taxonomic hierarchy.

A: Order

8. Which branch of biology deals with the different kinds of organisms, their diversities, and the relationships among them?

A: Systematics

9. Which taxonomic category includes related orders?

A: Class

UNIT I: DIVERSITY IN THE LIVING WORLD

2. ANIMAL KINGDOM

1 OMQ + 1 VSAQ + 1 SAQ [1 M + 2M + 4M = 7 M]

I.MULTIPLE CHOICE Q'S(MCQ)**OMQ'S****1×1= 1 Mark****1. Pick the odd pair out**

[2]

1) Cellular level : Porifera

2) Tissue level : Aschelminthes

3) Organ level : Platyhelminthes

4) Organ system level: Annelida

2. The type of symmetry in which the body can be divided into identical

[3]

left and right halves in only one plane.

1) Radial symmetry

2) Asymmetry

3) Bilateral symmetry

4) Pentaradial symmetry

3. Which of the following is a pseudocoelomate?**[MAR-26]**

[3]

1) *Hydra*2) *Periplaneta*3) *Ascaris*4) *Pheretima***4. The skeleton of corals is composed of**

[3]

1) silica

2) strontium sulphate

3) calcium carbonate

4) hydroxyapatite

5. Which of the following is not a feature of phylum Arthropoda?

[3]

1) Chitinous exoskeleton

2) Metameric segmentation

3) Parapodia

4) Jointed appendages

6. Molluscs are

[2]

1) triploblastic, acoelomates

2) triploblastic, coelomates

3) diploblastic, acoelomates

4) diploblastic, coelomates

7. *Balanoglossus* is a

[3]

1) mollusc

2) vertebrate

3) hemichordate

4) protozoan

8. Notochord persists throughout the life in

[4]

1) Tunicata

2) Chondrichthyes

3) Osteichthyes

4) Cephalochordata

9. Sea horse belongs to the class

[4]

1) Mammalia

2) Amphibia

3) Aves

4) Pisces

10. Air bladder in bony fishes helps in

[1]

1) buoyancy

2) food collection

3) excretion

4) digestion

11. Which of the following is a limbless amphibian?

[2]

- 1) *Salamandra* 2) *Ichthyophis* 3) *Bufo* 4) *Hyla*

12. Identify the given animal

[4]

- 1) *Hemidactylus* 2) *Calotes* 3) *Draco* 4) *Chameleon*

13. Which of the following is an oviparous mammal?

[1]

- 1) **Platypus** 2) Kangaroo 3) Elephant



14. Select the correct match.

[2]

- 1) Taenia - Round worm 2) Apis - Honey bee
3) Asterias - Dog fish 4) Pavo- Frog

15. Which of the following pair of animals has dry and cornified skin?

[2]

- 1) Snake and Frog 2) Lizard and Turtle
3) Frog and Pigeon 4) Crocodile and Tiger

II. FILL IN THE BLANKS(FIB)

- The central cavity of coelenterates is called **Gastrovascular cavity**.
- Cnidoblasts or Cnidocytes** cells are useful for defense and capture of the prey in Cnidarians.
- Flatworms belong to the phylum **Platyhelminthes**.
- The second largest phylum in the animal kingdom **Mollusca**.
- The skin of cartilaginous fishes contains minute **Placoid** scales.
- In Urochordata, the notochord is present only in the **Tail** region of larvae.
- The mouth in cyclostomes is **Round or Circular** in shape.
- Presence of pneumatic bones is the characteristic feature of **Aves (Birds)** **[BMP1]**
- Gills are covered by **Operculum** in bony fishes.

III. ONE WORD ANSWER Q'S

1. Name the cells that line the spongocoel and canals in Poriferans.

A: Choanocytes or collar cells.

2. How do flatworms absorb nutrients from the host?

A: Through the body surface.

3. Write the common name of *Ascaris*.

[BMP2]

A: Round worm.

4. Which organs of *Nereis* are useful for swimming?

A: Parapodia.

5. Which phylum includes spiny bodied animals?

A: Echinodermata.

6. Name the group of animals that possesses a stomochord.

A: Hemichordata.

7. Name a cartilaginous fish that can produce electric current.

A: Torpedo.

8. Which class of chordata exhibits creeping or crawling mode of locomotion?

A: Reptilia.

9. Where is the oil gland located in birds?

A: Base of the tail.

UNIT-III: HUMAN PHYSIOLOGY

5. BODY FLUIDS AND CIRCULATION

1 OMQ + 1VSAQ+ 1LAQ = [1M + 2M + 8 M = 11 M]

I.MULTIPLE CHOICE Q'S(MCQ)**OMQ'S****1×1= 1 Mark**

1. Which of the following is true about human red blood cells? [3]
 1) They are lesser in number than WBC 2) They have a nucleus
 3) They are biconcave in shape 4) They are formed in the spleen of adults
2. Identify the correctly matched pair [1]
 1) Eosinophils - allergic reactions 2) Neutrophils - immune response
 3) Lymphocytes - inflammatory reactions 4) Basophils- phagocytosis
3. Identify the following human blood cell [BMP2] [4]
 1) Lymphocyte 2) RBC 3) Monocyte 4) Neutrophil 
4. The blood group that does not contain antibodies in the plasma [1]
 1) AB 2) O 3) A 4) B
5. Which of the following blood type combinations can lead to Erythroblastosis foetalis?
 1) Foetus: Rh+ve and Mother Rh-ve 2) Foetus: Rh+ve and Mother: Rh+ve [1]
 3) Foetus: Rh-ve and Mother Rh-ve 4) Foetus: Rh-ve and Mother Rh+ve
6. Blood platelets are involved in the [4]
 1) inflammatory reactions 2) allergic reactions
 3) transport of respiratory gases 4) clotting of blood
7. The opening between the right atrium and right ventricle is guarded by [4]
 1) bicuspid valve 2) mitral valve 3) semilunar valves 4) tricuspid valve
8. Plasma without clotting factors is called [2]
 1) interstitial fluid 2) serum 3) haemolymph 4) lymph
9. The smooth muscle layer in the wall of an artery or a vein is [4]
 1) tunica externa 2) tunica interna 3) tunica adventitia 4) tunica media
10. Which blood vessels carry oxygenated blood from the lungs to the heart? [1]
 1) Pulmonary veins 2) Pulmonary arteries 3) Aorta 4) Vena cava
11. Human heart is called myogenic because [3]
 1) it is controlled by the brain. 2) it depends on external neural signals for excitation.
 3) it is auto excitable by the nodal musculature
 4) it contracts only in response to adrenal hormones.
12. Which of the following activities decreases the rate of heart beat? [1]
 1) Parasympathetic neural signals 2) Sympathetic neural signals
 3) Hormones from adrenal cortex 4) Thymosin hormone

II. FILL IN THE BLANKS(FIB)

1. Erythrocytes are produced in the Bone marrow of adults
2. The volume of blood pumped out by each ventricle per minute is called Cardiac output.
3. Persons with AB blood group are called universal recipients.
4. Calcium ions play a very important role in blood clotting.
5. Spleen is known as graveyard of RBC. [MAR-26]
6. Sympathetic neural signals Increase the rate of heart beat.
7. In an ECG P wave represents depolarisation of atria.

III. ONE WORD ANSWER Q'S

1. What is the average lifespan of red blood cells in man?
A: 120 days.
2. What is the red coloured iron containing protein present in the RBC?
A: Haemoglobin
3. Which type of antibodies are present in a person with blood group "A"?
A: Anti-B
4. Where do we find Rh antigens in the Rh positive persons? [BMP1]
A: On the surface of RBCs.
5. Which node generates action potentials in cardiac cycle?
A: Sino Atrial Node
6. What does QRS complex represent in ECG?
A: Depolarisation of the ventricles.
7. Name the vascular connection that exists between the digestive tract and liver
A: Hepatic portal system.
8. What are the two major types of Lymphocytes?
A: B-Lymphocytes, T-Lymphocytes.
9. Which device is used to measure the electrical activity of the heart during a cardiac cycle?
A: Electrocardiograph (ECG)
10. What is the normal blood pressure in human beings?
A: 120/80 mm Hg.

UNIT-III: HUMAN PHYSIOLOGY

6. EXCRETORY PRODUCTS AND THEIR ELIMINATION

1 OMQ + 1 LAQ = [1M + 8 M = 9 M]

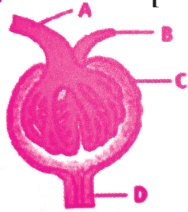
I. MULTIPLE CHOICE Q'S (MCQ)

OMQ'S

1×1= 1 Mark

- The most toxic form of nitrogenous waste is [2]
 - 1) uric acid
 - 2) ammonia
 - 3) urea
 - 4) carbon dioxide
- Which of the following animals are commonly uricotelic? [BMP1] [3]
 - 1) Reptiles
 - 2) Aquatic insects
 - 3) Mammals
 - 4) Land snails
- Which of the following structures are found in between the renal pyramids? [4]
 - 1) Glomerulus
 - 2) Renal calyces
 - 3) Renal tubule
 - 4) Columns of Bertini
- Identify the A, B, C, D parts of the Malpighian body given below [2]

- 1) A-PCT B-Bowman's capsule
C-Efferent arteriole D-Afferent arteriole
 - 2) A-Afferent arteriole B-Efferent arteriole
C-Bowman's capsule D-PCT
 - 3) A-PCT B-Afferent arteriole C-Bowman's capsule D-Efferent arteriole
 - 4) A-Bowman's capsule B-Efferent arteriole C-Afferent arteriole D-PCT


- In which part of the nephron does conditional reabsorption of Na⁺ and water take place? [2]
 - 1) Proximal convoluted tubule (PCT)
 - 2) Distal convoluted tubule (DCT)
 - 3) Loop of Henle
 - 4) Bowman's capsule
- What is the effect of ADH on blood vessels? [2]
 - 1) Causes vasodilation
 - 2) Causes vasoconstriction
 - 3) Decreases blood pressure
 - 4) No effect on blood vessels
- Which hormone from the adrenal cortex facilitates the reabsorption of Na⁺ and water? [2]
 - 1) ADH
 - 2) Aldosterone
 - 3) Renin
 - 4) Angiotensin II

8. Which organ removes large amounts of CO_2 and water as part of excretion? [2]
 1) Liver 2) **Lungs** 3) Kidneys 4) Skin
9. The ultimate method for correcting acute renal failure (kidney failure) is [4]
 1) dialysis 2) haemodialysis 3) medication 4) **kidney transplantation**
10. Note the following and identify the correct path of renal fluid or urine [4]
A. Calyx B. Pelvis C. Urinary bladder D. Ureter
 1) A,C,B,D 2) B,C,D,A 3) C,B,A,D 4) **A,B,D,C**

II. FILL IN THE BLANKS(FIB)

- The medulla of kidney is divided into conical masses called Medullary pyramids.
- The 'U' shaped blood vessel that runs parallel to the loop of Henle is Vasa recta.
- The specialized epithelial cells of Bowman's capsule are called Podocytes.
- A fall in glomerular blood pressure activates the Juxtaglomerular (JG) cells to release renin. **[BMP2]**
- Glycosuria and Ketonuria are the symptoms of the disorder Diabetes mellitus.
- Anti-heparin is added to the blood before it is pumped back into the body after haemodialysis.

III. ONE WORD ANSWER Q'S

- Which organ converts ammonia into urea in mammals?
A: Liver

- Which nitrogenous waste requires the least amount of water for excretion?
A: Uric acid

- What are the functional units of the kidney?
A: Nephrons

- Name the blood vessel that carries away the blood from the glomerulus.
A: Efferent arteriole

- What is the double walled cup like structure of the nephron?
A: Bowman's capsule

- Which type of nephrons have short loops of Henle?
A: Cortical nephrons

- Name the process of releasing urine from the bladder. **[MAR-26]**
A: Micturition