CHAP# 9 Diversity Among Animals

<table>
<tr><th>S. No</th><th>Questions</th><th>Answers</th></tr>
<tr><td colspan="3">INTODUCTION, CLASSIFICATION OF ANIMALS, COMPLEXITY IN ANIMALS</td></tr>
<tr><td>962.</td><td>The world Animalia is derived from Latin world which means</td><td>Soul or breath</td></tr>
<tr><td>963.</td><td>Number of species of animals are</td><td>15,00,000</td></tr>
<tr><td>964.</td><td>The outer most covering of animal is</td><td>Cell membrane</td></tr>
<tr><td>965.</td><td>Animals evolved from single cell organism included in kingdom</td><td>Protoctista</td></tr>
<tr><td>966.</td><td colspan="2">On basis of cell composition animals are divided into three categories:
<table>
<tr><th>S.No</th><th>Type</th><th>Cell & tissues</th></tr>
<tr><td>1</td><td>Protozoa</td><td>Single celled organism</td></tr>
<tr><td>2</td><td>Parazoa</td><td>Simple multicellular having no tissues and organ</td></tr>
<tr><td>3</td><td>Metazoa</td><td>Multicellular organisms having tissues and organs</td></tr>
</table></td></tr>
<tr><td>967.</td><td>The gel like non-cellular material present in diploblastic are called</td><td>Mesogloea</td></tr>
<tr><td>968.</td><td>The central cavity of diploblastic are called Coelenteron or</td><td>Gastro-vascular cavity</td></tr>
<tr><td>969.</td><td>There is transport and nervous system in</td><td>Diploblastic</td></tr>
<tr><td>970.</td><td>Diploblastic have no anus and their digestive system is also called</td><td>Sac like digestive system</td></tr>
<tr><td>971.</td><td>In triploblastic, layers appear through embryonic life and in adult they are</td><td>represented by the organs</td></tr>
<tr><td>972.</td><td colspan="2">Three layers of triploblastic:
<table>
<tr><th>S.No</th><th>Layer</th><th>Organ formed from layer</th></tr>
<tr><td>1</td><td>Ectoderm</td><td>Skin & nervous system</td></tr>
</table></td></tr>
</table>

	2	Endoderm	Digestive system & associated glands
	3	Mesoderm	Skeletal, excretory, reproductive and all other body organs and systems

973.	Acoelomates are those animals which do not contain	Coelom or body cavity
974.	Instead of parietal and visceral layer, in Acoelomates the mesoderm forms loose tissues called	Mesenchyma or parenchyma
975.	In Pseudocoelomates the cavity is	Not a true body cavity
976.	The Pseudocoelomatess the cavity develops from blastocoel not from	Archenteron

Parazoa	**ETEA-2016**				Phylum Porifera
Metazoa or Eumetazoa	Diploblastic	Radiata			Phylum coelenterates
	Triploblastic	Bilateria	Acoelomates		Phylum Platyhelminthes **ETEA-2019**
			Pseudocoelomates		Phylum Aschelminthes
			Coelomates	Protostomes (first mouth)	Phylum Molluska
					Phylum Annelids
					Phylum Arthropoda
				Deuterostomes (anus first)	Phylum Echinodermata
					Phylum Chodata

977.	Animals of Phylum Echinodermata are are bilatrial symmetrical in their larval stage and adults gain	Radial symmetry
978.	Coelomic epithelium is absent in	Pseudocoelomates
979.	pseudosoelom has no relation with Reproductive system and	Excretory system
980.	Coelomates are those animals in which true body cavity or coelom is	Present
981.	Daughter cell lie on the top of previous cell	Radial cleavage
982.	If embryonic cells are separated, each one will develop into a complete organism	fate of cell is indeterminate
983.	Radial cleavage and fate of cell is indeterminate are properties of	Deutrosomes
984.	Phylum ctenopora is also called "minor pyla" which contain Ignored animals or	less in numbers
985.	The categories of Phylum can be sub divided by using prefix sub or super except for	Genus
986.	The smallest and basic unit of classification is	Species
987.	System of naming of animal is called	Binomial nomenclature
	PHYLUM PORIFERA	
988.	The pores of phylum porifera are called	Ostia
989.	Body of porifera is tubular and open anteriorly end called	Osculum
990.	Walls of porifera are made of two layers, the outer Pinacoderm and the inner	Choanoderm
991.	Pinacoderm is made of flattened cells called	Pinacocytes
992.	Choanoderm is made of flagellated collar cells called	Choanocytes

993.	Porifera contain some special mobile cells called amoebocytes which produce	Ova & sperm
994.	The poriferas dependence of dead decaying organic matter is	80%
995.	All sponges have skeleton except class	Mycospongida
996.	Sponging is a form of protein in the form of	Fibers
997.	Sponges are found in warm water of	Mediterranean sea
998.	Sponges are used to absorbs	Sound waves
999.	**Examples of sponges are:**	

Sycon	Marine sponge	
Spongilla	Fresh water sponge	**ETEA-2008**
leucolsenia	Tubular marine sponge	**ETEA-2010**
Wuplectella or venus flower basket	Siliceous sponge	**ETEA-2018**

1000.	Predatory sponges are found 5000 m beneath the sea and belongs to	Family Cladorhizidae
	PHYLUM COELENTERATEA (CNIDARIA)	
1001.	Word coelenterate is derived from Greek: Kolios means hollow & enteron means	Intestine
1002.	Coelenterates are also called cnidarian due presence of cnidocytes cells which	Rise to nematocyst
1003.	Majority of Coelenterates are marine but some also live in	Fresh water as well
1004.	The cells of endoderm in Coelenterates are specialized for	Digestion
1005.	In coelenterates mouth are surrounded by tentacles which bear organ of effence and defence called	Nematocyst **ETEA-2010**
1006.	In coelenterates the enzymes are produced from	Glandular cells of endoderm
1007.	In coelenterates special feeding zooids which are called	Gastrozoids
1008.	The function of gastrozoids are to nutrition to	Whole colony
1009.	Gastrozoids are found in obelia & animals of order	Siphonophora
1010.	Coelenterates are	Carnivorous
1011.	In coelenterates the digestion are both	Intra and extracellular **ETEA-2010**
1012.	Portuguese man of war are commonly known as	*Physalia pelagica* **ETEA-2016**
1013.	The speed of *Physalia pelagica* is	12.1 cm/sec
1014.	The fast moving coelenterate is	Jelly fish (just-propulsion method)
1015.	The very common characteristics of coelenterates are the presence of Polymorphism and alternation of generation or	Metagenesis **ETEA-2012**
1016.	Two major types of zooids are	Polyps(tube) & Medusa(umbrella) **ETEA-2012**
1017.	In obelia, the polyph form, called blastostyle reproduce into a seuser shape	Medusae

1018.	**Coral reefs are of four types:** **S.No** / **Types** 1 / Fringing reef or shore reef / Simplest 2 / Platform reef or table reef / Without a lagoon 3 / Barrier reef / No connection with land 4 / Great Barri cer reef	
1019.	A strip of sea water is always present between barrier reef and and main land called	Lagoon
1020.	The lagoon may be	180 feet to 3 miles wide
1021.	The length of the great Barri cer reef of Australia is	1250 miles (2012 km)
	PHYLLUM PLATYHELMINTHES	
1022.	Word Platyhelminthes was coined by Gaugenbaur (1859) which means	Flat worms
1023.	The bodies of Platyhelminthes are unsegmented or Superficially segmented &	True segmentation is absent
1024.	In Platyhelminthes cilia are present in free form while cuticle is present in	Parasitic form
1025.	In Platyhelminthes, organs of attachment are present in the form of	Hooks and suckers
1026.	In earth worm, mucin and energy are produced by	Pharyngeal mass
1027.	Two chamber heart are present in	Fish **ETEA-2008**
1028.	The term "bivalent" means	2 chromosomes
1029.	Kangaroo is	Homeothermic
1030.	Polymerization is a process of producing high molecular weight compound	From Monomers
1031.	In Platyhelminthes, in free from D.S is well developed while it is poorly developed in Class Trematoda and absent in	Class Cestoda **ETEA-2010**
1032.	Thin elastic wall with nucleus and cavity containing cilia flickering through flame	Flame cell **ETEA-2016**
1033.	In Platyhelminthes flame attached with duct which open with	Excretory pore
1034.	In Platyhelminthes, the nervous system consist of pair of anterior cerebral ganglion and ventral ganglion connected by	Nerve ring and 1/3 nerve cords
1035.	Platyhelminthes are	Hermaphrodite **ETEA-2011**
1036.	Muscular system is well developed in free form of	Platyhelminthes
1037.	In Platyhelminthes, reproductive system is well developed with gonads, ducts	And copulatory organs
1038.	Egg are small with yolk and are produced in large numbers in	Platyhelminthes
1039.	Fertilization is always internal in	Platyhelminthes
1040.	In Platyhelminthes, the fertilized egg grow into new individual as in	Planaria and tape worm
1041.	In Platyhelminthes different type of larvae are formed in	Liver fluke
1042.	In Platyhelminthes regeneration ability is present in class	Tubellaria (planaria)

1043.	In Platyhelminthes regeneration ability is absent in class Trematoda(liver flukes)	& Cestoda (tape worms)
1044.	All the members of Platyhelminthes are	Solitary
1045.	Trematoda(liver flukes) & Cestoda (tape worms) are parasite so regeneration	Ability is absent
1046.	The total number of species of Platyhelminthes are	15,000
1047.	The length of planaria is	10 mm
1048.	The length of tape worm is	16 feet or 5 meter
1049.	The tape worm found in human is	Taenia saginata
	PHYLUM ASCHELMINTHES (NEMATODA)	
1050.	According to Hegner and Engemann, phylum Aschelminthes consist of Five Classes Gastrotricha, rotifera, kinorhyncha, nematode and	Nematomorpha
1051.	The spiny, marine and microscopic organisms are called	Kinorhyncha
1052.	The word nematode is of Greek origin which means	Thread
1053.	The body of nematodes are Non segmented and	Tapering at both ends
1054.	The fluid contained in the body of the nematodes work as	Blood
1055.	Excretory consists of two longitudinal canals on each side which opens on ventral side behind the mouth is about	Nematodes
1056.	The nervous system consist of nerve ring which encircles the pharynx and send its branches to body parts	Nematodes nervous system
1057.	In nematodes muscles are arranged in four longitudinal bands while circular muscle are	Absent
1058.	male is smaller than female of	Ascaris
1059.	Power of regeneration is absent in	Nematodes
1060.	Most nematodes are white or cream but ascaris is reddish tinge because of	Dissolved haemoglobin
1061.	In male of nematode the testes is long, coiled thread with seminal vesicle and open in rectum by short	Ejaculatory duct
1062.	In female nematodes the two uteri unite posteriorly forming vagina which on ventral surface at the female genital aperture situated in the	Middle line
1063.	The most common animal of phylum nematode is	*Ascaris lumbricoides*
1064.	The length of female *Ascaris lumbricoides* is	8 – 16 inches
1065.	The length of male *Ascaris lumbricoides* is	6 – 12 inches
1066.	The past of male ascaris is curved with two spine like structures called	Penial setea
1067.	Female ascaris may contain 27 million eggs at one time at lay about	2 lac eggs per day
1068.	*Enterobius vermicularis* is human parasite commonly known as	Pinworm
1069.	The parts of body where *Enterobius vermicularis* lives are	cecum, colon & appendix
	PHYLUM MOLLUSKA	
1070.	The word mulluscus is been derived from Latin word "molluscus" means	Soft
1071.	The largest phylum of invertebrates is	Arthropoda **ETEA-2009**
1072.	The second largest phylum of invetebrates are Phylum mollusks	Phylum mollusks

1073.	The number of species of phylum mollusks are	80,000 and fossils are 35,000
1074.	Most mollusks are protected by shell of calcium carbonate secreted by	Mantle
1075.	In some mollusks the shell may be internal, external are	Completely absent
1076.	The body of mollusks can differentiated into head, dorsal visceral hump and	Ventral muscular foot
1077.	The space between the body in mollusks are called Mantle cavity in which	Kidney and anus opens
1078.	Mollusks respire through gills present in the	Mantle cavity
1079.	Mollusks have respiring tongue called	Radula
1080.	The blood mollusks are colourless and contain WBCs and have no	Respiratory pigments
1081.	Nervous system consist of three pairs of orange colour ganglia connected by	Nerve cords in mollusks
1082.	The testes are white and ovaries are reddish and fertilization is external in	Mollusks
	PHYLUM ANNELIDA	
1083.	The word annelida is of Greek origin annelus means	Little ring
1084.	The animals of phylum annelids are called annelids because they have	Metamerically Segmented body
1085.	Annelids have	Closed circular system
1086.	The colour of annelids blood is red due to	Haemoglobin dissolve in plasma
1087.	Excretory system of annelids consist of metamerically arranged	Nephridia
1088.	Nephridium opens to the exterior through	Nephridiopore
1089.	Locomotary organs are setae in earthworm and parpodia in	Neries(gills under parapodia)
1090.	The body of annelids and arthropods are covered with	Cuticle
1091.	Mostly annelids are	Hermaphrodite **ETEA-2015**
1092.	Locomotory organs in earthworm	Satae
1093.	Locomotory organs in Neries	parapodia
	PHYLUM ARTHROPODA	
1094.	The word arthropoda are derived from two Greek words, Arthros means jointed and Podos means	Limbs or legs
1095.	Body of arthropoda are differentiated into head, thorax and	Abdomen
1096.	The blood of arthropos are haemolymph because it does not contain oxygen	And carries food only
1097.	Respiration in arthropods in aquatic life takes place through gills and in	Terrestrial through trachea
1098.	Trachea communicate with exterior in arthropods by	Spiracles
1099.	Arachinids(scorpion & spider) are group of arthropods which have	Book lungs **ETEA-2014**
1100.	In arthropods the excretion occur either malpighian tubule in insects and	Green/coxal gland in crustacean **ETEA-2015**
1101.	Sexual dimorphism is generally present in	Arthropodes
1102.	A pair of cerebral ganglia(brain) connected to a double nerve cord in	Arthropods

1103.	All the changes occurring from the fertilization of an egg to the formation of an adult are collectively called Metamorphosis which occur in	Arthropods
1104.	During metamorphosis a larva undergoes a series of changes called	Ecdysis or moultuing
1105.	The stage between ecdysis are called	Stadia **ETEA-2014**
1106.	The stadia attained by insect larva in any stadium between two ecdysis is	Termed as instar
1107.	The final instar is the	Adult or imago
1108.	On the basis of metamorphosis the arthropods are divided into three groups	

S.No	Types	Metamorphosis	Examples
1	Ametabola	No metamorphosis	Collembolan & other wingless insects
2	Hemimetabola	Incomplete metamorphosis	Cockroaches & wasps and other insects
3	Holometabola	complete metamorphosis	Flies, butterflies, moths, beetles e.t.c

1109.	The connecting link between annelids and arthropods are	Onychophora
1110.	Onychophora, a group of arthropods consist of	70 species classifies in 10 genera

PHYLUM ECHINODERMATA

1111.	The name of Phylum echindermata are derived from two Greek words : echinos means spine and	Derm means skin
1112.	Echinoderms are	Exclusively marine
1113.	Echinoderms are bilaterally symmetrical in larval stage and radial symmetrical	As adults **ETEA-2014**
1114.	In echinoderm the water vascular system including tube feet are used for	Locomotion
1115.	A typical circulatory system present in echinodrerms also called	Heamal system
1116.	Digestive system of echinoderms consist of 10 pairs of pyloric caecae, the	Digestive glands
1117.	All the echinoderms including the starfish are	Carnivores
1118.	In echinoderms fertilization is external but some are	Viviparous
1119.	In echinoderms respiration occurs through a variety of structures e.g	

Echinoderms	Structures
Starfish	Papule **ETEA-2008**
Sea urchins	Peristomical gills
Sea urchins	Cloacal respiratory tract
Brittle star	Genital bursae

1120.	In echinoderms amoebocytes absorb wastes and remove them by	Rectal caecae
1121.	In echinoderms, Nervous system consist of radial ganglia containing nerve cords & sense organs	Are poorly developed
1122.	In echinoderms, the radial nerve cords ends in a pigmented mass known as	Eye

1123.	A single arm with a part of central disc regenerate into a	New animal
1124.	Echinoderms have no parasitic member and all are marine, bilaterally symmetrical in larval stage and radial symmetrical in adult stage which seem as	Secondary phylogenetic origin
1125.	Brittle star is brittle because it can break off its	Arm when injured
1126.	Energy for muscular activity in echinoderms and chordates are available by	Creatinine phosphate
1127.	Pattern of cleavage of fertelizíation egg, formation of mesoderm, anus, mouth and coelom are similar in	Echinochordates and hemichordates
	PHYLUM HEMICHORDATA	
1128.	Echinoderms and chordates are evolved from	Common ancestors
1129.	Hemichordates are worm like animals which are found in	Shallow ocean bottom
1130.	Hemichordates are closely related to chordates but similarities with	Echinoderms
1131.	Hemichordates body are divided into three regions, anterior protosome, middle mesosome and Posterior metastome or	Proboscis, collar & trunk
1132.	Body wall of hemichordate are made of unicellular epidermis and	Mucus secreting cells
1133.	Digestive system is complete and consist of long straight tube in	Hemichordates
1134.	Circulatory system is composed of dorsal and ventral vessel	Hemichordates
1135.	Gills slit are present behind the collar which perform function of respiration, in	Hemichordates
1136.	A single glomerulus connected to blood vessels constitutes excretory system of	Hemichordates
1137.	Brain occur in middle mesosome and main nerve tracts are present in	Mid dorsal and mid ventral line
1138.	Tornaria larva resembles to	Bipinnaria larva
	PHYLUM CHORDATA	
1139.	The word chordate are derived from Notochord where chord means	Thread or rope

1140. **Basic characteristics or chordate characteristics are as follow:**

1. A dorsal stiff rod is found in all chordates called Notochord.
2. In higher chordates notochord are replaced by Vertebral column.
3. All chordates have central, dorsal, hollow nervous systems which lies above the notochord.
4. All chordates develop gills slits which sometimes called Perforated Pharynx at least in the embryonic stage.
5. Perforated pharynx are functional in fishes and amphibions.

1141. **Phylum chordate are classified into two divisions and three sub phylums:**

Divisions	Sub phylum	Groups	Classes
Protochordata or Acrania	Urochordate	----------	
	Cephalochordate	----------	
Craniata	Vertebrata	Pisces (fishes)	Cyclostomata/ Agnatha
			Condrichthyes/61artilaginous fishes
			Osteichthyes / bony fishes
		Amphibia	
		Reptilian	
		Aves (Birds)	

			Mammalia	

1142.	In Protochordata or Acrania, skull is	Absent
1143.	In Craniata, skull is	Present
1144.	Notochord is present in free swimming larvae and absent in adults in	Urochordata
1145.	Subphylum Urochordata are also called tunicate because they contains shealth called tunic which is made of	Tunicin (related to cellulose)
1146.	The body of Cephalochordate are in form of long rod hence called	Sea lancelet
1147.	Hollow cord runs through out the body in	Cephalochordate
1148.	Hooves, Hemoglobin and enzymes are	Proteinous
1149.	Cephalochordate are Filter feeders and it's example is	Branchiostoma(amphioxus)

SUB PHYLUM VERTEBRATA

115(	Vertebrates are divided into Five groups /super classes (Pisces, Amphibia, Reptilia, Aves or Birds, Mammalia)	PARAM (formula)

CLASS PISCES

1151.	The largest group of vertebrates are fishes , which constitution is	48%
1152.	The number of living fishes are more than	29,000

1153.

	Cyclostomata	Chondrichthyes	Osteichthyes
Skeleton	Fibrous cartilage	Cartilage	bones
Body	Long eel like	Streamlined	
Scales	Lacked paired fins/appendages	covered with placoid scales	Body covered with scales **ETEA-2015**
Mouth	circular	Ventral	Jaw with teeths
Skin	naked without scales	covered with placoid scales	
Gills by operculum are	Not Covered	Not Covered	Covered **ETEA-2013**
Swim bladder	Absent	Absent	Present
	Parasitic	Carnivores	
	Marine	Aquatic	

Class cyclostomata or Agnatha:

1154. Jawless fishes having circular mouth
1155. Long eel like body
1156. Skin is naked without scales
1157. Lacked paired fins or appendages
1158. Seven pair of gills are found which opens to outside separately
1159. Gills not covered with operculum

Class chondrichthyes ;

1160. Skeleton is of lower grade means of fibrous cartilage
1161. They are parasitic and have no stomach
1162. Mouth is adopted for sucking

1163. e.g: Petromyzon merinus (lamprey) and Maxile glutenosa (hag fish)
1164. Skeleton made of cartilage
1165. Streamlined bodies
1166. All live in marine environment
1167. Mouth is ventral
1168. Body is covered with placoid scales which are small and numerous and give the skin a touch of sand paper
1169. Circulatory system is with many pairs of aortic arches
1170. Heterocercal tails in which dorsal lobe is longer than ventral lobe
1171. Respiration takes place through 5-7 pairs of gills
1172. Gills are not covered with operculum and open separately
1173. Most are carnivorous
1174. Swim bladder is absent
1175. Sexes are separate and most of them are viviparous
1176. E.g: sharks, rays, skates and chimaeras

Class osteichthyes;

1177. Skeleton made of bones
1178. Inhibits all types of aquatic habitats
1179. Body covered with scales such as (**1**.Median fins: dorsal fin, anal fin, caudal fin. **2. Paired fins:** pectoral and pelvic fins)
1180. Swim bladder is found which are hydrostatic in function and provide buoyancy
1181. Respire through gills which are covered with operculum
1182. Jaws may be with or without teeth
1183. Brain is developed with ten pair of cranial nerves
1184. Blood contain haemoglobin and its colour is red
1185. Sexes are separate but some are external

1186.	1. Majority of bony fishes are oviparous but some are ovoviviparous and viviparous	
1187.	Fishes of subclass Dipnoi are called Lung fishes which are only	3 live in this world
1188.	Dipnoi fishes when aestivate in holes they respire through extremely	Vascularized swim bladder
1189.	In rainy season dipnoi came out of holes and respire through	Gills
	CLASS AMMPHIBIA	
1190.	The word amphibian is derived from latin word Amphi which means	Both
1191.	Amphibian are considered on border line of both	Aquatic & terrestrial
1192.	Transition from aquatic life to terrestrial is clearly indicated by	Amphibian
1193.	Certain fin fishes of dipnoi came to live in shallow water in period of	Devonian
1194.	Amphibia are poikilothermic and fertilization is	External
1195.	Tadpole larva respire through gills and swim with the help of	Laterally flattened tail
1196.	After developing gills during metamorphosis, amphibian came out	Of water
1197.	In some amphibian, gills are retained through out the life such as in	Necturus
1198.	Amphibians have tetrapods having two pectoral two pelvic limbs, some are legless like	Caecilians
1199.	Amphibian feet are webbed and without	Claws

	Perissodactyla	Hose, zebra	Odd-toed hoofed mammals
	Artiodactyla	Cow, goat, deer	Even-toed hoofed mammals
	Primates	Ape, man, monkey, lemur tarsier	Highest brain development

MIX		
1290.	Tissue organization is missing in	Protozoa
1291.	Tissue organization in present in	Metazoan
1292.	Round worms, which have body cavities partially lined with mesoderm are classified as	Pseudo coelomates
1293.	Daphnia belongs to	Crustacean
1294.	Feathers of birds are waterproof due to secretion of	preen gland
1295.	In fishes the heart pumps	Impure blood to gills
1296.	Nematocysts are found in	Coelenterates
1297.	Teeth adopted for cutting are	Incisors
1298.	The main excretory organ in cockroach is	Malpighian tubes **ETEA-2009**
1299.	The number of legs in scorpion are	Four fairs
1300.	Vertebrate with one occipital condoyle is	Pigeon
1301.	The existence of an organism in more than one for is known as	Polymorphism
1302.	In a pond ecosystem profundal none is missing because	Pond is shallow
1303.	Spiny ant eaters	Lay eggs
1304.	Protein is converted to peptone by	Trypase
1305.	Sudden as well as rapid mitosis leads to	Cancer
1306.	Organs of locomotion in earth worm are	Setea **ETEA-2009**
1307.	Plantigrad locomotion is found in	Man
1308.	Ammonoid mollusks are dominated on earth during period of	Triassic and Jurassic
1309.	Prothallus is	Hermaphrodite
1310.	Ferns have prostrate plant body that bears various sporangia on leaves called	Fronds
1311.	Wings of a bird and fore limbs of man are	Homologous
1312.	The association in which an organism get advantage and the other get suffers are	Parasitism
1313.	The modern horse is called	Equus
1314.	Important characteristic of coelenterates	Polymorphism **ETEA-2014**
1315.	In Platyhelminthes, regeneration ability is present in class	Tubellaria(planaria)
1316.	In Platyhelminthes, regeneration ability is absent in class	Trematoda(liver flukes) and Cestoda(tape worms)
1317.	Echinoderms have strong power of	Regeneration
1318.	In Earth worm 4-5 pairs of heart present called	Pseudo-hearts **ETEA-2013**
1319.	Metamorphosis occur in	Arthropodes
1320.	Urochordates are also called tunicate as theyhave sheeth called tunic which is made	Of tunicin

1235.	both bird and mammal are evolved from	reptilian ancestors
1236.	The connecting link between reptiles and birds are	Archaeopteryx

Characteristics of Birds:

1237. Fore limb with three clot fingers
1238. Homoeothermic means cold blooded
1239. Body covered with epidermal exoskeleton
1240. Body is fusiform(streamlines)
1241. Forelimbs are modified to wings
1242. The aquatic bird posses webbed feet
1243. Skin without gland except uropygial gland at the base of tail
1244. Hollow bones
1245. Sternum is keel
1246. Jaw without teeth and form beak
1247. Digestive system has a crop to store and the gizzard to grind it
1248. Blood is red due to haemoglobin contained in oval, nucleated RBCs
1249. Vocal cords are not present in larynx but special sound box is present in junction of trachea and bronchi
1250. Lungs are provided with extra air sacs which extends to viscera
1251. Eyes are provided with third eyelid, the nictitating membrane
1252. A rudimentary pinna is present outside the external auditory opening
1253. Excretory organs are metanephric kidneys, ureter open in the cloaca and nitrogenous wastes are excreted in the form of semisolid urates
1254. Females have only left ovary and oviduct is well developed **ETEA-2016**
1255. Females have shell secreting shell

1256.	Flightless birds are also called	Running birds
1257.	Flightless birds have not hollow bones and not keeled sternum and feathers are	Irregularly arrangement
1258.	Flying birds have strong wings for fight and	Keeled sternum
1259.	Ostritch, emu, kiwi, cassowary, penguin are examples are	Flightless Birds
1260.	Pigeon, sparrow, parrot, eagle, owl are examples of	Flying birds
	CLASS MAMMALIA	
1261.	The characters which placed mammalian on top of evolutionary tree is due to	Brain & nervous system development
1262.	Ancestors of mammals lived with reptiles in Jurassic period and are called	mammal like reptiles
1263.	Fossil animal recovered from texas which has 50% mammalian character is	Varanope
1264.	The ancestors of mammals were of the size of mice and lived on	Trees **ETEA-2010**
1265.	Mammals become dominant in	Cenozoic period
1266.	Mammals have two pairs of	Pentadactyle limbs
1267.	In mammals brain is well developed with two large cerebral hemisphere and	12 pairs of cranial nerves
1268.	Only left aortic arc is present in	mammals
1269.	Besides mammals, diaphragm is present in	crocodiles
1270.	In mammals, blood is red due to presence of haemoglobin in biconcave	Non nucleated RBCs

1271.	In mammals the embryo is kept inside the female body for development and this process is called	gestation
1272.	Mammals are also called	Amniotes
1273.	**Mammals are divided into three subclasses:** 1. Prototheria or montremata 2. Metatheria or marsupials 3. Eutheria or placentalia	
1274.	Prototheria or montremata are most primitive animals and are also called	Egg lying animals **ETEA-2008**
1275.	Calass Metatheria / Marsupials are also called	Pouched mammals
1276.	There is no connection between body of mother and foetus in	Prototheria / montremata
1277.	The Prototheria or montremata animals are rightly be called as	Ovo-viviparous
1278.	Young birth are in immature form and nourished by treats present on ventral side of the body in females until they enough grow, are about	Prototheria / montremata
1279.	Prototheria are restricted to Australian Tasmania, New Guinea and their	Neighbouring island
1280.	In adults teeth are absent and beak are found in	Prototheria / montremata
1281.	The body temperature of Prototheria / montremata are about	25 – 28 °C
1282.	On ventral side of female of Metatheria / Marsupials bear a pouch called	Marsupium
1283.	There is no placenta formation but teats of mammary gland are present in pouch in	Metatheria / Marsupials
1284.	Marsupials are also restricted to Australian region except	American opossum
1285.	Their body is covered with hairs and are terrestrial and	Arboreal (live in trees)
1286.	Eutheria or placentalia are also called	Placental animals
1287.	In Eutheria or placentalia, cloaca is absent and urino-genital duct opens	Indefinitely of rectum
1288.	Eutheria are divided into	Sixteen orders
1289.		

Subclass	Examples		
Prototheria / montremata	Duck billed platypus (*Ornithorhynchus*) Spiny ant eater (*Tachyglossus*)		
Metatheria / Marsupials	Kangroo, opossum & Koala **ETEA-2019**		
Eutheria / placentalia	Insectivore	Moles & shrews	
	Chiroptera	Bats & flying squirrels	Flying mammals **ETEA-2010**
	cetecea	Whale, dolphin, porpoises, sea loin	Aquatic mammals
	Carnivore	Dog, cat, loin, wolves	Flesh eating
	Rodentia	Rate, mice, squirrel, beavers	Cutting habit
	Edentate	South American anteater, sloths	No or poorly teeth
	Pholidata	Penguin	Body with overlapping large & horny scales
	Proboscidea	Elephant	Long trunk

	Perissodactyla	Hose, zebra	Odd-toed hoofed mammals
	Artiodactyla	Cow, goat, deer	Even-toed hoofed mammals
	Primates	Ape, man, monkey, lemur tarsier	Highest brain development

MIX		
1290.	Tissue organization is missing in	Protozoa
1291.	Tissue organization in present in	Metazoan
1292.	Round worms, which have body cavities partially lined with mesoderm are classified as	Pseudo coelomates
1293.	Daphnia belongs to	Crustacean
1294.	Feathers of birds are waterproof due to secretion of	preen gland
1295.	In fishes the heart pumps	Impure blood to gills
1296.	Nematocysts are found in	Coelenterates
1297.	Teeth adopted for cutting are	Incisors
1298.	The main excretory organ in cockroach is	Malpighian tubes **ETEA-2009**
1299.	The number of legs in scorpion are	Four fairs
1300.	Vertebrate with one occipital condoyle is	Pigeon
1301.	The existence of an organism in more than one for is known as	Polymorphism
1302.	In a pond ecosystem profundal none is missing because	Pond is shallow
1303.	Spiny ant eaters	Lay eggs
1304.	Protein is converted to peptone by	Trypase
1305.	Sudden as well as rapid mitosis leads to	Cancer
1306.	Organs of locomotion in earth worm are	Setea **ETEA-2009**
1307.	Plantigrad locomotion is found in	Man
1308.	Ammonoid mollusks are dominated on earth during period of	Triassic and Jurassic
1309.	Prothallus is	Hermaphrodite
1310.	Ferns have prostrate plant body that bears various sporangia on leaves called	Fronds
1311.	Wings of a bird and fore limbs of man are	Homologous
1312.	The association in which an organism get advantage and the other get suffers are	Parasitism
1313.	The modern horse is called	Equus
1314.	Important characteristic of coelenterates	Polymorphism **ETEA-2014**
1315.	In Platyhelminthes, regeneration ability is present in class	Tubellaria(planaria)
1316.	In Platyhelminthes, regeneration ability is absent in class	Trematoda(liver flukes) and Cestoda(tape worms)
1317.	Echinoderms have strong power of	Regeneration
1318.	In Earth worm 4-5 pairs of heart present called	Pseudo-hearts **ETEA-2013**
1319.	Metamorphosis occur in	Arthropodes
1320.	Urochordates are also called tunicate as theyhave sheeth called tunic which is made	Of tunicin

Phylum	Examples
Phylum porifera	Sycon(marine), Spongille(fresh water), ETEA-2014 Leucoselenia(marine), euplectella (flower basket)
Phylum Coelenterata	Hydra, Obelia, Jelly fish, Sea anemone, Corels Portugese man of war ETEA-2015
Phylum Platyhelminthes	Planaria(Dugesia), liver flukes(fasciola hepatica), tape worms(taenia solium)
Phylum Aschelminthes Or nematode	Ascaris lumbricoides Enterobius vermicularis(pin worm)
Phylum Mullusca	Garden snail(Helix aspersa), Slug(Limax maximus), freshwater mussel (Anodonta grandis), Marine mussel(Mytilus edulis), Oyester(Ostrea lurida), Squid(Loligo pealii), Cuttle fish(Sepia officinalis), Octopus(Octopus bairdi) ETEA-2013
Phylum Annelida	Earthworm(Pheritema posthuma), ETEA-2014 Medicinal leech(Hirudinaria medicinallis), Neries
Phylum Echinodermata	Brittle star(ophiothrix fragilis), sea urchin(arbacia punctulata), sea cucumber(thyone briareus)
Phylum hemichordate	Acron worm(Saccoglossus kowalevskii) and balanoglosus sp.

1321.	Cephalochordates are also called	Sea lancelet
1322.	In "Deovonian" period certain lobe fin fishes of group "Dipnoi" came to live in	Shallow water
1323.	Two tubes are present in amphibian which are	Truncus arteriosus & sinus venosus
1324.	Frog,toad(tailess), necturus(tailed), salamander, newt	Class amphibians
1325.	In reptiles teeth are present except in	Turtle and tortoise
1326.	Special sound box is present in birds injunction of	Trachea and bronchi
1327.	Birds are amniotes and have all the four extra embyionic membranes	Amnion, Chorion, Yolk sac, Allontoise
1328.	A fossil animal (named varanope) has been recovered ferom texas which has 50%	Mammalian character

1329.	Mammals become dominant in	Cenozoic period
1330.	Reptiles flourished in Mesozoic period	225-65 million years back
1331.	Modern reptiles are descendents of the Dinosaurs of jurrasic period195-136 million years back and Creraceous period	136-65 million years back
1332.	In arthropods excretion takes place in insects in	Malpighian tubules **ETEA-2012**
1333.	In arthropods excretion takes place in crustacean in	Green gland or coxal gland
1334.	Daphnia belongs to class	Crustacean
1335.		

Organism	Larve
Echinodermata	Bipinnaria
some annelids	Trochopora
Hemichordata	Tornaria
Mullusca(balanoglossus)	Glochidiam larva **ETEA-2019**
Amphibian	Tadpole

1336.	Circulatory system is of open type in a	phylum Arthropoda
1337.	Grasshopper, spider and scorpion belongs to	phylum Arthropoda
1338.	Of human body leg muscles are not	Vestigial
1339.	In hydra, planaria and earth worn the exchange of gases occur through the	General body surface
1340.	Tape worm has no	Digestive tube
1341.	Liver fluke, planaria and round worm have	Digestive system
1342.	Extra cellular digestion occurs in	Grasshopper & Frog
1343.	The oesophagus of earthworm open in	Intestine
1344.	Alveoli are absent in	Birds **ETEA-2009**
1345.	Sperm remain viable for years within female genital track of	Bat
1346.	Opossum belongs to	Metatheria **ETEA-2009**
1347.	Memetamerism is found in	Earth worm
1348.	Penguin is swimming	Bird
1349.	Extra embryonic membranes i.e. Amnion, Yolk sac, Chorion, and Allontoise are present in	Reptiles **ETEA-2016**
1350.	Cheatopterus includes in	Protosome
1351.	Book lungs are present in spider and scorpion which are	Arthropods **ETEA-2014**
1352.	All cell membranes are composed of	Lipo protein
1353.	Crocodile heart is of	Four chambered
1354.	Chest muscles are especially adopted for	Flight
1355.	Muscles, Gonads, blood vessels are derives from	Mesoderm
1356.	Liver is not derived from	Mesoderm
1357.	The number of nitrogenous bases common in both DNA and RNA are	Three
1358.	Influenza, AIDs, Hepatitis, Herpes, Poliomyelitis, leaf curl	Viral diseases

<table>
<tr><td></td><td>diseases</td><td></td></tr>
<tr><td>1359.</td><td>The only human diseases known to be caused by viroid is</td><td>Hepatitis D</td></tr>
<tr><td>1360.</td><td colspan="2"><table>
<tr><th>Organisms</th><th>Chambered</th></tr>
<tr><td>Pisces (bony fishes)</td><td>2 chambered (1A 1V)
ETEA-2010</td></tr>
<tr><td>Mullusca</td><td>2-3 chambered (1or2A & 1V)
ETEA-2016</td></tr>
<tr><td>Amphibian</td><td>3 chambered (2A 1V)</td></tr>
<tr><td>Reptiles</td><td>4 chambered (2A 2V)</td></tr>
<tr><td>Birds</td><td>4 chambered (2A 2V)</td></tr>
<tr><td>Mammals</td><td>4 chambered (2A 2V)</td></tr>
</table></td></tr>
<tr><td>1361.</td><td>The % of arthropods in animal kingdoms</td><td>75%</td></tr>
<tr><td>1362.</td><td>Middle ear is not present in fish while internal ear is</td><td>Present</td></tr>
<tr><td>1363.</td><td>The mesodermal cell which give rise to urinary system in frog is</td><td>Nephrotome</td></tr>
<tr><td>1364.</td><td>The digestion in Hydra and Planaria is both</td><td>Intra and extra cellular
ETEA-2005</td></tr>
<tr><td>1365.</td><td>Rabbits, Pabulus, Rats, Grasshopers and Grasses constitute a</td><td>Community</td></tr>
<tr><td>1366.</td><td>Size of flower of chrysanthemum may be enlarged by removing</td><td>All floral buds except on</td></tr>
<tr><td>1367.</td><td>Genome of HIV consist of single strand of</td><td>DNA</td></tr>
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