## UNIT-I THE BASICS

- The living organisms are recognised by life processes like, growth, metabolism, response to stimuli and reproduction.
- The number of organisms are described 1.7 to1.8 millions.
- The taxonomists follow the different methods of classification for the study of animals.
- Five kingdom classification was proposed by -R.H. Whittaker.
- Whittaker classification is based on cell structure, complexity of body and nutrition.
- He placed prokaryotes in kingdom Monera, unicellular eukaryotes in kingdom Protista, multicellular autotrophs in kingdom Plantae, multicellular heterotrophs in kingdom Animalia and multicellular decomposers in kingdom Fungi.
- In kingdom Animalia, animals are included under different phyla based on different body plans.

## Nature and scope of Zoology

- The branch of biology that deals with animals and animal life is known as Zoology.
- The term zoology is also used to study the animal life at particular area (or) period.
   Eg: The zoology of Alaska, The zoology of the pleistocene.
- It is also used to study the particular animal group or category. Eg: The zoology of mammals,
- The science originated in the works of Hippocrates, Aristotle and Pliny.
- <u>The contribution of different scientists.</u>
  - Carolous Linnaeus System of nomenclature Louis Agassis Thomas H. Huxley Richard Owen - Homology Georges - Louis de Buffon - Natural history Georges Cuvier - Comparative anatomy Claude Bernard - Homeostasis Charles Darwin - Natural selection

### Mendel - Inheritance NATURE AND SCOPE OF ZOOLOGY LEVEL - I

- 1. Natural Histroy book was written by
  - 1. Buffon 2. Linnaeus
  - 3. Emerson 4. Ernst mayr

- 2. Charles Darwin is associated with
  - 1. Natural selection 2. Natural history
  - 3. Homology 4. Classification
- 3. Georges Cuvier is associated with
  - 1. Comparative anatomy 2. Homeostasis
  - 3. Natural selection 4. Inheritance
- 4. Mendel is associated with
  - 1. Homeostasis 2. Natural selection
  - 3. Inheritance 4. 1 & 2
- 5. Homology is related to
  - 1. Charles Darwin 2. Mendel
  - 3. Richard owen 4. Bernard
- 6. Claude Bernard is associated with
  - 1. Homeostasis 2. Natural selection
  - 3. Inheritance 4. Natural history

## LEVEL - II

- 7. Match the following
  - ScientistContributionA) BernardI) Natural SelectionB) AgassisII) Comparative AnatomyC) CuvierIII) InheritanceD) MendelIV) HomeostasisE) Charles DarwinV) Homology1) A V, B IV, C II, D V, E I2) A IV, B V, C II, D III, E I3) A IV, B V, C II, D I, E V4) A IV, B -VI, C II, D V, E I
- 8. Match the following
  - i) Clude Bernard A) Comparative anatomy ii) Richard Owen B) Natural history iii) Louis Buffon C) Homology iv) George Cuvier D) Homeostasis iii iv i ï i ï iii iv С D A B 2) C DBA 1) 3) D C A B 4) D C B A

## Zoology - The meaning

- The term Biology was coined by Lamarck
  - Biology (bios=life, logos=study) deals with -

#### Study of living organisms

- The branch of Science dealing with the study of plants Botany
- The branch of Science dealing with the study of animals Zoology
- The branch of Science dealing with the study of microbes Microbiology

## Branches of Zoology :

- The study of identification, nomenclature and classification of animals is **Taxonomy**
- Study of the set of morphological and anatomical features which are useful in identifying the organisms is called – Identification
- Naming of organisms is called Nomenclature
- Arrangement of organisms on the basis of their interrelationship Classification
- Study of the external form, size, shape, colour, structure, and relative position of
  - various organs is called Morphology
- Study of the external character of an organism is called External Morphology
- Study of the internal characters is called –

#### **Internal Morphology**

- Study of Internal Morphology includes Anatomy and Histology
- Study of Internal arrangement of different organs or organ systems is called **Anatomy**
- The study of Microscopic structure of tissues is called **Histology** (or) **Microanatomy**
- The study of form and structure of the cell is called **Cytology**
- Study of the cells as structural and functional units is called – Cell biology
- The study of different body functions and processes of various organs is called –

#### Physiology

- The study of fertilization of gametes, cleavage, growth and differentiation is called
  - Embryology or Developmental Biology
- The study of orgin of life and genetic adaptation of organisms to their environment is called **Evolution**
- Evolution means Unfolding, The term organic evolution was coined by **Herbert spencer**
- The study of fossils is called **Palaeontology**
- The study of plant fossils is called

#### - Palaeobotany

• The study of animal fossils is called

#### - Palaeozoology

- The study of distribution of living organisms in various regions is called **Biogeography**
- The study of distribution of plants in various regions is called **Phytogeography**

- The study of distribution of animals is called
   Zoogeography
- The study of inheritance of parental characters by the offspring and variations among organisms is called – Genetics
- The term Genetics was coined by **Bateson**
- Study of living organisms in relation to the living and non - living environment –

#### Ecology or Environmental biology

- The term ecology was coined by Haeckel
- Study of nature of biomolecules and their interactions in an organism is – Molecular Biology
- The study of animal behaviour based on physiological, ecological & evolutionary aspects is called Ethology
- The branch of biology that deals with the search for extra-terrestrial life and the effects of extra terrestrial surroundings on the living organisms is called -Exobiology (or) Astrobiology (or) Space biology.

#### AREAS OF STUDY UNDER ZOOLOGY LEVEL - I

9.	Microanatomy is the study of				
	1. Micro organis	ms 2. Biomolecules			
	3. Tissues	4. Cells			
10.	Herbert Spencer	is associated with			
	1. Genetics	2. Organic evolution			
	3. Taxonomy	4. Physiology			
11.	The word genetic	es was coined by			
	1. Bateson 2. Me	ndal 3. Morgon 4. Galton			
12.	The branch which	ch deals with the identification	n,		
	nomenclature an	d classification of organisms	is		
	called				
	1. Morphology	2. Ecology			
	3. Anatomy	4. Taxonomy			
13.	Study of fossils is	called			
	1. Palaeobotany	2. Palaeozoology			
	3. Palaeontology	4. Palynology			
14.	Zoogeography de	als with animal			
	1. Behaviour	2. Adaptations			
	3. Internal Struct	ure 4. Distribution			
	Ι	LEVEL - II			
15.	Match the followi	ng:			
	Part - I	Part - II			
	A) Biogeography	(i) Extra-terrestrial life			
	B) Histology	(ii) Fossils			
	C) Palaeontology	(iii) Distribution of organisms			
	D) Exobiology	(iv) Tissues			
		(v) Organ systems			

2

A B C D	• Branch required to understand the chemical
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	processes like diffusion, osmosis biomembrane
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	The study of employed and the study of employed and the study of employed and the study of the s
3) III IV II V 4) III iv II i	• The study of application of physical principles to life processes of organisms – <b>Biophysics</b>
16. Which is not correct statement in the following	• Application of mathematics to Biology is –
1) Ethology deals with the study of animal	Biometry
2) Biogeography deals with study of distribution	Application of statistical methods in compilation and analysis of data is –     Biostatistics
of organisms 2) Molecular biology deals with the study of the	• Study of fossils need knowledge of – Geology
nature of organic micromolecules and their in-	• Study of zoogeography needs knowledge of -
teraction in organisms	Geography.
4) Genetics deals with heredity variations	• Study of Zoology provide adequate knowledge
17. Match the following	about human diseases.
List - I List - II	• The multidisciplinary study and analysis of origin and
A) Evolution I) Hereditary Characters	characteristics of human beings and their societies
B) Ecology II) Internal organs of animals	is - Anthropology.
C) Genetics III) Distribution of animals	• Science that deals with the application of knowl-
D)Anatomy IV) Gradual changes	edge of genetics to the human welfare - Eugenics
V) Animals & Environment	• The Branch of genetics that deals with the practice
1) A - IV, B - V, C - II, D - I	of phenotypic improvement of humans after birth
2) $A - V, B - I, C - II, D - V$ 3) $A - IV, B - III, C - II, D - I$	– Euphenics
4) A - IV, B - V, C - I, D - II	• Branch that deals with the branch of biochemistry
18. Match the following	of energy by living cells of organisms
Name of the branch Related Scientist	- Bioenergetics
A) Evolution I) Bateson	Controlled use of microorganisms or cell
B) Ecology II) Lamarck	components for the beneficial use of man
C) Genetics III) Herbert Spencer	– Biotechnology
D)Biology IV) Haeckel	• Manipulation of genes which is a part of
V) Charles Elton	biotechnology is – Genetic engineering
1) A - IV, B - V, C - II, D - I	• The acquisition, storage, management, access and
2) A - V, B - I, C - II, D - IV	processing of data in molecular biology with the use
(3) A - IV, B - III, C - II, D - I	of computers is - Bioinformatics.
-) / - III, D - IV, C - I, D - II	• Zoology helps us in extensive tapping of animal
Relation between Zoology and other	products like - Wool, Silk, Shellac, Pearls, Milk,
sciences :	Fat, Honey, Fish, Eggs.
• Scientific knowledge is acquired by the study of _	• Zoology is the branch which forms a part of
Pure science	- Dairy sciences, Pharmacology,
• Application of scientific knowledge to the human	Veterinary science, Poultry, Aqua culture, Seri culture, Api culture
wentare is – Applied science	
• Zoology is more closely related to <b>Botany</b>	
• Knowledge of chemistry related to biology is - Bio-chemistry	

## RELATION BETWEEN ZOOLOGYAND OTHER SCIENCES

#### LEVEL-I

19.	Application of mathem	atics to biology is called				
17.	1. Biostatistics	2. Biotechnology				
	3 Bioinformatics	4 Biometry				
20	The branch which de	als with the symptomatic				
20.	treatment of genetic dis	sorders is				
	1. Euthenics	2. Eugenics				
	3. Europenics	4 Enigenetics				
21	Bioenergetics is the brz	unch of				
21.	1 Biotechnology	2 Biophysics				
	3. Biochemistry	4. Biometry				
22.	The branch of geneti	ics which deals with the				
	application of hereditar	v laws for the improvement				
	of human race is	y number and improvement				
	1. Euthenics	2. Euphenics				
	3 Enigenetics	4 Eugenics				
23	Manipulation of gene is	s the branch of				
23.	1 Genelogy	2 Genetic engineering				
	3 Genecology	4 Genobiotics				
24	The study of synthesis	and effect of medicines on				
21.	organisms					
	1 Phenology	2 Pharmacology				
	3 Phrenology	4 Phycology				
25	Application of com	nuter technology to the				
20.	management of biologic	cal information				
	1. Biometry	2. Bioenergetics				
	3. Bioinformatics	4. Biotechnology				
	LEVE	L-II				
26	Which one of the follow	ving incorrectly matched				
20.	1 Anthropology - Ma	n				
	2. Aniculture - Honey	Bees				
	3. Dairy Science - Ti	eatment of domesticated				
	animal					
	4. Sericulture - Silkwort	ms				
27.	Match the following					
	Part - I	Part - II				
	A) Dairy science	I) Rearing of honey bee				
	B) Pharmacology	II) Rearing of cattle				
	C) Sericulture	III) Study of durgs				
	D)Apiculture	IV) Rearing of silkworm				
		V) Raising of drugs				
	1) A - II, B - III, C - I	V, D - 1				
	2) A - II, B - III, C - I, 2) A - II, D - III, C - I, 2) A - II, D - III, C - I, 2) A - II, D - III, C - I, 2) A - II, D - III, C - I, 2) A - II, D - III, C - I, 2) A - II, D - III, C - I, 2) A - II, D - III, C - I, 2) A - II, D - III, C - I, 2) A - II, D - III, C - I, 2) A - II, D - III, C - I, 2) A - II, D - III, C - I, 2) A - II, D - III, C - I, 2) A - II, D - III, C - I, 2) A - II, D - III, C - I, 2) A - II, D - III, C - I, 2) A - II, D - III, C - I, 2) A - II, D - III, C - I, 2) A - II, D - III, C - II, 2) A - II, D - III, C - I, 2) A - II, D - III, C - II, 2) A - II, D - III, C - II, 2) A - II, D - III, C - II, 2) A - II, D - III, C - II, 2) A - II, D - III, C - II, 2) A - II, D - III, C - II, 2) A - III, D - III, C - II, 2) A - II, D - III, C - II, 2) A - II, D - III, C - II, 2) A - II, 2) A - III, D - III, C - II, 2) A - II, 2) A - III, 2) A - IIII	$, \mathbf{D} - \mathbf{V}$				
	3) A - II, B - III, C - I	v, D - v				
20	4) A - II, B - III, C - V	(, <b>D</b> - 1V				
28.	Identify the incorrect st	atement of the following				
	i) The application o	I statistical methods for				
	computation and an	alysis of biological data is				
	Biostatistics.	nicture unlot and to he -1:				
	2) Knowledge of cher	insury related to biology is				
	DIOCHEMISITV					

- 3) The study of genetics that deals with the application of knowledge of genetics to human welfare in Euphenics
- 4) Geography helps in the study of dispersal of animals.
- 29. Identify the **correct** set from the following :
  - (i) The application of Mathematics to Biology is Biometry.
  - (ii) The study of Genetics that deals with the symptomatic treatment of genetic disorders is Euphenics.
  - (iii) The branch of Biochemistry concerned with the study of transformation and use of energy by living cells of organisms is Biotechnology.
  - (iv) The study that deals with the application of statistical, methods for computation and analysis of biological data is Bioinformatics.

The correct set is

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

## **Basic principles of classification :**

The term Taxonomy was coined by

#### -A.P de Candolle

- Theory and Practice of identifying, naming and classifying organisms is
   Taxonomy
- Delimitation, ordering and ranking of taxa is called - Classification
- The basic taxanomic unit is species
- Systematics is the branch of science that deals with
   diversity of life, reveals the trends in evolution of animals
- Systematics is the branch involved in reconstructing phylogenetic history of organisms
- A key part of systematics is **Taxonomy**
- Taxonomic hierarchy includes seven obligate categories - kingdom, phylum, class, order, family, genus & species.
- The intermediate categories are subkingdom, grade, division, subdivision, subphylum, superclass, subclass, superorder, suborder, superfamily, subfamily & subspecies.
- Adding suffix "idae" to the generic name forms the name of family (Eg: Man belongs to family - Hominidae)
- Adding suffix "inae" to the generic name forms the name of sub family (Eg: Man belongs to the sub family - Homininae).

#### EAMCET-JUNIOR ZOOLOGY

 Adding suffix "oidea" to the generic name forms the name of super family (Eg: Man belongs to the super family - Hominoidea).

#### BASIC PRINCIPLES OF CLASSIFICATION LEVEL - I

- 30. The suffix *'idae'* indicates the name of1. Family 2. class 3. order 4. phylum
- 31. If suffix '*oidea*' is added to the genus name this name is formed as
  - 1. Family2. Sub family3. Order4. Super family

## Nomenclature:

## **Binominal nomenclature**

Giving scientific name to an organism is called –

## Nomenclature

Binomial nomenclature was described by -

#### **Carolus Linnaeus**

- Linnaeus described binominal nomenclature in the book – Systema Naturae – (10<sup>th</sup> volume)
- Binomial nomenclature of Linnaeus is referred now as – Binominal nomenclature
- The system providing organisms the appropriate scientific names consisting two words is

#### -Binomen

- The first word refers in binomen Genus
- The second word refers in binomen species
- The generic name that refers to the genus is
  - a noun
- The specific name that refers to the species is
  - Adjective
- Generic name (it is a noun, begins with capital letter) Second name Specific name (it is an adjective, begins with small letter)
- Scientific names are derived from Latin
- Scientific names should be in Latinised form
- Scientific names are written in Italics
- Authors name can be either in full or in abbreviated form

#### (Ex:- Felis leo Linnaeus 1758 or Felis leo L.1758 as per ICZN)

- If a genus or species is given two different names by different authors accidentally, only the earlier one is valid
   Law of priority.
- The later names for that organism are - Junior synonyms

- The later uses of that name refer to different organisms are -Junior homonyms.
- If the name of the genus is changed or the species is transferred to the other genus the author's name is kept in Parenthesis

### Ex:- Panthera Leo (Linnaeus 1758)

- Linnaeus originally placed the species 'leo' under the Genus – Felis
- The Genus Felis sub-sequently shifted to the Genus
   Panthera
- Rules of nomenclature were formulated by (ICZ) International congress of Zoology
- Set of rules referred to as (ICZN) –
   International code of Zoological Nomenclature

#### Trinominal nomenclature

- The extension of binominal system of nomenclature is Trinominal nomenclature
- Using three names in naming the animal is

#### - Trinominal nomenclature

 The system permits the designation of subspecies with a three worded name called – Trinomen

#### Ex. Homo sapiens sapiens

• The word denoting the name of the sub species is also begins with a small letter and it is also a latinised word, printed in italics.

## Eg: Homosapiens sapiens.

## Tautonymy

- If the generic and specific name are the same, the process of naming is Tautonymy
- Such a name
   Tautonym
   Ex. Spotted Deer
   Axis axis
   Ex. Cobra Naja naja

## NOMENCLATURE

## LEVEL - I

- 32. ICZN stands for
  - 1. International congress of zoological nomenclature
  - 2. International commission for zoological nomenclature
  - 3. International centre for zoological nomenclature
  - 4. International code of zoological nomenclature
- 33. Binomial nomenclature was popularized by
  - 1. John Ray2. de Candolle
  - 3. Mayr4. Carolus Linnaeus
- Linnaeus described Binomial nomenclature in 1. 10<sup>th</sup> edition of Origin of species
  - 2. 12<sup>th</sup> edition of Origin of species

	3. 10 <sup>th</sup> edition of Systema Nature					
	4. 12 <sup>th</sup> edition of Systema Nature					
35.	Binomial nomenclature	includes				
	1. Genus & Species	2. Species & Division				
	3. Family & Genus	4. Species & Sub species				
36.	In "Felis Leo L" - L ine	dicates the name of				
	1. Language	2. Animal				
	3. Sub species	4. Scientist				
37.	According to the "law of	of priority" the valid generic				
	or species name is the					
	1. Recent name					
	2. Name with less num	nber of letters				
	3. Earliest Name					
	4. Name with more let	ters				
38.	Middle name in Trinon	ninal nomenclature				
	1. Sub species	2. Genus				
	3. Family	4. Species				
39.	Tautonymy is the nomenclature in which same					
	names are used for					
	1. Genus & Species	2. Species & Subspecies				
	3. Family & Sub Family 4. Class & super class					
40.	Tautonym of spotted d	leer				
	1. Loa loa	2. Bubo bubo				
	3. Naja naja	4. Axis axis				
41.	Systema Naturae is co	ncerned with				
	1. Solar system	2. Ecosystem				
	3. Classification of plan	nts and animals				
	4. Natural selection					
	LEVE	EL - H				
42.	Father of Taxonomy is	the author of				
	1. Systema Naturae &	Origin of species				
	2. Species Plantarum &	& Zoonomia				

- 3. Systema Naturae & Species Plantarum
- 4. Zoonomia & Origin of species
- 43. Species name can be started with a capital letter when
  - 1. The animal is carnivore
  - 2. The species has many sub species
  - 3. The species name is coined after its discoverer

4. The species name is after the nation where it is more in number

44. Linnaeus originally placed the species "Leo" under the genus

1. Panthera	2. Felis
2 04 .	10.

- 3. Otheria 4. Canis
- 45. Trinominal nomenclature includes
  - 1. Binomial nomenclature & sub species
  - 2. Binomial nomenclature & common name
  - 3. Three different common names
  - 4. Similar species & sub similar names
- 46. What is the purpose of binomial nomenclature given by Carolus Linnaeus
  - 1. It provides two Latin names to every organism

- 2. It provides uniformity of information in all countries
- 3. It gives one common and one scientific name to an animal
- 4. It divides living things into two kingdoms animal kingdom and plant kingdom
- 47. One of the following is not a name under trionomial nomenclature
  - 1) Elephas maximum indicus
  - 2) Corvus splendens splendens
  - 3) Felis leo Linnaeus
  - 4) Corvus splendens protegatus

## **Biological classification**

- The living organisms show diversity in structure habitats, habits and modes of life due to variations.
- So far over 1.25 million animal species have been identified and described.
- To understand the interrelationships among them a systematic classification is necessary.

## History of Biological classification.

- Vedic literature recorded 740 paints and 240 animals.
- Chandyogya upanished classified the animals.
- Susrutha Samhitha classified all living beings into sthavara (plants) & Jangama (animals).
- Hippocrates, Aristotle, Greek scholars arranged animals into Insects, birds, fishes & whales.
- John Ray the Father of British natural history described more than 18000 plants and animals in his book "**Historia Generalis Plantarum**".
- John Ray coined the term 'species' and differentiated between genus & species.
- Carolus Linnaeus the "Father of Taxonomy" described binominal nomenclature in his book "Systema Naturae" and listed 4000 plants in the "species plantarum".
- In 19th and 20th centuries numerical Taxonomy & Phylogenetic classification emerged.

## Systems of Biological classification

## **Artificial Classification**

- Aristotle & Linnaeus follow this classification.
- Aristotle organized animals on the basis of their habitat land, water, air etc.,
- In this system, quite unrelated animals are grouped under one category. Ex: Birds, bats, butterflies are in one category.

- Some times closely related animals may included under different groups.
- Linnaeus system of classification is based on different degree of mutual relatedness of species.

## Natural system of classification

• In the natural system, organisms are classified on the basis of natural relationships.

## Phenotypic or Numerical classification.

- This system is based on operational taxonomic units (OTU).
- All characters have equal weightage and "overall morphological similarity" is calculated by the similarities of different characters.
- This system does not consider the phylogeny of the organisms.
- In this classification species is defined as phenotypic trait.

## Phylogenetic classifcation.

- It is an evolutionary classification and based on common ancestory.
- This classification summarizes the genetic distances between all species in the phylogenetic tree.
- In this classification analogous characters and homologous characters are followed.
- Ernst Haeckel representing phylogen by means of trees or branching diagram.

## Systematic Hierarchy

- The taxanomic categorie established by Linnaeus called taxa established by Linnaeus (1758)
- The taxanomic catagories are kingdom, class, order, genus and species.
- The taxon phylum was introduced by

- Haeckel (1888)

- The Morphological variations in species, sub species are - Intraspecific variations.
- Highest category in(Metazoa) Multicellular animals which, all are included in the kingdom – Animalia
- A group of closely related classes are included in the order taxon – 'Phylum'
- Ostracodermi, Cyclostomata, Placodermi, Elasmobranchii, Osteichthyes, Amphibia, Reptilia Aves, Mammalia with protochordates belong to phylum – Chordata
- A group of closely related orders are included in the taxon – Class

- Carnivora (cats), Rodentia(rats), Chiroptera (bats), Cetacea(Whales), Primates (apes and humans) belong to class – Mammalia
- A group of closely related families are included in the taxon – order
- Felidae, canidae, hyaenidae [hyaenas], ursidae
   [bears] belong to the order Carnivora
- A closely related genera are included in the taxon
   Family
- Wolves, dogs & foxes belong to the family
   Canidae
- Closely related species are included in the taxon Genus
- Panthera leo (lion), Panthera pardus (Leopard) Panthera tigris (Tiger) belongs to genus - Panthera.
- A group of similar organisms sharing a common gene pool and interbreeding freely producing fertile off spring is Species.
- A species occurs in the form of many interbreeding groups called Populations.
- A species may include subspecies.
- Geographically isolated phenotypically similar population of a species inhabiting in a geographic sub division is
   Sub species.
- Geographically the crows present in India, Pakistan, Myanmar and Srilanka are isolated and evolved into different subspecies.
- Sub species of India & Pakistan is - Corvus splendens splendens

Sub species of Myanmar is

- Corvus splendens insolens

Sub species of Srilanka is

- Corvus splendens protegatus.

## Taxonomic position of man:

•	Kingdom	Animalia
	Sub Kingdom	Eumetazoa
	Grade	Bilateria
	Division	Deuterostomia
	Sub Division	Entero coelomata
	Phylum	Chordata
	Sub Phylum	Vertebrata
	Super Class	Gnathostomata
	Class	Mammalia
	Sub class	Eutheria
	Order	Primates
	Sub order	Anthropoidea
	Super family	Hominoidea
	Family	Hominidae

	Sub Family	Homininae	64.	The syst	emofo	classific	cation ba	sed on grou	uping 'like
	Genus	Homo		with like'					
	Species	Sapiens		1. Natur	al syste	em			
				2. systen	natic H	lierarch	ıy		
	BIOLOGICALCI		3. Artific	ial syst	tem	5			
	LEVI	EL-I		4. Phylogenetic classification					
48.	The taxon phylum was	introduced by	65.	5. The scientist who introduced the method				the method	d of repre-
	1. Linnaeus	2. Hyman		senting	hylog	eny by	means o	of trees or	1
	3 Haeckel	4 Mayr		branchin	g diag	rams is			
40	Number of obligate tax			1.Linnae	us 2. F	Haecke	l 3. Jol	nn Rav 4. I	Darwin
49.	1 5 2 0	$\begin{array}{c} 15 \\ 2 11 \\ 4 7 \end{array}$	66.	Carl Lin	naeus	(1707	(-1778)	father of t	axonomy.
50	1.5 2.9	<b>5.</b> 11 <b>4.</b> /		publishe	d book	s whic	h conta	ned descri	ption of
50.	Basic unit of taxonomy	1S		4000 sp	ecieso	fnlant	s. The h	ook(s) is/a	re?
	1. species 2. class	3. phylum 4. family	У	1. Syster	na Na	turae	2. Sp	ecies Plant	arum
51.	Ursidae includes			3 Histor	ia Plar	tarum	4 Bc	th(1) and	(2)
	1. Tiger 2. Dogs	3. Bears 4. Horse	es 67	John Ra	v(162)	7-170	5) coine	ed term sne	ecies and
52.	Bat is included in order	ſ	07.	describe	$d \mod d$	e than	nlants	in his Hist	oria
	1. Rodentia	2. Sirenia		Generali	s Plant	arum	piuno	11111511150	oria
	3. Chiroptera	4. Carnivora		1 10 00	$0 2^{1}$	12000	3 15	000 4	18 000
53.	Suborder of man		68	Who adv	v 2. 1	an arti	J. 15 fical sys	tem of clas	sification
	1. Anthropoidea	2. Hominoidea	00.	1 Doravi	n	anan	2 T i		ristotle
	3. Homininae	4. Eutheria		1. Dai wi	11		2. LII	1	
54.	Hominoidea is a			3. Walla	ce	TEX	4. La	marck	
	1. Sub family	2. Family	60	Carridae	ار دا د ما		EL - 11		
	3. Super family	4. Sub order	09.			es h a a ma	2 C	ta laamand	la haana
55.	Sub species of Myanm	nar crow is		1. Cals,	dogs,		2. Ca	is, leopard	is, bears
	1. splendens	2. protegatus	70	5. FOXes	, uogs	, worve	er to wh	oparus, ca	ls, loxes
	3. corvus	4. insolens	/0.	Sub clas	s anu s alu	uu oru			elongs are
56.	The word Race may b	e referred to as		1 Mom	ciy nalia 1	Drimate	<b>N</b> C		
	1. Genus	2. Species		2 Futhe	ria An	thropo	idea		
	3. Sub species	4. Family		3 Tetrar	na, An Ioda F	Iomina	videa		
57.	Phylum to which ostra	codermi belongs		4 Futheria Primates					
	1. Metazoa	2. Parazoa	71	Match th	e follo	wing			
	3. Animalia	4. Chordata	, 1.	LIST-I	e rono	"IIIS	LIST	<u>-П</u>	
58.	Chandyogya upanishad	lclassified		A. Ceta	cea		L Ma	n	
	1. Plants	2. Animals		B. Chiro	ptera		II. Do	)g	
	3. Micro organisms	4. All		C. Rode	ntia		III. W	/hale	
59.	According to sushruth	na samhita classificat	ion '	D. Carni	vora		IV. R	at	
	jangama' refers to						V. Ba	ıt	
	1. Plants	2. All living beings		The c	orrect	combii	nation is		
60	3. Animals	4. All non-living thing	gs		Δ	R	C	D	
60.	Father of British Natu	ral History' is		1	T	п	ш		
	1. Hippocrates	2. Aristotle		1.	1	11	III T	IV T	
61	5. John Kay	4. Linnaeus		2.	IV	III	Ш	I	
01.	1 John Pov	2 Aristotle		3.	III	V	IV	Π	
	3 Hippocrates	A Linnaeus		4.	III	V	IV	Ι	
62	The scientist who diffe	rentiated between' Ge	, 72.	Match th	e follo	wing			
02.	and 'Species' is		1140	A. Grad	e	C	I. Ho	minoidea	
	1. John Rav	2. Aristotle		B. Super	class		II. De	uterostom	ia
	3. Hippocrates	4. Linnaeus		C. Sub c	order		III. B	ilateria	
63.	'Species plantarum ' w	as writen by		D. Divisi	on		IV Te	etrapoda	
-	1. John Ray	2. Aristotle					V. Ar	thropoidea	ì
	3. Hippocrates	4. Linnaeus							

#### EAMCET-JUNIOR ZOOLOGY

		A	B	С	D
	1.	III	IV	V	Ι
	2.	Ι	III	IV	V
	3.	III	IV	II	Ι
	4.	III	IV	V	Π
73.	"Fath	er of	Taxor	omy"	and founder of modern sys-
	temat	ics is		•	-
	1.Joh	ın Ra	y		2. Aristotle
	3. Hip	opoci	rates		4. Linnaeus
74.	Butte	rflie	s, birc	ls and	l bats would be in one cat-
	egory	acc	ordin	g to .	
	1. Na	tural	syster	n	
	2. sys	tema	tic Hi	erarch	ıy
	3.Art	ificia	l syste	m	-
	4. Phy	loge	netic o	classif	ication
75.	Thec	lassif	ication	1 syste	m based on operational taxo-
	nomic	c unit	s is		
	1.Phe	enoty	pic cla	assific	ation
	2. Phy	loge	netic o	classif	ication
	3.Art	ificial	l class	ificatio	on
	4. Cla	distic	class	ificati	on
76.	The c	lassif	icatio	n in w	hich, species are defined by
	pheno	otypic	c traits	5	
	1. Phe	enoty	pic cla	assific	ation
	2. Phy	loge	netic o	lassif	ication
	3.Art	ificial	class	ificatio	on
	4. Cla	distic	class	ificati	on
77.	The c	lassif	icatio	n base	ed on how a common ances-
	trv wa	as sha	ared is	5	
	1  Phe	enoty	nic cl	assific	ation
	2 Phy	loge	ntic cl	assific	ration
	$3 \Delta rt$	ifical	calssi	ficatio	n
	4  Cla	disti	class	ificati	on
70	The o	locait	Footio	n whi	on ab taleas into account analo
70.		125511 and h	amal		
	1 Dbr	anu n daga	natio	Janif	logans
	1. FIIy	vioge			
	2. INU.			SSIIIC2	
	3. Phe	enetic	class	incan	on
70	4. Art		Class	111Catio	on
79.	Match	n the	tollow	/ing	
	A) Gi	rade			I) Hominoidea
	B) Su	per c	lass		II) Deuterostomia
	C) Su	ib or	der		III) Bilateria
	D)Di	visio	1		IV) Ganthostomata
					V) Anthropoidea
	1) A -	- III,	В - Г	V, C -	V, D - I
	2) A -	- I, B	- III,	С - Г	V, D - V
	3) A -	- III,	B - IV	V, C -	II, D - I
	4) A -	- III,	В - Г	V, C -	V, D - II
80.	Matel	n the	follow	ving	
	A) Ba	ats		÷	I) Rodentia
	B)Ar	oes			II) Carnivora
	/ I				/

	C) Whales	III) Chiroptera
	D) Dogs	IV) Primates
		V) Cetacea
	1) A - III. B - I	V. C - II. D - V
	2) A - III B - I	V C - V D - II
	$\frac{2}{1} = \frac{1}{1} = \frac{1}$	C = II D = V
	3)A - 1, D - 1V,	
	4) A - III, B - I	v, C = I, D = II
82.	Match the follow	ving in appropriate manner
	Subspecies	Places
	A) Protegatus	I) India
	B) Splendens	II) Myanmar
	C) Insolens	III) Sri Lanka
	1) A - I, B - II,	C - III
	2) A - III, B - I,	C - II
	3) A - IL B - L	C- III
	$4) \Delta - III B - II$	
83	Match the follow	$v_{inc} = 1$
05.	Dort I	Dort II
	1 alt - 1	
	A) Division D) Sublyingdom	I) Cnoth estemate
	C) Subkingdom	II) Gnaulostomata
	C) Subdivision $D = 1$	III) Deuterostomia
	D) Grade	IV) Enterocoelomata
		V) Bilateria
	1) A - III, B - I,	C - IV, D - V
	2) A - III, B - I,	C - V, D - 1
	3) A - III, B- IV	2, C - I, D - V
~ •	4) A- III, B - I,	C - V, D - IV
84.	Statement (S):	Linnaeus system of animal
		classification is essentially an arti-
		ficial system, yet it has become a
		natural system.
	Reason (R) :	Similarities forming the basis in
		Linnaeus system are indicative of
		genetic relationship
		(EAMCET 2006)
	1) Both $(S)$ and	(R) are true and $(R)$ is the correct
	the correct ex	xplanation to (S)
	2) Both $(S)$ and	d (R) are true, but (R) cannot
	explain (S)	
	3) $Only(S)$ is tr	ue and $(R)$ is not true
	4) (S) is not cor	rect and (R) cannot explain (S)
85.	Statement : Su	b species has a geographical area
	an	d geographically isolated from other
	su	b species
	<b>Reason :</b> W	hen members of a species are
	ge	ographically isolated they give rise
	to	a sub species (EAMCET2004)
	1) Both stateme	ent and reason are correct and the
	reason is the	correct explnation to the statement
	reason is the 2) Reason is t	correct explnation to the statement he correct explanation to the

9

<ul><li>86.</li><li>87.</li><li>88.</li><li>89.</li></ul>	<ul> <li>3) Both statement and reason are not correct</li> <li>4) Only statement is correct and reason is wrong</li> <li>The unrelated family among the following <ol> <li>Canidae</li> <li>Felidae</li> <li>Hominidae</li> <li>Ursidae</li> </ol> </li> <li>Find out the obligatory taxon in the following <ol> <li>Homininae</li> <li>Anthropoidea</li> <li>Vertebrata</li> <li>Homo</li> </ol> </li> <li>The taxa that are not proposed by Linnaeus <ol> <li>Phylum, Class</li> <li>Phylum, Family</li> <li>Kingdom, Family</li> <li>Kingdom, Family</li> <li>Kingdom, Family</li> <li>Kingdom, family</li> <li>Lion, tiger, leopard</li> </ol> </li> </ul>			The member in a A species is i) a breeding unit other species. ii) an ecological ecological niche. iii) a genetic unit a iv) an evolutional structure and fun Some times closs give rise - <b>Sterile</b> Crossing of femal sterile offspring -	species as it is r al unit as they s ry unit ctional ely rela e <b>offsp</b> e horse - <b>Mule</b>	s show - assortative mating. reproductively isolated from as they share the same show similarity in karyotype. as are of them have similar I characters. ated species interbreed but oring with male donkey produces
90.	<ul> <li>3) Dog, hyaena, bear The following are the s</li> <li>i) Corvus splendens Burma</li> <li>ii) Corvus splendens in Srilanka</li> <li>iii) Corvus splendens in The correct combina</li> <li>1) i, ii &amp; iii</li> <li>3) Only i &amp; iii</li> </ul>	4) Lion, dog, bear tatements about crow splendens is the crow of protegatus is the crow of solens is the crow of Burma ation is 2) Only i & ii 4) Only iii & ii	91. 92. 93.	SPEC The book Orgin 1. Darwin 2. Mo The scientist wh changes (static) 1. Buffon 3. Emerson A species is an o distinctive rer	CIES C LEVE of spec endal no beli	<b>CONCEPT</b> <b>CL-I</b> cies was published by 3. Lamarck 4. John Ray leved that a species never 2. Linnaeus 4. Ernst mayr d or evolving, genetically prively isolated natural
Spe •	ecies concept : Species means – Kind	or appearance		populaton is 1. Alfred Emerso 3. Ernst Mayr	n	2. Lindsey 4. Dobzbansky
•	<ul> <li>John Ray used the term species in his book <ul> <li>"Historia Generalis plantarum".</li> </ul> </li> <li>Linnaeus considered species as the unit of classification and believed that a species never changes.</li> <li>The biological concept of species become more popular after the publication of the book "The origin of species" written by Darwin.</li> <li>Genetically distinctive, reproductively isolated natural population is a species - Alfred Emerson.</li> <li>An aggregation of individuals which may resemble each other with in some range of differences and always arises from common reproductive sequence is a species - Lindsey.</li> </ul>		94. 95. 96.	Species is an aggresembel each ot variation and a reproductive seq 1. Alfred Emerso 3. Ernst Mayr Who proposed sp 1. Alfred Emerso 3. Ernst Mayr	regatio her with lways uence to pecies on LEVE Specie ter-bree that ar groups Reprod	<ul> <li>an of individuals which may thin some range of a rises from a common is</li> <li>2. Lindsey</li> <li>4. Dobzhansky as mendelian populations</li> <li>2. Lindsey</li> <li>4. Dobzhansky</li> <li>as mendelian populations</li> <li>bobzhansky</li> <li>L - II</li> <li>s are groups of potentially inseding natural populations re isolated from other such solution brings about</li> </ul>
•	• A group of potentially interbreeding natural populations which reproductively isolated from others is a species - <b>Ernst Mayr.</b>			1) Both stateme	distinc nt and	tive morphological charcters. (EAMCET 2005) reason are true and reason

- Mendelian population is a species **Dobzhansky.**
- Group of individuals in a particular area at a • particular time and capable of interbreeding sharing a common genepool is-Mendelian population.
- Species is - dynamic.

#### EAMCET-JUNIOR ZOOLOGY

is a correct explanation to statement

3) Both statement and reason are not true

2) Only statement is true and the reason is not true

4) Both statement and reason are true, but reason is not the correct explanation to the statement

## Classification of the living world :

- Carlous Linnaeus proposed the two kingdom classification.
- Animals included in Animalia & plants included in Vegetabilia.
- Ernst Haeckel established the third kingdom protista and included unicellular organisms in protista kingdom.
- Copeland proposed a separate kingdom for prokaryotes (bacteria) Monera.
- R.H. Whittaker created an additional kingdom for fungi and establish the five kingdom classification (1969).
- The five kingdoms of Whittaker are

   Monera (2) Protista (3) Fungi (4) Plantae (or) Metaphyta (5) Animalia (or) Metazoa.
- Kingdom Monera Unicellular prokaryotes (All bacteria)
- Kingdom Protista Unicellular eukaryotes.
- Kingdom fungi Multicellular saprobic organism without cilia (or) flagella.
- Kingdom Plantae Multicellular mostly autotrophic organisms (plants).
- Kingdom Animalia -Multicellular heterotrophs (Animals).

#### CLASSIFICATION OF LIVING WORLD LEVEL - I

- 97. The five kingdom classification was proposed by1. Linnaeus2. Whittaker3. Copeland4. Haeckel
- Living organsims are divided into Animalia and Vegetabilia by
  - 1. Emerson 2. Linnaeus

3. Mayr 4. Lindsey

99. Minerals are placed in a kingdom called Mineralia by

1. Haeckel	2. Linnaeus
3. Emerson	4. Whittaker

- 100. Kingdom 'Protista' was created by
  - 1. Ernst Haeckel 2. Linnaeus
  - 3. Emerson 4. Whittaker
- 101. The kingdom proposed by copeland for prokaryotes is
  - 1. Protista2. Monera3. Animalia4. Plantae
- 3. Animalia 4. Plantae 102. Kingdom 'Fungi' was created by
- 1. Haeckel 2. Linnaeus 3. Emerson 4. Whittaker
- 103. Cells are haploid and dikaryotic in the kingdom
- Plantae 2. Animalia 3. Fungi 4. Protista
   Archaebacteria are included in the kingdom
   Plantae 2. Animalia 3. Monera 4. Protista

- 105. Unicellular organisms without distinct nucleus are included in
- 1. Monera 2. Fungi 3. Plantae 4. Protista 106. All monerans are
  - 1. Eukaryotes
    - ikaryotes 2. Prokaryotes
    - 3. Aquatic 4. Terrestrial

#### LEVEL - II

- 107. Five kingdom classification is mainly based on
  - 1. Cell structure, body organisation & nutrition
  - 2. Structure, nutrition & reproduction
  - 3. Habitat, structure & nutrition
  - 4. Distribution, anatomy & reproduction
- 108. Which of the following groups of organisms are ecologically similar? (EAMCET2008)
  - 1) Producer protists and consumer protists
  - 2) Monerans and producer protists
  - 3) Consumer protists and fungi
  - 4) Monerans and fungi

# Outline classification of the kingdom - Animalia

## Basic Bauplans (body plans) of Animalia.

## Number of primary germ layers in the embryo

- The embryos of diploblastic animals have two cell layers, an outer ectoderm and an inner endoderm.
- The embryos of triploblastic animals have three layers, ectoderm, endoderm and mesoderm.

## **Division of labour:**

- Body functions are performed by cells - Cellular grade of organisation.
- Body functions are performed by tissues - tissue grade of organisation.
- Body functions are performed by organs or organ systems - organ system organisation.

## **Body cavities.**

- In accelomates body cavity is absent. The space between the gut & body wall is filled with mesenchyme. Eg: Platyhelminthes.
- In pseudocoelomates coelom is not lined with peritoneal layers. Eg: Nematoda.
- In eucoelomates coelom develops with in the mesoderm and is lined with peritoneum.

Eg:. Phylum Annelida to chordata.

## Symmetry.

• In bilaterians antimeres are cut in only midsagittal plane.

Eg: Phylum platyhelminthes to chordata. In Radiata,

#### EAMCET-JUNIOR ZOOLOGY

antimeres are cut in any plane through oro-aboral axis.

## **Fate of Blastopore**

- In protostomes blastopore develops into mouth.
- In deuterostomes blastopore develops into anus.

## Gut

- A sac like gut has only one opening called mouth. Anus is absent. Food enters and leaves through the mouth only.
- A complete gut has two openings a mouth and an anus.

## **Circulation of blood**

- In open type of circulation blood flows in the sinuses.
- In closed type of circulation blood flows in the blood vessels only.

## Classification of the kingdom animalia.

Kingdom Animalia is divided into two subkingdoms - Parazoa and Eumetazoa.

## Subkingdom Parazoa:

- They are multicellular animals without tissues. It includes Phylum Porifera.
- Subkingdom Eumetazoa: They are multicellular animals with tissues. It includes two grades Radiata and Bilateria.
- Grade Radiata or diploblastica: They have diploblastic body. They are radially symmetrical. It includes phylum Cnidaria.
- Grade Bilateria or Triploblastica: They have triploblastic body. They are bilaterally symmetrical. It includes 2 divisions - Protostomia and Deuterostomia.
- Division Protostomia:

In these animals blastopore develops into mouth. Cleavage is spiral and determinate. It includes three subdivisions.

- Subdivision Acoelomata: Coelom is absent. Body cavity is filled by parenchyma. It includes Phylum Platyhelminthes.
- Subdivision Pseudocoelomata: False coelom is present. Body cavity is not lined by mesodermal epithelium (peritonium). It includes Phylum Nematoda.
- Subdivision Schizocoelomata: A true coelom is present. It is formed by splitting of mesoderm. It includes Phylum Annelida, Arthropoda and Mollusca.

- Division Deuterostomia: In these animals blastopore develops into anus. Cleavage is radial and indeterminate. It includes a single subdivision Enterocoelomata.
- Subdivision Enterocoelomata: A true coelom is present. It is formed from pouches of archenteron. It includes Phylum Echinodermata and Phylum Chordata.

#### OUT LINE CLASSIFICATION OF THE KINGDOM ANIMALIA L EVEL - L

	EL-I
109. Grade radiata includes	
1. Diploblastica	2. Triploblastica
3. Parazoa	4. Eumetazoa
110. All Bilaterians are	
1. Shizocoelomates	2. Enterocoelomates
3. Pseudocoelomates	4. Triploblastica
111. Blastopore develops in	ito mouth in
1. Deuterostomia	2. Parazoans
3. Protostomia	4. Enterocoelomata
112. Triploblastic acoeloma	ites are
1. Porifera	2. Annelida
3. Coelenterata	4. Platyhelminthes
113. When blood flows in 'o	open sinuses' the circulation
is called	
1. open type	2. closed type
3. double circuit	4. single circuit
114. First multicellular anim	als are
1. Sponges	2. Cnidarians
3. Flat worms	4. Zoomastigophorans
115. Eumetazoans are main	ly characterized by
1. Many cells	2. Tissues
3. Coelom	4. Parazoa
116. First triploblastic phylu	m
1. Platyhelminthes	2. Nematoda
3. Annelida	4. Cnidaria
117. Triploblastic acoeloma	ites are
1. Porifera	2. Annelida
3. Coelenterata	4. Platyhelminthes
118. Absence of coelom in	flatworms is due to
1. Mesoglea	2. Blubber
3. Mesenchyma	4. Fibrous tissue
119. The space between l	body wall and alimentary
canal not lined by m	esodesmal peritoneum in
Nematodes is	-
1. Acoelom	2. Schizocoelom
3. Pseudocoelom	4. Enterocoelom
120. The body cavity forme	d directly by splitting of me-
soderm is	
1. Schizocoel	2. Enterocoel
3. Spongocoel	4. Acoelom
121. Body cavity formed fr	om pouches that evaginate
from archenteron	1
1. Pseudocoelom	2. Enterocoelom
3. Schizocoelom	4. Mesenchymal coelom

### LEVEL - II

122. Pseudocoelom is the re	mnant of embryonic
1. Archenteron	2. Blastocoel
3. Gastrocoel	4. Blastomeres
123. Enterocoelomata includ	des
1. Platyheminthes, Nen	natoda, Annelida
2. Annelida, Arthropod	la, Mollusca
3. Echinodermata, Her	nichordata, Chordata
4. Mollusca, Echinode	rmata, Chordata
124. In deuterostomians bla	stopore forms into
1. Mouth	2. Anus
3. Gonopore	4. Excretory pore
125. Diploblasticans with tis	ssues are
1. Poriferans	2. Cnidarians
3. Platyhelminthes	4. Nematodes
126. Invertebrate deuterosto	omians are
1. Mollusca	2. Echinodermata
3. Chordata	4. Arthropoda
127. Cleavage in deuterosto	miansis
1. Radial and indeterm	inate
2. Spiral and inderterm	inate
3. Radial and determin	ate
4. Spiral and determina	ate
128. Type of cleavage that	occurs in acoelomate ani-
mals is	
1. Spiral, indeterminate	2. Radial. indeterminate
3. Radial, determinate	4. Spiral, determinate
129. Cleavage spindles or p	lanes are oblique to the po-
lar axis of the zvgote is	S
1. Spiral	2. Radial
3. Determinate	4. Indeterminate
130. Cleavage spindles or p	blanes are at right angles to
the polar axis of the zy	gote in
1. Spiral	2. Radial
3. Determinate	4. Indeterminate
131. Mesoderm first formed	lin
1. Cnidarians	2. Flatworms
3. Annelids	4. Arthropods
132. Schizocoelomata includ	des
1. Annelida, Arthropod	la, Mollusca
2. Annelida, Nematoda	, Echinodermata
3. Annelida, Chordata,	Mollusca
4. Annelida, Arthropod	la, Echinodermata
133. First schizocoelomates	are
1. Echinoderms	2. Nematodes
3. Annelids	4. Molluscans
LEVE	L-III
	(EAMCET2006)
134. In the taxonomy the fo	llowing levels are present
A. Order B. Class	C. Phylum D. Family
Arrange them in order	from lower taxnomic level
to higher taxonomic lev	rel
1. D.A.B.C	2. D.A.C.B
3. D,B,C,A	4. A,B,C,D
· · ·	

135. Following are the levels	s of classification of man
A. Gnathostomata	B. Hominidae
C. Vertebrata	D. Anthropoidea
Arrange the above in a	descending order
1. C-A-D-B	2. A-C-D-B
3. C-D-A-B	4. A-C-B-D
136. Statement (S) : Sub spe	cies are geographically iso-
lated from	m other sub species
Reason (R) : The mer	nbers of species are geo-
graphical	ily isolated give lise to sub
1. 'S' & 'R' are true	e and R is the correct
explanation to S	
2. 'S' & 'R' are true	but R is not the correct
explanation to S	
3. 'S' & 'R' are false	
4. 'S' is true but 'R' is f	false
137. Statement (S) : Each s lated	pecies is reproductively iso-
Reason (R) : Some	closely related species of a
genus	can interbreed
1) S&Rare true and R i	s the correct explanation to
S	
2) S & R are true R	and is not the correct
explanation to S	
3) 'S' is true but 'R' is fa	alse 4) 'S' and 'R' are false
138. Which is not correct sta	tement in the following
1. All shizocoelomates	are protostomians
2. All protostomians are	e schizocoelomales
3. All deuterostomions	are enterocoelomates
130 Correct statement of the	are enterococionates
1 All protostomes are	schizocoelomates
2 All protostomes exh	wibit spiral and determinate
cleavage	non spirar and determinate
3. All enterocoelomate	es are protostomes
4. All individuals of rad	diata are triploblastic
MATCHIN	NGTYPE
140. Match the following	
A) John Ray	I) Systema Naturae
B)Aristotle	II) Bacteria
C) Darwin	III) Greek philosopher
D) Linnaeus	IV) Origin of species
	V) Term species
1) A- V, B - III, C - IV	/, D - I
2) A - V, B - I, C - III,	D - IV
3) A - V, B - IV, C - II	I, D - I
4) A - V, B - III, C - IV	/, D - II
141. Match the following	
A) Natural history	I) John Ray
B) Historia Generalis	II) Lamarck
Plantarum	

C) Origin of species

D) Systema naturae

III) Linnaeus

IV) Buffon

		V) Darwin			
	1) A - IV, B - I, C - III	, D - V			
	2) A - IV, B - I, C - V, D - II				
	3) A - IV, B - I, C - V, D - III				
	4) A - IV, B - V, C - I	, D - III			
142.	Given are two lists, Li	st - I containing names of			
	groups and List - II cont	aining condition of coelom			
	A) Annelida, Arthropod	la,			
	Mollusca	1)Acoelomata			
	B) Chordata, Echinode	rmata,			
	Hemichordata	2) Pseudocoelomata			
	C) Nematyhelminthes	3) Schizocoelous			
	D) Platyhelminthes	4) Enterocoelous			
	1) A - 1 . B - 2. C - 3.	D - 4			
	2) A - 4, B - 3, C - 2,	D - 1			
	3) A - 3, B - 4, C - 1, J	D - 2			
	4) A - 3, B - 4, C- 2, 1	– – D - 1			
143.	Match the following				
	Part-I	Part - II			
	A) Ethology	I) Study of the nature of			
	) 25	biomolecules			
	B) Molecular biology	II) Distribution of animals			
	C) Phytogeography	III) Study of animal			
		behaviour			
	D) Genetics	IV) Study of heredity &			
	)	variations			
		V) Distribution of plants			
	1) A - II. B - III. C - IV	V. D - V			
	2) A- III. B - I. C - II.	D - IV			
	3) A - II, B - IV, C - II	I. D - V			
	4) A - III. B - I. C - V	. D - IV			
144.	Match the following	,			
1	Part - I	Part - II			
	A) First metazoans	D Flatworms			
	B) True metazoans	II) Annelids			
	C) First Triploblastican	s III) Sponges			
	D) First Schizocoelom	s III) Sponges			
		V) Arthropods			
		V D - V			
	$\frac{1}{2} = 11, D = 11, C = 1$				
	2 A = III, D = IV, C = I	, U - II D V			
	J A = III, D = IV, C = I,	D-V			
	4) A- III, B - IV, C - I,	μ - v			
	STATEMENT &	REASON TYPE			

#### NOTE:

- 1) A and R are true, R is the correct explanation of А
- 2) A and R are true, R is not the correct explanation of A
- 3) A is true but R is false
- 4) Both A and R are false

145. S	statement (S) :	Each species constitutes an eco-
F	Reason (R) :	The members of a species show
		assortive mating
146. S	tatement (S) :	Sub species of a species can pro-
		duce fertile offsprings when they
		interbreed
F	Reason (R) :	Sub species of a species are re-
		productively isolated
147. S	statement (S) :	The species is a breeding unit
F	Reason (R) :	Individuals of a species are repro-
		ductively similar from the individu-
		als of other species
148. S	statement (S):	A species is an ecological unit
F	Reason (R) :	The individuals of a species share
		tha same ecological niche
149. S	statement (S) :	The species is a genetic unit
ŀ	Reason (R) : Al	the individuals of a species show
150	S4 - 4 4 (S) -	similarity in the Karyotype
150. j	Statement (S) :	The individuals of a species have
F	(K) :	similar in structure & functional
		similar in structure & functional
151 \$	totomont (S).	The species is dynamic
131. S	$\mathbf{P}_{\mathbf{P}} = \mathbf{P}_{\mathbf{P}} = $	The individuals of a species show
г		assortative mating
152. S	tatement (S) :	Each species is reproductively
102.0		isolated
F	Reason (R) :	Some closely related species of a
		genus can interbreed
153. S	statement (S):	Palaeontology is the study of
		fossils
F	Reason (R) :	It deals with distribution of animals
		in different geographical regions of
		the world
154. S	statement (S) :	Species is the Dynamic group of
		organisms
F	Reason (R) :	Species are always formed from
		other species by evolution
155.	Statement (S) :	With in a given species, the
		members of different subspecies
		snow geographical isolation, but do
-		not snow reproductive isolation
	Dearen (D) :	The arrive temperated according to the second secon
ŀ	Reason (R) :	They interbreed among themselves
ŀ	Reason (R) :	They interbreed among themselves to produce fertile off spring

156. Find the right statement / statements i) All eucoelomates are deuterostomiates ii) All schizocoelomates are protostomiates iii) All eucoelomates exhibit radial and

indeterminate cleavage iv) All protostomiates are not eucoelomates 1) i & ii 2) ii & iv 3) i & iii 4) ii & iii 157. The following are the statements about species i) Species is a dynamic group of organisms sharing a common gene pool ii) Usually they show non-assortative mating iii) They form a potentially interbreeding reproductive group Which of the above statements are correct 1) i, ii & iii are correct 2) i and ii are correct 3) ii and iii are correct 4) i and iii are correct 158. The following are the statements about kingdom Animalia i) All schizocoelomates are protostomes ii) All deuterostomians are enterocoelomates iii) All triploblastic animals are bilaterally symmeterical Which of the above statements are correct 1) i and ii only 2) ii and iii only 3) i & iii only 4) i, ii & iii are correct 159. The following are the statements about deuterostomians i) In them coelom forms as pouches from primitivegut ii) In them cleavage is radial, indeterminate iii) All of them are triploblatic organisms The correct combination is 1) i, ii & iii are correct 2) Only i & ii 3) Only iii correct 4) Only iii & i 160. The following are the statements about protostomians i) All consists of coelom formed by splitting of mesoderm ii) Mouth forms from blastopore and the digestive stystem is incomplete iii) Zygote shows spiral, determinate cleavage The correct combination is 1) i & ii 2) i & iiii 3) only ii 4) only iii **SEQUENCE TYPE** 161. Choose the correct sequence of taxonomic categories B) Class A) Order C) Sub species D) Family 2) B - C - A - D 1) B - A - D - C 3) B - A - C - D 4) B - D - A - C 162. Choose the correct sequence of taxonomic categories 1) Class - phylum - order - family - genus - species 2) Division - class - order - family - genus - species

3) Divison - class - family - order - genus - species

4) Phylum - order - class - family - genus - species

- 163. In Classification the descending order of taxa is
  - 1) Kingdom order class division genus species
  - 2) Kingdom phylum order class species genus
  - 3) Kingdom phylum class order genus species
- 4) Kingdom division class order genus species 164. Arrange following in ascending order
- B)Anthropoidea A) Entero coelomata C) Deuterostomia D) Mammalia E) Hominidae 1) E-B-D-C-A 2) E-B-C-D-A 3) E-B-A-D-C 4) E-B-D-A-C 165. Following are the levels of classification of man A) Gnathostomata B) Hominidae D)Anthropoidea C) Vertebrata Arrange the above in a descending order 1) C - A - D - B 2) A - C - D - B 4) A - C - B - D 3) C -D - A - B
- 166. Arrange the following in ascending order A) Deuterostomia B) Enterocoelomata C) Bilateria D) Eumetazoa 1) B - A - C - D 2) B - A - D - C 3) C - A - B - D 4) A - B - C -D

167. Arrange the taxons in descending order with respect to the taxonomy of man

- A)Anthropoidea B) Eutheria D) Vertebrate C) Hominidae
- 2) C D A B 1) A - B - C - D
- 3) D B A C 4) B - C - A - D
- 168. The five kingdoms of Whittaker arranged in evolutionary manner are
  - 1) Monera Protista Animalia Plantae Mycota
  - 2) Monera Protista Plantae Fungi Animalia
  - 3) Monera Mycota Protista Plantae Animalia
  - 4) Monera Protista Fungi Plantae Animalia

## LINK TYPE

109.	Study the following					
	Name of the Animal	Family	Order			
	i) Cat	Felidae	Carnivo	ore		
	ii) Whale	Canidae	Cetacea	an		
	iii)Bear	Ursidae	Carnivo	ore		
	iv)Ape	Hominidae	Anthrop	poidea		
	Which of the above are	correct				
	1) i and ii	2) ii and iii	3) i and	iii	4) i and	1 iv
170	Name of the Kingdom	Character		Example		
	i) Monera	Unicellular	, Prokaryotes	Archaebacteri	а	
	ii) Plantae	Autotrophic		Plants		
	iii)Animalia	Multicellula	r heterotrophs	Chordates		
	iii) Protista	Unicellular I	Eukaryotes	Fungi		
	Which of the above are	incorrect				
	1) only i & ii		2) only i & iii	3) only	y ii & iii	4) Only iv
171.	Study the following and	d find the cor	rect one			
	Column I		Column II			Column III
	i) Protostomes		Blastopore de	evelops into mo	outh	Annelilda
	ii) Deuterostomes		Blastopore de	evelops into an	us	Arthropoda
	iii) Schizocoelomates		True Coelom			Echinodermata
	iv) Enterocoelomates		Formed from	Archenteron		Echinodermata
1 7 0	1) only 1 & 11		2) only 1 & 1v	3) only	y 11 & 111	4) Only iv
$\Gamma/2$	. Column - I		Colum	n - 11		Column - III
	') <b>D</b>		E' ()/ (		C '1	
	i) Parazoa		First Metazoa	ins	Cnidar	ia
	i) Parazoa ii) Eumetazoa jii) Radiata		First Metazoa True Metazoa Diploblastic h	uns uns oodv	Cnidar Porifer Cnidar	ia a ia
	i) Parazoa ii) Eumetazoa iii) Radiata iv) Bilateria		First Metazoa True Metazoa Diploblastic b Triploblastic t	ins ins oody oody	Cnidar Porifer Cnidar Platy b	ia a ia elminthes
	<ul> <li>i) Parazoa</li> <li>ii) Eumetazoa</li> <li>iii) Radiata</li> <li>iv) Bilateria</li> <li>Which of the above are</li> </ul>	correct	First Metazoa True Metazoa Diploblastic b Triploblastic b	ins ins oody oody	Cnidar Porifer Cnidar Platy he	ia a ia elminthes
	i) Parazoa ii) Eumetazoa iii) Radiata iv) Bilateria Which of the above are 1) only i & ii	correct	First Metazoa True Metazoa Diploblastic b Triploblastic b 2) only i & iii	ins pody pody 3) only	Cnidar Porifer Cnidar Platy h v iii & iv	ia ra ia elminthes 4) only iy
173	i) Parazoa ii) Eumetazoa iii) Radiata iv) Bilateria Which of the above are 1) only i & ii Column - I	correct	First Metazoa True Metazoa Diploblastic b Triploblastic b 2) only i & iii Colum	uns uns oody oody 3) onl <u>y</u> <b>n - II</b>	Cnidar Porifer Cnidar Platy h y iii & iv	ia a ia elminthes 4) only iv <b>Column - III</b>
173	i) Parazoa ii) Eumetazoa iii) Radiata iv) Bilateria Which of the above are 1) only i & ii <b>Column - I</b> i) Acoelomata	correct	First Metazoa True Metazoa Diploblastic b Triploblastic b 2) only i & iii Colum Coelom is abs	uns pody pody 3) onl <u>y</u> <b>n - II</b> sent	Cnidar Porifer Cnidar Platy h y iii & iv Platyhe	ia ra ia elminthes 4) only iv <b>Column - III</b> elminthes
173	<ul> <li>i) Parazoa</li> <li>ii) Eumetazoa</li> <li>iii) Radiata</li> <li>iv) Bilateria</li> <li>Which of the above are</li> <li>1) only i &amp; ii</li> <li>Column - I</li> <li>i) Acoelomata</li> <li>ii) Pseudocoelomata</li> </ul>	e correct	First Metazoa True Metazoa Diploblastic t Triploblastic t 2) only i & iii Colum Coelom is abs	uns pody pody 3) onl <u>y</u> <b>n - II</b> sent blastocoel	Cnidar Porifer Cnidar Platy h y iii & iv Platyhe Nema	ia a ia elminthes 4) only iv <b>Column - III</b> elminthes toda
173	<ul> <li>i) Parazoa</li> <li>ii) Eumetazoa</li> <li>iii) Radiata</li> <li>iv) Bilateria</li> <li>Which of the above are</li> <li>1) only i &amp; ii</li> <li>Column - I</li> <li>i) Acoelomata</li> <li>ii) Pseudocoelomata</li> <li>iii) Schizocoelomata</li> </ul>	correct	First Metazoa True Metazoa Diploblastic b Triploblastic b 2) only i & iii Colum Coelom is abs Derived from Fromed from	ins body body 3) only <b>n - II</b> sent blastocoel Mesoderm	Cnidar Porifer Cnidar Platy ho y iii & iv Platyhe Nema Annel	ia ra ia elminthes 4) only iv <b>Column - III</b> elminthes toda ida
173	<ul> <li>i) Parazoa</li> <li>ii) Eumetazoa</li> <li>iii) Radiata</li> <li>iv) Bilateria</li> <li>Which of the above are</li> <li>1) only i &amp; ii</li> <li>Column - I</li> <li>i) Acoelomata</li> <li>ii) Pseudocoelomata</li> <li>iii) Schizocoelomata</li> <li>Which of the above are</li> </ul>	e correct	First Metazoa True Metazoa Diploblastic b Triploblastic b 2) only i & iii Colum Coelom is ab Derived from Fromed from	uns pody pody 3) only <b>n - II</b> sent blastocoel Mesoderm	Cnidar Porifer Cnidar Platy h y iii & iv Platyhe Nema Annel	ia a ia elminthes 4) only iv <b>Column - III</b> elminthes toda ida
173	<ul> <li>i) Parazoa</li> <li>ii) Eumetazoa</li> <li>iii) Radiata</li> <li>iv) Bilateria</li> <li>Which of the above are</li> <li>1) only i &amp; ii</li> <li>Column - I</li> <li>i) Acoelomata</li> <li>ii) Pseudocoelomata</li> <li>iii) Schizocoelomata</li> <li>Which of the above are</li> <li>1) only i &amp; ii</li> </ul>	e correct	First Metazoa True Metazoa Diploblastic b Triploblastic b 2) only i & iii Colum Coelom is abs Derived from Fromed from	uns pody pody 3) only <b>n - II</b> sent blastocoel Mesoderm 3) only	Cnidar Porifer Cnidar Platy ho y iii & iv Platyhe Nema Annel y ii & iii	ia ra ia elminthes 4) only iv <b>Column - III</b> Elminthes toda ida 4) i , ii & iii are correct
173	<ul> <li>i) Parazoa</li> <li>ii) Eumetazoa</li> <li>iii) Radiata</li> <li>iv) Bilateria</li> <li>Which of the above are</li> <li>1) only i &amp; ii</li> <li>Column - I</li> <li>i) Acoelomata</li> <li>ii) Pseudocoelomata</li> <li>iii) Schizocoelomata</li> <li>Which of the above are</li> <li>1) only i &amp; ii</li> <li>Name of the Branch</li> </ul>	e correct	First Metazoa True Metazoa Diploblastic b Triploblastic b 2) only i & iii Colum Coelom is ab Derived from Fromed from	uns oody oody 3) only <b>n - II</b> sent blastocoel Mesoderm 3) only	Cnidar Porifer Cnidar Platy h y iii & iv Platyhe Nema Annel y ii & iii	ia a ia elminthes 4) only iv <b>Column - III</b> elminthes toda ida 4) i , ii & iii are correct Related Scientist
173	<ul> <li>i) Parazoa</li> <li>ii) Eumetazoa</li> <li>iii) Radiata</li> <li>iv) Bilateria</li> <li>Which of the above are</li> <li>1) only i &amp; ii</li> <li>Column - I</li> <li>i) Acoelomata</li> <li>ii) Pseudocoelomata</li> <li>iii) Schizocoelomata</li> <li>Which of the above are</li> <li>1) only i &amp; ii</li> <li>Name of the Branch</li> <li>i) Evolution</li> </ul>	e correct	First Metazoa True Metazoa Diploblastic to Triploblastic to 2) only i & iii Colum Coelom is abs Derived from Fromed from 2) only i & iii Dealing with origin of life	uns pody pody 3) only <b>n - II</b> sent blastocoel Mesoderm 3) only	Cnidar Porifer Cnidar Platy h y iii & iv Platyhe Nema Annel y ii & iii	ia a ia elminthes 4) only iv <b>Column - III</b> elminthes toda ida 4) i , ii & iii are correct Related Scientist Herbert spencer
173	<ul> <li>i) Parazoa</li> <li>ii) Eumetazoa</li> <li>iii) Radiata</li> <li>iv) Bilateria</li> <li>Which of the above are</li> <li>1) only i &amp; ii</li> <li>Column - I</li> <li>i) Acoelomata</li> <li>ii) Pseudocoelomata</li> <li>iii) Schizocoelomata</li> <li>Which of the above are</li> <li>1) only i &amp; ii</li> <li>Name of the Branch</li> <li>i) Evolution</li> <li>ii) Ecology</li> </ul>	e correct	First Metazoa True Metazoa Diploblastic b Triploblastic b 2) only i & iii Colum Coelom is ab Derived from Fromed from 2) only i & iii Dealing with origin of life Relation betw	uns pody pody 3) only n - II sent blastocoel Mesoderm 3) only	Cnidar Porifer Cnidar Platy h y iii & iv Platyhe Nema Annel y ii & iii	ia a ia elminthes 4) only iv <b>Column - III</b> elminthes toda ida 4) i , ii & iii are correct Related Scientist Herbert spencer
173	<ul> <li>i) Parazoa</li> <li>ii) Eumetazoa</li> <li>iii) Radiata</li> <li>iv) Bilateria</li> <li>Which of the above are</li> <li>1) only i &amp; ii</li> <li>Column - I</li> <li>i) Acoelomata</li> <li>ii) Pseudocoelomata</li> <li>iii) Schizocoelomata</li> <li>Which of the above are</li> <li>1) only i &amp; ii</li> <li>Name of the Branch</li> <li>i) Evolution</li> <li>ii) Ecology</li> </ul>	e correct	First Metazoa True Metazoa Diploblastic to Triploblastic to 2) only i & iii Colum Coelom is abs Derived from Fromed from 2) only i & iii Dealing with origin of life Relation betw abiotic things	uns uns body body 3) only <b>n - II</b> sent blastocoel Mesoderm 3) only veen biotic and	Cnidar Porifer Cnidar Platy ho y iii & iv Platyhe Nema Annel y ii & iii	ia a ia elminthes 4) only iv <b>Column - III</b> Elminthes toda ida 4) i , ii & iii are correct Related Scientist Herbert spencer Cuvier
173	<ul> <li>i) Parazoa</li> <li>ii) Eumetazoa</li> <li>iii) Radiata</li> <li>iv) Bilateria</li> <li>Which of the above are</li> <li>1) only i &amp; ii</li> <li>Column - I</li> <li>i) Acoelomata</li> <li>ii) Pseudocoelomata</li> <li>iii) Schizocoelomata</li> <li>Which of the above are</li> <li>1) only i &amp; ii</li> <li>Name of the Branch</li> <li>i) Evolution</li> <li>ii) Ecology</li> <li>iii) Genetics</li> </ul>	e correct	First Metazoa True Metazoa Diploblastic to Triploblastic to 2) only i & iii Colum Coelom is abs Derived from Fromed from 2) only i & iii Dealing with origin of life Relation betw abiotic things It is the study	uns oody oody <b>3</b> ) only <b>n - II</b> sent blastocoel Mesoderm 3) only veen biotic and of	Cnidar Porifer Cnidar Platy h y iii & iv Platyhe Nema Annel y ii & iii	ia a ia elminthes 4) only iv <b>Column - III</b> elminthes toda ida 4) i , ii & iii are correct Related Scientist Herbert spencer Cuvier Bateson
173	<ul> <li>i) Parazoa</li> <li>ii) Eumetazoa</li> <li>iii) Radiata</li> <li>iv) Bilateria</li> <li>Which of the above are</li> <li>1) only i &amp; ii</li> <li>Column - I</li> <li>i) Acoelomata</li> <li>ii) Pseudocoelomata</li> <li>iii) Schizocoelomata</li> <li>Which of the above are</li> <li>1) only i &amp; ii</li> <li>Name of the Branch</li> <li>i) Evolution</li> <li>ii) Ecology</li> <li>iii) Genetics</li> </ul>	e correct	First Metazoa True Metazoa Diploblastic to Triploblastic to 2) only i & iii Colum Coelom is abs Derived from Fromed from 2) only i & iii Dealing with origin of life Relation betw abiotic things It is the study heredity & va	uns uns body body 3) only n - II sent blastocoel Mesoderm 3) only veen biotic and of uriations	Cnidar Porifer Cnidar Platy ho y iii & iv Platyhe Nema Annel y ii & iii	ia a ia elminthes 4) only iv <b>Column - III</b> elminthes toda ida 4) i , ii & iii are correct Related Scientist Herbert spencer Cuvier Bateson
173	<ul> <li>i) Parazoa</li> <li>ii) Eumetazoa</li> <li>iii) Radiata</li> <li>iv) Bilateria</li> <li>Which of the above are</li> <li>1) only i &amp; ii</li> <li>Column - I</li> <li>i) Acoelomata</li> <li>ii) Pseudocoelomata</li> <li>iii) Schizocoelomata</li> <li>Which of the above are</li> <li>1) only i &amp; ii</li> <li>Name of the Branch</li> <li>i) Evolution</li> <li>ii) Ecology</li> <li>iii) Genetics</li> <li>iv) Biology</li> </ul>	e correct	First Metazoa True Metazoa Diploblastic to Triploblastic to 2) only i & iii Colum Coelom is abs Derived from Fromed from 2) only i & iii Dealing with origin of life Relation betw abiotic things It is the study heredity & va Study of living	uns uns body body 3) only n - II sent blastocoel Mesoderm 3) only veen biotic and of uriations g organisms	Cnidar Porifer Cnidar Platy h y iii & iv Platyhe Nema Annel y ii & iii	ia a ia elminthes 4) only iv <b>Column - III</b> elminthes toda ida 4) i , ii & iii are correct Related Scientist Herbert spencer Cuvier Bateson Bernard
173	<ul> <li>i) Parazoa</li> <li>ii) Eumetazoa</li> <li>iii) Radiata</li> <li>iv) Bilateria</li> <li>Which of the above are</li> <li>1) only i &amp; ii</li> <li>Column - I</li> <li>i) Acoelomata</li> <li>ii) Pseudocoelomata</li> <li>iii) Schizocoelomata</li> <li>Which of the above are</li> <li>1) only i &amp; ii</li> <li>Name of the Branch</li> <li>i) Evolution</li> <li>ii) Ecology</li> <li>iii) Genetics</li> <li>iv) Biology</li> <li>Which of the above are</li> </ul>	e correct	First Metazoa True Metazoa Diploblastic to Triploblastic to 2) only i & iii Colum Coelom is abs Derived from Fromed from 2) only i & iii Dealing with origin of life Relation betw abiotic things It is the study heredity & va Study of living	uns uns body body 3) only <b>n - II</b> sent blastocoel Mesoderm 3) only veen biotic and of uriations gorganisms	Cnidar Porifer Cnidar Platy ho y iii & iv Platyhe Nema Annel y ii & iii	ia a ia elminthes 4) only iv <b>Column - III</b> elminthes toda ida 4) i , ii & iii are correct Related Scientist Herbert spencer Cuvier Bateson Bernard
173	<ul> <li>i) Parazoa</li> <li>ii) Eumetazoa</li> <li>iii) Radiata</li> <li>iv) Bilateria</li> <li>Which of the above are</li> <li>1) only i &amp; ii</li> <li>Column - I</li> <li>i) Acoelomata</li> <li>ii) Pseudocoelomata</li> <li>iii) Schizocoelomata</li> <li>Which of the above are</li> <li>1) only i &amp; ii</li> <li>Name of the Branch</li> <li>i) Evolution</li> <li>ii) Ecology</li> <li>iii) Genetics</li> <li>iv) Biology</li> <li>Which of the above are</li> <li>1) only i &amp; ii</li> </ul>	e correct	First Metazoa True Metazoa Diploblastic to Triploblastic to 2) only i & iii Colum Coelom is abs Derived from Fromed from 2) only i & iii Dealing with origin of life Relation betw abiotic things It is the study heredity & va Study of living 2) only i & iii	ans body body 3) only <b>n - II</b> sent blastocoel Mesoderm 3) only veen biotic and of ariations gorganisms 3) only	Cnidar Porifer Cnidar Platy h y iii & iv Platyhe Nema Annel y ii & iii	ia a ia elminthes 4) only iv <b>Column - III</b> elminthes toda ida 4) i , ii & iii are correct Related Scientist Herbert spencer Cuvier Bateson Bernard 4) i , ii & iii are correct

## UNIT-I - THE BASICS KEY

### NATURE AND SCOPE OF ZOOLOGY

1) 1 2) 1 3) 1 4) 3 5) 3 6) 1 7) 2 8) 4

### AREAS OF STUDY UNDER ZOOLOGY

9) 3 10) 2 11) 1 12) 4 13) 3 14) 4

15) 4 16) 3 17) 4 18) 4

#### ELATION BETWEEN ZOOLOGY

#### AND OTHER SCIENCES

19) 420) 321) 322) 423) 224) 225) 326) 327) 128) 329) 1

#### **BASIC PRINCIPLES OF CLASSIFICATION**

30) 1 31) 4

#### NOMENCLATURE

| 32) 4 | 33) 4 | 34) 3 | 35) 1 | 36) 4 | 37) 3 |
|-------|-------|-------|-------|-------|-------|
| 38) 4 | 39) 1 | 40) 4 | 41) 3 | 42) 3 | 43) 3 |
| 44) 2 | 45) 1 | 46) 2 | 47) 3 |       |       |

## **BIOLOGICAL CLASSIFICATION**

| 54) 355) 456) 357) 458) 259) 360) 361) 162) 163) 464) 365) 266) 467) 468) 269) 370) 271) 372) 473) 474) 375) 176) 177) 278) 179) 480) 281) 282) 183) 184) 185) 386) 487) 388) 289) 4 | 48) 3 | 49) 4 | 50) 1 | 51) 3 | 52) 3 | 53) 1 |
|--|-------|-------|-------|-------|-------|-------|
| 60) 361) 162) 163) 464) 365) 266) 467) 468) 269) 370) 271) 372) 473) 474) 375) 176) 177) 278) 179) 480) 281) 282) 183) 184) 185) 386) 487) 388) 289) 4                               | 54) 3 | 55)4  | 56) 3 | 57) 4 | 58) 2 | 59) 3 |
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| 78) 179) 480) 281) 282) 183) 184) 185) 386) 487) 388) 289) 4   | 72) 4 | 73)4  | 74) 3 | 75) 1 | 76) 1 | 77) 2 |
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|  | 84) 1 | 85) 3 | 86) 4 | 87) 3 | 88) 2 | 89) 4 |

#### SPECIES CONCEPT

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#### **CLASSIFICATION OF LIVING WORLD**

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## OUT LINE CLASSIFICATION OF

#### THE KINGDOM ANIMALIA

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