UNIT - II REPTILIA, AVES AND MAMMALIA

•	REPTILIA Reptiles originated from the amphibians of the group -Labyrinthodontia The first true land vertebrates and the first group of terrestrial amniotes are -Reptiles The term "Reptilia" originated from a Greek word meaning - Creeping The first group of land vertebrates to lay eggs on land are the - Reptiles Reptiles originated in the era called - Palaeozoic era Golden age of reptiles is the era called - Mesozoic era Reptilian population became faded in the - Coenozoic era Reptiles originated during the - Carboniferous period of the palaeozoic era Study of amphibians and reptiles is called	• • •	The function of temporal fossae is -Attachment of temporal muscles Number of bones present in each half of the lower jaw in reptiles is - 6 'T' shaped interclavicle (episternum) is present in the pectoral girdle of Reptiles Type of vertebrae found in reptiles - Procoelous Vertebral column is divided into - Cervical, thoracic, lumbar, sacral and caudal regions First two cervical vertebrae are - Atlas and axis Number of sacral vertebrae is - 2 Abdominal ribs are also called - Gastralia (not true ribs) Coelom consists of pericardial cavity and pleuro peritonial cavity. Dention in reptiles is - Homodont, acrodont or polynbyodont
•	Largest reptile – <i>Crocodylus porosus</i> – (Salt water crocodile–20.6 ft, 1900 kg) Smallest reptile – <i>Sphaerodactylus ariasae</i> – (Jaaragua Sphaero(Dwarf Gecko -16mm) GENERAL CHARACTERS : Reptiles are – Poikilothermic animals The skin is dry without any glands in – Reptiles The body of these animals is covered by dry, cornified epidermal scutes or scales – Reptiles	• • •	In reptiles respiratory organs are– Lungs Cloacal respiration takes place in the reptiles commonly called – Turtles Cloaca of a reptile is divided into three parts namely – coprodaeum, urodaeum and proc- todaeum Heart is with two auricles and a partly divided ventricle in – Reptiles Reptiles possessing four chambered heart are the – Crocodiles In reptiles the three arterial trunks, namely left and right systemics and pulmonary trunk di- rectly arise from the
•	Bony plates called osteoderms develop beneath the horny scales in – Crocodiles and some lizards Clawed digits are present in – Reptiles, birds and mammals Nature of skull in reptiles in – Monocondylic Number of temporal fossae present in reptiles – One or two pairs	•	- Ventricle Metanephros kidneys are found in - Reptiles, Birds and Mammals Chief nitrogenous excretory product of terres- trial reptiles is - Uric acid Aquatic reptiles excrete considerable amount of-Ammonia and urea

Skull Type	Sub-Class	Number & Arrangement of Temporal fossae	Principal animal groups
1. Anapsid	Anapsida	Absent. Complete bony roof	Cotylosaurs and Chelonians
2. Synapsid	Synapsida	<u>One pair</u> <i>Infra temporal fossa</i> Post orbital and squamosal bordered above the fossa	<i>Pelycosaurus</i> and Therapsids - Mammal like reptiles
3. Parapsid	Ichthyopterygia	a <u>One pair</u> <i>Supra temporal fossa</i> . Post frontal and Supra temporal bordered below	Ichthyosaurus
4. Eurypsid	Synaptosauria	One pair Supra temporal fossa Post orbital and squamosal bordered below the temporal fossa	Plesiosaurus
	i.Lepidosauria	<u>Two pairs</u> Post orbital and squamosal usually between between the two temporal fossae	<i>Sphenodon</i> , Lizards & snakes
5. Diapsid	ii.Archosauria	<u>Two pairs.</u> Postorbital and squamosal usually meet between the two temporal fossae	Crocodiles

SKULL:		to the sub class – Anapsida
- - Sub •	In diapsid skull, the two fossae are separated by postorbital and squamosal that form – Upper temporal arch or bar Jugal and quadratojugal that found just below the fossae form – Lower temporal arch or bar Class: ANAPSIDA: Order: Chelonia Primitive reptiles with a solid skull roof belong	 Cotylosaurs are – Stem reptiles The group which probably represents an early offshoot from the primitive cotylosaurs is Anapsida Reptiles having a box like exoskeleton forming a bizarre armour are the Chelonians

Chelonians are commonly called	• Smooth leathery shelled fresh water terrapin
- fullies	Sub Class : Synaptosauria
- Chelonians	All the members of Synaptosauria are
Reptiles without temporal fosses in the	-Extinct
skull are _ Chelonians	Type of skull is - Euryapsid
Reptiles having naddle like limbs	Example of Synaptosauria is -
Turtles and Terrapins	Plesiosaurus
Shell is made up of Bony dermal plates	Mammal like reptiles are – Therapsids
and Horny karatinized scales	Therapsids belonged to - Synapsida
Dorsal dome shaped structure of chelo-	• <i>Pelycosaurus</i> belong to the sub-class
nians is called – Caranace	-Synapsida
Neural arches of vertebrae and ribs are	<u>Sub Class : Icnthyopterygia</u>
fised with _ Caranace	Fyringt Type
Ventral flattened plate like structure of	of skull in Ichthyoptervoia is
chelonians is called Plastron	- Paransid Example of
Fusion of clavicles interclavicle and	Icthyoptervgia is
gastralia results in the formation of	– Ichtyhosarus
- Plastron	Sub Class : Lepidosauria
Palate is - Incomplete secondary palate	Skull of the members of Lepidosauria is –
A small blood vessel which connects the	Diapsid
systemic arch with the nulmonay arch is	• The extant lepidosaurians belong to the orders
called	1. Rhynchocephalia 2. Squamata
Reptiles having single pasal opening are	– Roof of diencephalon - Epithalamus
Cholonions	Evagination of epithlamus form -
	Paraphysis, dorsal sac, parietal organ,
Reptiles without sternum are	epiphysis
- Chelonians and snakes	– Epiphysis is also called - Penial organ
Reptiles without teeth (edentate) are	Pineal organ mostly endocrine nature -
– Chelonians	- Parietal organ is also called - Parananial
Jaws are covered with horny sheath in	argan
– Chelonians	– Parietal organ with photoreception -
Cloacal aperture is <u>longitudinal</u> in	Parietal eve
- Chelonians and Crocodiles	– Epiphysis & parietal organ are in -
Cloacal aperture is <u>transverse</u> in	Lampreys
- Snakes, lizards and Sphenodon Mala abalaniana baya Singla pania	– Distinct parietal eye is seen in - Lizards
All chalonions are Ovingrous	& Sphenodon
Marine chelonians are called	– Parietal eye acts as - Third eye
– Turtles	– Parietal organ is absent but epiphysis (as
Fresh water chelonians are called	pineal body) is in - Birds & mammals
– Terrapins	
Terrestrial chelonians are called	<u>Order : Rhynchocephalia</u>
– Tortoises	• The sole living & oldest representative of
Chelone mydas is a – Green sea turtle	Lepidosauria is – <i>Sphenodon</i>
The "leather back turtle" is	• Sphenodon is endemic to
– Dermochelys coriacea	–New Zealand
The largest living turtle is	• The reptile which burrows into soft soil.
- Dermochelys cortacea	emerging only at nights is
Testudo is a land dwelling form called	– Sphenodon
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- Sphenodon (Hatteria) is commonly called – Tuatara
- *Sphenodon* retained many primitive characters and is called

-Living fossil

Characters of *Sphenodon* are –

Body is lizard like

Skin is covered by **granular scales** and mid dorsal row of spine like scales

A well developed **parietal eye** is present in

the parietal foramen

Vertebrae are **amphicoelous**

Posterior cervical and anterior thoracic ribs

bear <u>uncinate processes</u>

Abdominal ribs are present

Copulatory organ is <u>absent</u> Internal fertilization is by – **Cloacal**

<u>apposition</u>

 $\begin{array}{l} \hline Sphenodon \ is - \underline{Oviparous} \\ Dentition \ in \ Sphenodon \ is - \underline{Acrodont \ and} \\ \hline \underline{monophyodont} \\ \hline Sphenodon \ is - \underline{Nocturnal} \\ \hline \end{array}$

Cloacal aperture is <u>transverse</u>

– Sphenodon punctatum

– Sphenodon guntheri.

<u>Order : Squamata</u>

• <u>Lizards</u> and <u>snakes</u> are included in the order

– Squamata

- Most successful reptiles are included in the order Squamata
- Lower temporal arch is incomplete in

– Lizards

• Both the temporal arches are lost in

– Snakes and some lizards

Movable structure of upper jaw of squmates is - Quadrate Articulations of spine are – Zygosphenes

and zygantra

Zygosphenes and zygantra are found in – Snakes and some lizards

• <u>Lizards</u> are included in the suborder

– Lacertilia

• <u>Snakes</u> are included in the suborder

– Ophidia

Sub order : Lacertilla

Characters of Lacertilia are – Limbs and limb girdles are often well developed

EAMCET-SENIOR ZOOLOGY

Caudal autotomy is seen in – Many lizards and some snakes Thoracic vertebrae bear – Ribs Lumbar vertebrae are – Without ribs or with rudimentary ribs Movable <u>eye lids</u> are <u>present</u> Tympanum and middle ear cavity are well developed Tongue is forked in - *Varanus* Sternum, episternum and urinary bladder are present (absent in some) Both the lungs are symmetrical 12 pairs of cranial nerves are present Squamates have - **Parietal eye** Copulatory organs are a pair of hemipenies

• Common wall lizard is

- Hemidactylus

- Self mutilation of body parts is called Autotomy
 - Autotom
- Garden lizard is *Calotes*
- Flying lizard is *Draco*
- Thin parachute like fold called patagium, supported by ribs, is present in *Draco*
- The function of petagium is-Gliding
- A vertical narrow "gular pouch" hangs down from the middle of the throat in

– Draco

- *Phrynosoma* is commonly called – Horned toad of Mexico
- Colour changing lizard is

- Chameleon

- Syndactylous limbs are present in *Chameleon*
 - Eyes exhibit independent movement in *Chameleon*
- The only two poisonous lizard in the world is

– Heloderma suspectum & Heloderma horridum

- Gila monster is *Heloderma suspectum*
- Mexican beaded lizard is *H. horridum*
- *Heloderma*'s poison is –**Neurotoxic**
 - Indian monitor lizard is

- Varanus monitor

- Komodo dragon is- Varanus komodoensis
 - The largest lizard is Komodo dragon
 - Ophiosaurus is commonly called
 - Glass snake or limbless lizard

- Lizard without episternum and sternum *Ophiosaurus*
- Lizard with asymmetrical lungs is *Ophiosaurus*

Sub order : Ophidia

• Snakes are <u>absent</u> in

-New Zealand and Ireland

- Limbs and limb girdles are absent in the reptiles Snakes
- Snakes having vestigial hind limbs are

– Python and Eryx

- Vestigial hind limbs are in the form of small protruberances in–*Python*
- Snakes move with the help of

- Ribs attached to muscles

- The process of casting off of the skin layer is called Ecdysis or moulting
- Tympanic membrane, middle ear cavity and eustachian tubes are absent in
 Snakes
- Asymmetrical lungs, (left being small or absent occur in) Snakes
- Number of cranial nerves found in snakes is

– 10 pairs

- Upper and lower eyelids fuse to form spectacle in – Snakes
- Eye lids are <u>immovable</u> in Snakes
- Snakes are highly sensitive to ground vibrations due to

- Attachment of columella to quadrate

• Asymmetrical kidneys are present in

- Snakes

• Urinary bladder is absent in - Snakes

Sub class : Archosauria;

Order: Crocodilia

- All the living archosaurians are included in the order Crocodilia
- Crocodiles, alligators, caimans and gharials are included in Crocodilia
- The largest living reptiles are

- Crocodiles

• The living reptiles having few primitive features without change are **Crocodiles and chelonians**

- Tail is strong and laterally compressed in - Crocodiles
- Forelimbs are shorter than hindlimbs in Crocodilia
- Example for synapsid skull is Cynognathus
- Presence of thecodont dentition, four chambered heart and diaphragm in crocodiles are features resembling

– Mammals

- Ribs are double headed and abdominal ribs are present in Crocodiles
- Clavicles are absent but interclavicles is
 presetn in Crocodiles
- Posterior cervical and anterior thoracic ribs have Cartilaginous uncinate processes
- Cloacal aperture in crocodiles is Longitudinal
- A small aperture present between the two systemic arches in members of crocodilia is
 – Foamen of Panizza

Males in crocodiles have

- Unpaired penis All the crocodiles are - Oviparous Eggs of crocodiles are - Hard shelled Examples of Crocodilia are - Crocodylus, Alligator, Caiman, Gavialis

<u>Sub class : Synapsida</u>

All the members of Synapsida are – **Extinct** Type of skull in Synapsida is - **Synapsid**

• Example for synapsida - Cynognathus VENOMOUS & NONVENOMOUS SNAKES

(Key for identification of Venomous Snakes in India)

- Most of the Indian snakes are - Nonvenomous
- Fangs are present on the Upper jaw
- If a snake bite leaves two marks of fangs at the site of bite that is a

- Venomous snake

• If a snake bite leaves many small pricks at the site of bite that is a

- Nonvenomous snake

- Common Indian venomous snakes are Cobras, Vipers, Kraits and Sea snakes
- Fresh water snakes are

- Nonvenomous

• The snake with hood, large abdominal scales, loreal pit etc are – Venomous

• • • •	Dedliest venomous snakes are - Sea snakes Laterally compressed or rudder shaped tail is present in - Sea snakes Viviparity among snakes is seen in - Sea snakes <i>Enhydrina</i> and <i>Hydrophis</i> are - Sea snakes Snakes having cylindrical tail are - Land snakes When the ventral scales are small, or some what broad but with out extending fully across belly are	 The Indian snake with dorsal keeled and serrated scales is – <i>Echis carinata</i> The Indian snake having arrow mark on the head is – <i>Echis carinata</i> If the head is covered by large shields that may be – Poisonous or non poisonous Shields present on the margins of upper jaw are called – Supra labials Shields present on the margins of lower jaw are called – Infra labials 3rd supra labial is large in the Indian snakes such as –Cobra and coral snakes
•	 Nonvenomous If ventrals are large and extended fully across the belly, then the snake may be Venomous or nonvenomous If the head is triangular and covered by small 	 The only shake having a hood is Cobra In cobras the neck is dilated and supported by ribs to form – Hood "Common Indian cobra" is – Naja naja
	scales then it is a – True vipers	• Spectacle mark is seen on the hood of
•	True vipers are - Pitless	–Naja naja
•	If loreal pit is present between eye and nostril then it is a – Pit viper Loreal pit is a – Thermoreceptor Himalayan pit viper is – <i>Ancistrodon</i>	 Cuneate plate occurs between 4th and 5th infra rabials in Naja naja Number of rows of sub caudals in the common Indian cobra is - 2
•	Pit viper found in India is – <i>Lachesis or Trimerisurus</i> American pit viper or rattle snake is	• Largest venomous snake is – <i>Ophiophagus hannah</i> • <i>Ophiophagus hannah</i> is commonly called
•	- Crotalus In pit vipers, the head is covered by -Shields	 <i>Common again manual</i> is commonly cancel – King cobra Snake feeding on other snakes is the – King cobra
•	Indian pitless vipers are – Vipera russellii and Echis carinata	• Nature of subcaudal scales in king cobra – Single row near cloace and two
•	Largest Indian pitless viper is – Russell's viper Russell's viper is commonly called	 rows towards tip of the tail Hood has <u>transverse stripes</u> in King cobra
•	 Chain viper Three rows of diamond shaped rings are present on the dorsal side of Russell's viper 	 The snake having coloured spots on belly is Coral snakes Callophis, Hemibungarus and Micrurus are
•	Sub caudals are in <u>two rows</u> in – Russell's viper	 commonly called -Coral snakes If there are 4 infra labials and the <u>fourth</u> is the largest it is a <i>Varit</i>
•	Among the Indian vipers the sub caudals are in a single row in $-$ <i>Echis carinata</i>	 In the <u>targest</u> it is a - Krait Number of rows of <u>subcaudals</u> in a krait is - 1
•	<i>Echis carinata</i> is commonly called – Saw scaled viper	• The snake having large <u>hexagonal</u> <u>vertebral</u> scales is – Krait

The venom which affects the nervous system is The "common krait" is • called – Neurotoxic - Bungarus coeruleus The venom which affects circulatory system is • The snake with dorsal bluish or brownish called - Haemolytic black surface with white cross streaks is Neurotoxins are found in the venoms of • - Common krait Sea snakes, kraits, cobras, coral snakes The snake having alternate broad black The venom that causes death by paralysis of ٠ yellowish rings is - Bungarus fasciatus respiratory muscles and asphyxia has - Neurotoxins Bungarus fasciatus is commonly called Nature of viper's venom is **Banded** krait - Haemolytic Venom more toxic than that of cobra is Formed elements of the blood are destroyed • seen in the land snake - Krait - Haemolytic toxins bv Venomous apparatus : Lining of blood vessels is damaged by Venomous apparatus of snakes consists of - Haemolvtic Venom a pair of venom glands The best treatment for snake bite is a pair of venom ducts - Treament with antivenin For identified snake, the antidote is a pair of fangs • - Monovalent antivenin constrictor muscles For unidentified snake, the antidote is Venom glands are homologous to - Polyvalent antivenin - Duvernoy's glands In India antivenin is produced at • (oral glands in some) Haffkin's Biochemical Corporation of Mumbai Venom gland is covered by Fear due to snake may cause • - Heart failure - Compressor muscles Circulation of poison to other parts is pre-Compressor muscles inserted in gland surface • vented by using a -torniquet in – Proteroglyphous and solenoglyphous Solenoglyphous snakes belonged to snakes -Viperidae Fangs are the modification of Examples of Viperidae – Vipers - Upper maxillary teeth Snakes in which grooved teeth at the backs **Non** -Venomous Snakes Typhlops is commonly called of their maxillae - Ophisthoglyphous • Worm snake/Blind snake Snakes in which fangs that fit into pockets in The snake which looks like an earthworm their outer gum of the lower jaw -• - Typhlops is **Proteroglyphous** The snake having vestigial eyes hidden Snakes which possess tubular fangs in • beneath the scales is - Typhlops maxillae-Solenoglyphous Smallest nonvenomous snakes are - Blind Ophisthoglyphous snakes belonged to snakes Colubridae Common Indian rat snake is Examples of Colubridae – Dryophis - Ptvas or Zamenis Proteroglyphous snakes belonged to -The snake which enters human dwell Elapidae • ings in search of rats is -Ptyas Examples of Elapidae – Cobra, coral snake Friend of farmer is – Ptyas and sea snake *Ptyas* is – **Viviparous** Nature of venom is -Mixture of toxins The fresh water snake, which is commonly and enzymes called pond or grass snake is Rapid diffusion of venom into the prey due to - Tripidonotus or Natrix - Hyaluronidase

- Dryophis is commonly called - Whip snake
- Weekly venomous saliva is seen in – Dryophis
- Dryophis is - viviparous
- Indian python is - Python molurus
- The longest snake found in south east Asia is - Python reticulatus (10 meters)
- The largest nonvenomous snake (of South • America) is Eunectes murinus- Green anaconda (9.5
- m, 250 kg) Eryx johnii is commonly called •
 - Double headed snake or sand boa
- Rudimentary hind limbs are seen as conical • prominences in - Eryx

GENERAL CHARACTERS :

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LEVE	,L, - I		
1.	The term "Reptlia" me	ans	
	1. Land animal	2. Tetrapod	
	3. Belly creepers	4.Aquatic animals	
2.	The first vertebrates of	completely adapted	
	for life on land		
	1. Fishes	2. Amphibians	
	3. Reptiles	4. Aves	
3.	Which of the following	is called "Golden age	
	of Reptiles"		
	1. Proterozoic	2. Mesozoic era	
	3. Palaeozoic	4. Coenozoic era	
4.	Members of class Rep	ptilia are	
	1. Homeothermic and	Amniotic	
	2. Homeothemic and	Anamniotic	
	3. Poikilothermic and	Amniotic	
	4. Poikilothermic and	Anamniotic	
5.	Monocondylic skull v	vith temporal fossae	
	is seen in		
	1. amphibians	2. fishes	
	3. reptiles	4. aves	
6.	In reptiles the vertebrae are		
	1. amphicoelous	2. amphiplatyan	
	3. platycoelous	4. procoelous	
7.	"T" shaped interclavic	le is characteristic	
	feature of		
	1. birds	2. reptiles	
_	3. amphibians 4.	eutherian mammals	
8.	The number of cranial	nerves in reptiles is	
	1. 10 pairs	2. 12 pairs	
	3. 11 pairs	4. 14 pairs	
9.	For the first time in the	ime in the history of the verte-	
	brates cleidoic eggs de	eveloped in the	
	1. reptiles	2. amphibians	
	3. fishes	4. invertebrates	

10.	In reptiles, the extra embryonic membranes are		
	1. amnion	2. allantois	
	3. yolk sac	4. 1, 2 and 3	
11.	Reptiles and birds are in	ncluded in the group	
	1. Sauropsida	2. Icthyopsida	
	3. Amniota	4. Anamniota	
12	The kidneys in the ex	cretory system of	
	reptiles are		
	1. Mesonephros	2. Metanephros	
	3. Peptonephros	4. Protonephros	
13.	The cheif nitrogenous	s excretory product of	
	reptiles is	• •	
	1. ammonia	2. uric acid	
	3. urea	4. guanine	
14.	Reptiles share the foll	owing character with	
	birds and mammals	-	
	1. Amnion	2. Diaphragm	
	3. Homeothermy		
	4. Amphicoelous vert	ebrae	
15.	A foetal membrane v	which absorbs mechani-	
	cal shocks and prote	cts the embryo from	
	desiccation is the		
	1. allantois	2. chorion	
	3. yolk sac	4. amnion	
16.	Heart of reptiles is usu	ally	
	1. With 4 chambers and 3 arterial trunks		
	2. With 3 chambers ar	nd 3 pairs of arterial	
	trunks	1 * 1 / * 1/ 1	
	3. With 3 chambers an 4 W/4 2 1 1	d single arterial trunk	
17	4. With 3 chambers ar	arterial trunks	
1/.	A part of cloaca in rep	d conital duotains the	
	1. Coprodeum 2. Anus		
	3 Urodaeum / Pro	us octodeum	
18	Most of the living poik	ilothermic amniotic	
10.	vertebrates are	noulemne, ammotie	
	1 Without temporal fossae and with a single		
	nostril		
	2. With one temporal	fossa on each side of the	
	skull		
	3. With two temporal	fossae on each side of	
	the skull		
	4. With two temporal	fossae on each side and	
	with single nostril		
19.	One infra temporal for	ssa occurs in	
	1) Pleslosaurus2) Ich	hthyosaurus	
	3) Cotylosaurs 4) Cy	rnognathus	
20.	Reptiles evolved from		
	1) Osteolepids 2) Lal	byrinthodonts	
	3) Ornithiscians 4) Th	erapsids	

21.	Eggs of amphibians and reptiles respectively	
	are	
	2) A legithal and megalecithal	
	2) Alectular and megalectular 3) Mesolecithal and alecithal	
	4) Megalecithal and mesolecithal	
22	Lower Jaw of reptiles is with	
22.	1) 6 hones (2) 12 hones	
	$\begin{array}{ccc} 1 & 0 & 0 & 0 \\ 3 & 1 & 2 & 0 & 0 \\ 3 & 1 & 2 & 0 & 0 \\ 3 & 1 & 2 & 0 & 0 \\ 3 & 1 & 2 & 0 & 0 \\ \end{array}$	31.
23	Cleidoic eggs are produced by	
23.	1 amphibians 2 reptiles	
	3 marsunials 4 2 and 3	
24	Shelled eggs suitable for terrestrial environ-	32.
21.	ment are called	
	1. macrolectithal 2. mes olecithal	
	3. alecithal 4. cleidoic	
25.	The study of amphibians, turtles, crocodiles,	
	lizards and snakes is known as	33.
	1. Batrachology 2. Serpentology	
	3. Ophiosaurology 4. Herpetology	
LEVI	EL-II	34.
26.	Three chmabered cloaca is present in all	
	1. Amniotes	
	2. First true land vertebrates	
	3. Ichthyopsidans 4. Sauropsidans	
27.	Aquatic environment for breeding sauropsids	LEVI
	do not require, because they have	35
	1. Dry non glandular skin	55.
	2. Amniotic eggs	
	3. Viviparous condition 4. Scalv covering	
28.	A reptile is able to ventilate its lungs more	
	efficiently than an amphibian, because it does	
	with the help of	36
	1) Moving its rib cage	
	2) Swallowing air	
	3) Moving its diaphragm	
	4) Air drawing action of elastic lungs	
29.	Identify the set of extinct amniotes	
	1) Ichthyosaurus – Ichthyophis	
	2) Ichthyornis – Ichthyostega	
	3) Ichthyostega – Ichthyosaurus	
	4) Ichthvornis – Ichthvosaurus	37
30.	Following are the statements about first group	57.
	oftetrapods	
	I) They have both hepatic portal system, renal	
	portal system and pump mixed blood through	
	the heart	38
	II) All of them have lateral line system in both	50.
	Iarvae and adult sense organs	
	external fertilization	
	IV) They do not have urinary bladder and	
	their kidneys are mesonephric	
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The correct statement are 1) All are correct 2) Only I and II are correct 3) Only I and III are correct 4) Only I, III and IV are correct

SKULL

LEVEL-I

- 31. Supra temporal fossa bordered by post orbital and squamosal is present in
 - 1. Testudo 2. Pelycosaurus
 - 3. Ichthyosaurus 4. Plesiosaurus
- 32. Skull with single temporal fossae on each side in which the fossa is bordered below by post orbital and squamosal is
 - 1. Parapsid 2. Eurypsid
 - 3. Synapsid 4. Anapsid
- 33. Skull in *Pterosarus* is
 - 1) Euryapsid 2) Diapsid
 - 3) Parapsid 4) Synapsid
- 34. In which of the following subclasses of reptiles the skull has a solid roof
 - 1. Anapsida 2. Diapsida
 - 3. Parapsida 4. Eurypsida

LEVEL - II

Extant reptiles without temporal fossae are 1. Without copulatory organ and longitudinal cloaca 2. Without teeth and clavicles 3. With edentulous jaws and ductus Botalli 4. With single nostril and sternum In parapsid skull 1. Post orbital and squamosal meet beneath the single temporal fossa 2. Post orbital and squamosal meet between the two temporal fossae 3. Post frontal and supra temporal meet between the two temporal fossae 4. Post frontal and supra temporal meet beneath the single temporal fossa The skull of mammal like reptiles was 1) Parapsid with supra temporal fossa 2) Euryapsid with supra temporal fossa 3) Synapsid with supra temporal fossa 4) Synapsid with infratemporal fossa Mammals evolved from therapsid reptiles in Triassic period. The type of skull in these reptiles is (EAMCET 2007) 1) Anapsid skull 2) Parapsid skull 3) Synapsid skull 4) Diapsid skull

Sub Class: ANAPSIDA:

Order: Chelonia

LEV	EL-I		
39.	The order Chelonia includes		
	1. turtles	2. terrapins	
	3. tortoises	4. 1, 2 and 3	
40.	Longest life span is seen in		
	1. crocodiles	2. chelonians	
	3. lizards	4. snakes	
41.	Edentulous condition	s seen in	
	1. snakes	2. lizards	
	3. turtles	4. frogs	
42.	Anapsid skull is preser	nt in the members of	
	1. Chelonia 2. Rhy	nchocephalia	
	3. Crocodilia 4. Squ	iamata	
43.	Longitudinal cloacal of	opening is seen in	
	members of		
	1. Chelonia	2. Crocodilia	
	3. Squamata	4. Both 1 and 2	
44.	The scientific name of	common river terrapin	
	is		
	1. Testudo	2. Chelone	
	3. Trionyx	4. Calotes	
45.	The most ancient grou	p of reptiles are	
	1. Chelonia	2. Crocodilia	
	3. Squamata 4. Rhy	nchocephalia	
46.	A reptile with cloacal 1	respiration is	
	1. crocodile	2. turtle	
	3. Sphenodon	4. Lizard	
47.	Sub class of Reptilia wh	nich includes stem	
	reptiles is		
	1. Anapsida	2. Synapsida	
	3. Lepidosauria	4. Chelonia	
48.	'Green turtle' is		
	1) Dermochelys	2) Testudo	
	3) Chelone	4) Trionyx	
49	Find out the incorrect	statement about	
	chelonians		
	1) Single nostril is prese	ent	
	2) Sternum is absent		
	3) Clavicles are absent		
	4) These are edentate r	eptiles	
	LEVEL - II		
50.	Endoskeletal structures fused with carapace of		
	chelonians are		
	1. Thoracic and abdom	inal vertebrae	
	2. Thoracic vertebrae a	ind ribs	
	3. Abdominal ribs		
	4. Only thoracic verteb	rae	
51.	Feature common in Ch	elonians and Crocodil-	
	ians is		
	1. Teeth 2. Abs	ence of sternum	
	3. Cloacal aperture 4. I	Jouble headed ribs	

52	A small blood vessel connecting systemic
	arch and pulmonary arch is seen in
	1) Trionyx and Crocodylus
	2) Uraeotyphlus and Testudo
	3) Dryophis and Sphenodon
	4) Ichthyophis and Heloderma
53.	Which of the following term is not applicable
	to extant reptiles without temporal fossae on
	the skull?
	1) Edentate 2) Paired nostrils
	3) Anapsid skull 4) Monocondylic skull

Sub Class : Synaptosauria

LEVEL-I

54.	The only living representative of		
	Rhynchocephalia is		
	1. Sphenodon	2. Trionyx	
	3. Ophiosaurus	4. Icthyosaurus	
55.	Hatteria is the comm	ion name of	
	1. Sphenodon	2. Hemidactylus	
	3. Heloderma	4. Gavialis	
56.	The living fossil amor	ng the reptiles is	
	1. Sphenodon	2. Chelone	
	3. Python	4. Heloderma	
57.	Amphicoelous verteb	orae are seen in	
	1. turtle	2. tortoise	
	3. hatteria	4. crocodile	
58.	Diapsid skull is seen	in	
	1. turtle	2. tortoise	
	3. hatteria	4. terrapin	
59.	Which of the following	ng has the parietal eye	
	(pineal eye)		
	1. Coral snake	2. Garden lizard	
	3. Marine turtle	4. Sphenodon	
60.	With reference to evolution the most		
	primitive reptile is		
	1. Alligator	2. Heloderma	
<i>с</i> 1	3. Sphenodon	4. <i>Micrurus</i>	
61.	Granular scales and mid dorsal row of spines		
	are found in		
	1. Crocodylus	2. Chameleon	
(0)	3. Sphenodon	4. <i>Testudo</i>	
62. Hatteria is characterised by 1. Single nostril, acrodont teeth		ed by	
		iont teeth	
	2. Hemipenis, parietal foramen		
	3. Procoelous vertebrae, ductus botalli		
	4. Absence of penis, a	mpnicoelous	
	vertebrae		

63.	Skull in sphenodon punctatum is	70.]
	1. Unmodified diapsid		t
	2. Modified diapsid		1
	3. Modified anapsid		3
	4. Unmodified parapsid	71.]
LEV	EL-II		1
64.	One reptile consists of an unmodified diapsid		3
	type of skull and amphicoelous vertebrae,	72.]
	which of the following is another specific		ľ
	character of that reptile?		1
	1) Diaphragm separates the body cavity into		3
	two cavities	73.]
	2) Copulatory organs are a pair of hemipenis		1
	3) Parietal foramen with vestigial pineal eye		3
	4) Sternum is absent and it moves with the	74.]
	help of ribs		1
65.	In Sphendon		2
	1) Temporal fossae are secondarily lost		3
	2) Post orbital and squamosal meet between	75.	Ι
	the two temporal fossae		1
	3) Post frontal and squamossal meet between		3
	the two temporal fossae	76.	ľ
	4) Post frontal and supratemporal meet below		C
	the single temporal fossae]
66.	Which of the following is considered as an		
	amniotic living fossil?	//.	1
	1) Sphenodon		1
	2) Archaeopteryx		3
	3) Latimeria		ГТ
	4) Ornithorhynchus		LL I
67.	Which of the following statement(s) is/are true	/0.	1
	to Sphenodon?		1
	1) It is a monotypic genus $1 + 1 + 1 + 1 = 1 + 1 + 1 = 1 + 1 + 1 = 1 + 1 +$	79	-
	II) It has modified diapsid skull III	/).	
	III) It has spiny copulatory organs		٤ 1
	1) L II and IV are true		2
	2) I III and IV are true		3
	2) IV and IV are true		2
	A) L and IV are true	80.	J
			v
			1
	lar · Squamata		3
UIU	ici . Squamata	81.	L

LEVEL-I

- 68. Upper and lower eyelids unite to form spectacle in
 - 1. lizards 2. snakes
 - 3. crocodiles 4. turtles
- 69. Truncus arteriosus is absent in 1. frog 2. toad
 - 4. snake
 - 3. salamander

The most successful among the living reptiles are included in . Squamata 2. Chelonia 3. Crocodilia 4. Rhynchocephalia The Flying dragon or Flying lizard is . Rhacophorus 2. Exocoetus 3. Draco 4. Hyla The reptile with membranous wings or petagia is . Calotes 2. Draco 4. Varanus 3. *Hemidactylus* The scientific name of wall lizard is . Varanus 2. Hemidactylus 3. *Heloderma* 4. Draco The poisionous lizard is called . Gila monster 2. Mexican beaded lizard 4. 1, 2 and 3 3. Heloderma Largest lizard . Chamaeleon 2. Varanus 3. *Calotes* 4. Draco Male lizards have a pair of copulatory organs called . claspers 2. clitoris 3. hemipenes 4. penis Eyes exihibit independent movement in . Horned toad 2. Gila monster . Chameleon 4. Ophiosaurus

- II

78.	Hemipenes are presen	t in the males of
	1. lizards and snakes	2. turtles
	3. crocodiles	4. 1, 2 and 3
79.	A komodo dragon car	n be easily distin-
	guished from a flying	glizard by its
	1. Patagium	
	2. Gliding nature	
	3. Exhibition of both	the above features
	4. Size of the adult	
80.	Which of the following	g is/are amniotes
	without a sternum	-
	1. Hemidactylus	2. Gila monster
	3. Both the above	4. Giant tortoise
81.	Lacertilian with the lim	bs exhibiting syndacty-
	lous condition is	
	1. Hemidactylus	2. Draco
	3. Chameleon	4. Varanus
82.	Two enlarged horns an	d numerous small
	spines are found on the	e head of
	1. Phrynosoma	2. Heloderma
	3. Varanus	4. Draco
A		

83.	Find out the correct set of animals with procoelous vertebrae 1) <i>Rana, Sphenodon and Draco</i> 2) <i>Abtes, Varanus and Ophiosaurus</i>	93.	3. A pseudopalate occurs4. All the above statements are incorrectRibs in reptile that donot have clavicles in the pectoral girdle are
	3) Rufo, Heloderma and Hatteria		1 Absent
	4) Hyla Hemidactylus and Archilochus		2. Attached to carapace
84	Glass snake is included in suborder Lacertilia		3. Single headed
011	not in Ophidia due to		4 Double headed
	i) Absence of limbs	94.	A proatlas is characteristically seen in
	ii) Presence of movable eve lids		1) Reptiles without sternum
	iii) Presence of external ear opening		2) Reptiles with double headed ribs
	1) ii only 2) iii only		3) Reptiles without amphicoelous vertebrae
	3) ii and iii 4) i, ii and iii		4) Reptiles with anapsid skull
Ord	er · Crocodilia	95.	The extant Archosaurians resemble the
			higher endothermic vertebrates that domi-
			nated the coenozic era, in the
85.	Which one of the following reptile, has a 4		1) Presence of pseudopalate and proatlas
	chambered heart $1 - C = \frac{1}{2}$		2) Possessing abdominal ribs
	1. Crocodile 2. King cobra		3) Thecodont teeth
96	5. Sphenodon 4. Turtle		4) Presence of foramen of Panizza
80.	Foramen of Panizza is present in	96.	The reptile without clavicles in the pectoral
	1. cheiomans 2. nzards		girdle also possess
87	5. crocodiles 4. sphenouon		1) Foramen panizza between systemic
07.	hetween		arches
	1 Pulmonary arches		2) Parietal foramen with vestigial pineal eye
	2 Right and left systemic arches		3) Amphicoelous vertebrae and abdominal
	3 Systemic and pulmonary arches		ribs
	4. Systemic and carotid arches		4) Ductus botalli connecting systemic and
88.	Which of the following is not a mammalian		pulmonary arches
	character of Crocodiles?	97.	Which of the following is/are untrue about
	1. Four chambered heart		the living members of Archosauria
	2. Presence of abdominal ribs		i. skin has scutes
	3. Presence of diaphragm		ii. occurrence of abdominal ribs
	4. Presence of the codont teeth		iii. they are the second largest of the living
89.	Osteoderms of crocodiles are		reptiles
	1. bony plates 2. cartilages		
	3. muscular bands 4. epithelial linings	00	3.1×111 4. Only 111 Statement (S): Crossed iles are these dent
90.	Clavicles are absent in	98.	Statement (S): Crocodiles are inecodoni
	1) Reptile with gular pouch		Reason (R): Crocodnes nave a
	2) Reptile with vestigial pineal eye		pseudopalate.
	3) Reptile with the codont dentition		1. S and K are correct and K is the
	4) Reptile with beaded scales		2 (S' and (\mathbf{R}) are correct but (\mathbf{R}) is not
91.	Besides mammals diaphragm also		the correct explanation
	1 Birds 2 Crocodiles		3 'S' is correct but 'R' is false
	3. Fishes 4. Toads		4 Both 'S' and 'R' are false
LEN	/EL - II	Sub	order · Onhidia · Venomous and
92	Snot the incorrect statement among the	Sub	Nonvonomous snalzos
12.	following about the largest of the living	Kov	for identification for noisonous snakes
	reptiles		TOT INCLUMENTATION FOI POISONOUS SHAKES
	1. Clavicle is absent in the pectoral girdle		Snot out a snake with a neurotoxic
	2. Foramen of panizza occurs	<u> </u>	Venom
	1		

	1. Trimerisurus	2. Echis
	3. Vipera	4. Bungarus
100.	Reptiles that are comr	pletely absent in New
1001	Zealand	
	1 Chelonians	2 Lizards
	3 Snakes	4 Crocodiles
101	Bibs help in locomotiv	on in
101.		2 lizanda
	1. SHakes	2. mzarus
102	5. crocouries	4. all
102.	I ne nubmer of crania	I nerves in snakes is
	1. 10 pairs	2. 12 pairs
100	3. 8 pairs	4. 14 pairs
103.	Hexagonal enlarged	vertebrals are character-
	istics of	
	1. cobra	2. krait
	3. viper	4. sea snake
104.	If the body consists c	of broad black and
	yellow bands it is	
	1. Bungarus coerule	us
	2. Bungarus fasciati	us
	3. Naja naja	4. Enhydrina
105.	If the third supra labi	al touches the eye
	shield and nasal shiel	ld it is
	1. cobra	2. coral snake
	3.1&2	4. krait
106	If the third supralabial	touches nasal and eve
100.	sheilds but no hood th	he snake is
	1 cobra	2 coral snake
	3 krait	4 viner
107	The most venomous am	ongall the enables are
107.	1 cobros	2 viners
	1. COULAS	2. vipers
100	5. KIAIIS	4. sea snakes
108.	Allow mark on the n	ead, single row of sub
	caudais are character	
	1. Vipera	2. Irimerisurus
100	3. Ancistrodon	4. Echis
109.	Sea snake's venom is	
	1. Neurotoxic 2. Ha	emolytic
	3. Musculotoxic	4. Cardiotoxic
110.	Sensitivity to ground v	vibrations is seen in
	1. tortoise	2. snake
	3. lizard	4. crocodile
111.	A bifid tongue is four	nd in
	1. lizards	2. turtles
	3. crocodiles	4. snakes
112.	Which of the followin	g is a pit viper
	1. Trimerisurus gra	mineus
	2. Vipera russellii	
	3. Echis carinata	4. Tropidonotus
113.	Which one of the follo	owing snakes has
	vestigial hind limbs	0
	1. Bungarus	2. Echis
	3. Tronidonotus	4. Python
	2. 110praomons	

114.	Large fourth infra-labials and larger hexago-		
	nal vertebrais are iour		
	1. cobra	2. Krait	
117	3. sand boa	4. viper	
115.	Which of the following	can cause respiratory	
	paralysis in man by $1.5/1$		
	1. Heloderma	2. Enhydrina	
	3. Both the above	4. Echis	
116.	Snake whose 3rd supra	labial touches the	
	nostril and the eye and l shield is	has a clefted anal	
	1 Ancistrodon	2 Crotalus	
	3 Lachesis	4 Micrurus	
117	<i>5. Luchesis</i> Evelids are immovable i	n	
11/.	1 Ophiosaurus	η η Holodorma	
	1. Opniosaaras 2. Ophiophagua	2. Heiouerma	
110	5. Opniopnagus	4. <i>Phrynosoma</i>	
118.	identify	abial helps to	
	1. Naja hannah	2. Naja naja	
	3. Hamibungarus	4. Bungarus	
119.	Sub caudals in the viper	with '' (arrow) mark	
	on the head are in	()	
	1. Four rows	2. Three rows	
	3. Two rows	4. Single row	
120.	Which of the following	not a pit viper?	
	1. Lachesis	2. Crotalus	
	3. Vipera Russellii	4. Ancistrodon	
121.	Hood with transverse st	ripes is found in	
	1. Ophiophagus	2. Naja	
	3. Callophis	4. Anaconda	
122.	Which of the following	is a neurotoxic	
	venomous snake with a single row of		
	subcaudal scales?	single to wor	
	1) Phoorsa	2) Russle's viper	
	3) Banded krait	4) Cobra	
123	Dorsal scales are keele	d serreated and sub	
1201	caudals are in single roy	v-identify the poison-	
	ous snake	v identify the poison	
	1) Phoorse	2) Krait	
	2) Pot spoke	1) Pottle spoke	
124	Arrangement of the sub	4) Kattle Shake	
124.	Analyse with large have as	caudais of poisonous	
	snake with large nexage	shar vertebrais are	
	$\frac{1}{2} \sum_{i=1}^{n} \frac{1}{2} \sum_{i=1}^{n} \frac{1}$	<u>C1</u>	
	1) Saw scaled viper 2)	Chain viper	
105	$\begin{array}{c} \text{(5) Naja naja} \\ \text{(4)} \\ \text{(7) (4)} \end{array}$	Opniopnagus hanna	
125.	Viviparous snakes with	neurotoxins are	
	1) Sea snakes	2) Vipers	
	3) Cobars	4) Kraits	
126.	Non poisonous snake w	whose saliva is weakly	
	1) Vestigent area	2) Loreal rit	
	1) vesugeal eyes	2) Loreal pit	
	5) Rudimentary limbs	4) Prenensile tall	

127. 10 pairs of cranial nerves are present in 2. presence of asymmetrical lungs 1) Rhacophorus and Pelycosaurus 3. absence of limbs 2) Rhacophorus and Bungarus 4. all the above 3) Pelycosaurus and Bungarus 139. Russell's viper differs from the other pitless 4) Ichthyosaurus and Pelycosaurus vipers of India in respect of 128. The function of loreal pit is 1. arrow shaped marking on the head 1. gustatory 2. olfactory 2. double row of subcaudals 3. auditory 4. thermoreception 3. three rows of diamond shaped rings Which is applicable to saw scaled viper 129. 4. 2 and 3 of the above 1. Triangular head with a distinct arrow 140. Which one of the following pair of snakes is mark viviparous 2. Keeled scales with saw like edges 1. Krait and viper 3. Little Indian viper 2.Cobra and krait 4. 1, 2 and 3 130. A haemolytic proteinaceous secretion from a 3. Sea snake and rat snake cold blooded amniote is : (EAMCET 2004) 4. Python and whip snake 1) Lampheridine 2) Viperine 141. Snakes are without 3) Cobradine 4) Hirudin 1. tympanum, limbs, sternum and urinary 131. Golden age of reptiles is [EAMCET] bladder 1. Mesozoic 2. Palaeozoic 2. tympanum, sternum and urinary bladder 4. Miocene 3. Cretaceous 3. limbs and tympanum only Laterally compressed tail is found in 132. 4. limbs, right lung, left kidney 1. Poisonous sea snake [EAMCET] Which of the following are viviparous ven-142. 2. Poisonous snake omous snakes 3. Non poisonous snake 1. Coral snakes 2. Kraits 4. Python 3. Kraits & coral snakes In cobra, one of the following is a highly 133. 4. Sea snakes distinguishing feature [EAMCET] 143. Left lung, left kidney and left gonad are 1. Round tail smaller than those of the right side in 2. Presence of hood 3. Ventral's englarged 1. snakes 2. squamate 4. 3rd supra labial touches eye & nostril 3. snakes and caecilians 4. ratites 134. Number of cranial nerves in a reptile is How many types of arrangment of ventrals can 144. 1. 8 pairs 2. 10 pairs [CBSE] be seen in non-poisonous snakes? 4. 14 pairs 3. 12 pairs 1.2 types 2.3 types Cleidoic eggs are found in 135. [BHU] 3.1 type 4. Many types 1. Fishes 2. Amphibia Limbless, polkilothermic, amniotic vertebrate 145. 4. None of these 3. Reptiles with prehensile tail is 1. Hydrophis 2. Chamaeleon LEVEL-II 4. Crotalus 3. Dryophis 136. White transverse bands on the dorsal side Which of the following does not pertain to the 146. indicate that it is 'chain viper' of India? 1. Bungarus coeruleus 2. B. fasciatus 1. Sub caudals are in two rows 3. *Ophiophagus hannah* 4. *Trimerisurus* 2. Loreal pit is a thermoreceptor Which of the following pairs have laterally 137. 3. Head is covered by small scales compressed tails 4. Large diamond shaped markings occur in 1. Naja and Bungarus three rows on the body 2. Enhydrina and Hydrophis The snake which has triangular head and 147. 3. Micrurus and Mellisuga arrow shaped mark on the head has these 4. Hydrophis and Python features A snake can be differentiated from a lizard 138. 1) Hexagonal vertebrals and two rows of sub by the caudals 1. absence of tympanum 2) Single row of subcaudals and laterally

EAMCET- SENIOR ZOOLOGY

UNIT-II

compressed tail

3) Serrated dorsal scales and single row of subcaudals

4) Two rows of subcaudals and diamond shaped rings

- 148. Poisonous snake with a cuneate plate between 4th and 5th infralabials also exhibit this character
 - 1) Vertebrals are hexagonal in shape 2) Sub caudals are in two rows
 - 3) Anal shield is clefted

 - 4) Hood is with transverse stripes
- Identify the character related to the 149. viviparous snake with prehensile tail (BHU) 1) Saliva is weakly poisonous
 - 2) Eyes are vestigial
 - 3) Rudiments of hind limbs are seen
 - 4) Coloured coral spots are present on the belly
- 150. This character is common for both Hemibungarus and Ophiophagus 1) Sub caudals are in single row near the cloaca and two rows in the remaining region of tail
 - 2) 4th infralablal is the largest of all infralabials
 - 3) Cylindrical trail and small ventrals
 - 4) 3rd supralabial touches the nostril and the eye
- The largest Indian pitless viper is characterised 151. by
 - 1) Arrow mark on head
 - 2) Two rows of sub caudals
 - 3) Serrated dorsal scales
 - 4) Triangular head covered by shields

Venomous apparatus

LEVEL-I

- 152. Venomous glands are homologous to
 - 1. Superior labial glands
 - 2. Parotid glands
 - 3. Duvernoy's glands
 - 4. Mucous glands
- 153. Antivenom serum injections are prepared at 1. IVRI - Izathnagar
 - 2. IRRI Manila
 - 3. Serum institute Pune
 - 4. Haffkin institute Mumbai
- 154. In venomous snakes the fangs are present on 1. mandibles 2. maxillae
 - 3. quadrates 4. squamosals
- Poison injecting fangs are located on which 155. bone in a snake
 - 1. Pterygoid 2. Maxilla 4. Palatine 3. Dentary

- Antivenin producing institute located at Mumbai 156.
 - is 2) Haffkin's institute 1) IVRI
 - 3) Central Research institute
 - 4) National Research Institute

LEVEL-II

157. Venom of viper affects 1. respiratory system 2. circulatory system 3. digestive system 4. nervous system 158. Poison responsible for haemorrhage due to the action of proteolysins is produced by 1. Echis 2. Callophis 3. Bungarus 4. *Hydrophis* 159. Neurotoxin affects respiratory certre in 1) Cerebral hemisphere 2) Olfactory lobes 3) Medulla oblongata 4) Cerebellum Identify the true statements: 160. A) Victim of Viper's bite suffer from haemorrhages B)Hoodless snake with large third supralabial touching the eye and nostril (shield) has clefted anal shield C) Ventrals of krait are large and hexagonal in shape D) Hydrophis is with rudder (oar) shaped tail 1. A and B alone are true 2. B and C alone are true 3. A, B and D are true 4. C and D are true 161. The following are statements regarding poisonous apparatus of poisonous snake I) Fangs are modified maxillary teeth and serve as hypodermic needles II) Poison glands are modified parotid glands and they are sac like III) Poison from the poison gland is squeezed out due to the relaxation of constrictor muscle IV) The poison is faint yellow in colour, tasteless, odour less and acidic in reaction 1) All are correct 2) I, II and IV 3) II, III and IV 4) III and IV 162. Arrange the mechanism of snake bite in a sequence a) Compressor muscle contracts b) Squeezing the venom gland c) Fangs pierce the skin d) Flow of venom through duct and fang. 1) c - a - b - d 2) c - b - a - d3) b - c - a - d 4) c - a - d - b

Non -Venomous

LEVEL-I

- 163. The following is a water snake

 Tropidonotus
 Ptyas
 Dryophis
 Eryx

 164. The arboreal snake is

 Dryophis
 Naja
 Typhlops
 Ptyas

 165. A snake which is popularly known as double headed snake is
 - 1. *Ptyas* 2. *Tropidonotus*
 - 3. Eryx 4. Dryophis
- 166. Typhlops is
 - 1. Glass snake
 - 2. Oviparous blind snake
 - 3. Tree snake
 - 4. Viviparous blind snake
- 167. The snake which looks like an earthworm is
 1. *Tropidonotus*2. *Typhlops*3. *Eryx*4. *Ptyas*

LEVEL - II

- 168. Poikilothermic vertebrates with prehensile tail are (MGIMS)
 1) *Hippocampus, Didelphis, Hemidactylus*
 - 2) Chamaeleon, Didelphis, Dryophis3) Chamaeleon, Hippocampus, Dryophis

4) Chamaeleon, Hippocampus, Varanus

- 169. When the tail is cylindrical and the ventral scales do not extend the entire width of the belly, the snake is
 - 1. Non–poisonous [BHU]
 - 2. Either poisonous or non-poisonous
 - 3. Definitely poisonous
 - 4. Deadly poisonous
- 170. Statement : *Ptyas* is said to be farmer's friend Reason (R) : *Ptyas* principally feeds on

rats thus saving crop plants

171. Statement : *Eryx* is commonly called double headed snake Reason (R) : In *Eryx* rudiments of hind limbs are seen as conical prominences

AVES

Introduction:

- Feathered, biped vertebrates are Aves
- Birds evolved during the

-Jurassic period

• The ancestors of birds are

- Therapod dinosaurs

- Biped ornithischians ancestors of birds are - Iguanodon & Camptosaurus
- Aves are advanced over reptiles in having insulated body, homeothermy, high metabolic rate, complete separation of venous and arterial blood.
- Flight adaptations birds have **-High metabolic**

rate, and high body temperature

- The success of birds and mammals in many habitats related to their Endothermy
- Reptiles & Aves are included in a group called Sauropsida
- The statement 'birds are glorified reptiles' was made by **-T. H. Huxley**
- Birds became modernised in the – Cretaceous period
- 'Birds are masters of air' was stated by

– J. Z. Young

• Number of species of living birds is

- 9100

Flight requires – High surface weight ratio

• Based on nature of body temperature. Aves are described as – Endotherms The study of birds is - Ornithology Largest living bird is – *Struthio camelus* (ostrich)

Smallest bird/smallest homeotherm is – *Mellisuga helenae* (bee humming bird)

• The pulmonary structures responsible for the light weight of a bird are the

-Air sacs

• In birds fore limbs are modified into

-Wings

• The body structures of a bird that help in perching are the – **Hind limbs**

Characters:

- The exoskeletal structures of birds are -Feathers, scales, claws and rhamphotheca
- Preen or uropygeal gland s present at the base

of - Tail

- The waxy coating applied on quill feathers is secreted by – **Preen gland**
- In birds long bones lack Bone marrow
- Air filled bones of birds are called
 - Pneumatic bones
- Type of skull in birds is **Monocondylic**
- Secondary palate in birds Incomplete
- Cervical vertebrae of bird are

- Heterocoelous

- Ribs of birds, mammals and crocodiles are - Double headed
- Synsacrum is formed by the fusion of
 Last thoracic, lumbar, sacral and a few caudal vertebrae
- Synsacrum fuses with pelvic girdle and supports - Hindlimbs
- Last caudal vertebrae in birds fuse to form - Pygostyle
- Pygostyle supports Tail feathers
- In the flying birds sternum bears a
 - Keel or Carina
- Keel is useful for accomdation of large flight muscles
- In birds clavicles of the two sides join to form
 'V' shaped Furcula
- Furcula is also called Wish bone
- Foramen triosseum is present in the junction of -Clavicle, scapula & coracoid
- Tendon of p.minor passes through Foramen triosseum and acts as a pulley
- Flight muscles are Pectoralis major, pectoralis minor (supracoracoides)
- The largest of the flight muscles are the – Pectoralis major
- 1/5th of the total body weight of bird is contributed by the muscles called

– P. major

- Down stroke of wings is performed by the muscles called **P.major**
- Up lift of wings is performed by

– P.minor

- The distal part of the oesophagus of a bird is dilated to form the Crop
- The fucntion of crop is - Storage of food material

- Anterior glandular part of the stomach is **Proventriculus**
- Posterior muscular stomach is Gizzard
- A pair of rectal caecae is present at the junction of - Small intestine and rectum Lymphoid tissue that opens into proctodaeum is - Bursa Fabricius Lungs are spongy with air sacs in - Birds Number of air sacs in birds is -9 Paired air sacs are 1. abdominal 2. posterior thoracic 3. Anterior thoracic 4. Cervical Unpaired air sac is – Interclavicular • Tracheal rings are bony and complete in -**Birds** The swollen part of trachea near its junction with • bronchi acts as -Voice box, which is known as **Syrinx** Heart of birds is - Four chambered Sinus venosus and truncus arteriosus are absent in - Birds Renal portal system is reduced in -Birds Only right aortic arch is present in ٠ – Birds Trilobed, metanephric kidneys are found in • - Birds Urinary bladder is absent in - Birds • (except ostrich) Chief nitrogenous excretory material in birds is – Uric Acid Uric acid is eliminated along with faeces in - Birds Two meninges around the brain are -Duramater and pia-arachnoid membrane Number of cranial nerves in birds is -12 pairs Olfactory lobes are poorly developed in • - Birds Bird having well developed olfactory sense is – Kiwi The shape of the eye is maintained by • – Sclerotic plates Shape of pecten - Comb like • The vascularised pleated projection into the cavity of eye is the – Pecten (except kiwi)

- The functions of pecten
 1. Nourishes retina
 2. Removes nitrogenous waste
 In birds, the single ossicle of middle ear is –
 Columella auris
 In birds, the structures of internal ear are –
 Cochlea with organ of Corti
- In birds copulatory organs are present in **Ducks, geese, swans and flightless birds**
- Right ovary and oviduct are rudimentary in **Birds**
- Only left ovary and oviducts are funtional in

– Birds

- In birds fertilisation is Internal
- Type of eggs in birds is
 - Megalecithal and cleidoic
- Type of cleavage in bird's egg
 - Meroblastic

Feathers in birds:

• Number of types of feathers in bird is

-4

(Quill feathers, contour feathers, filoplumes and down feathers)

• In birds the body is covered by

- Contour feathers Interlocking mechanism is poorly developed

- in Contour feathers
- Interlocking mechanism is absent in **Down feathers, filoplumes**
- Feathers are arranged in regular tracts called

- Pterylae

- Featherless tracts are Apteria
- Arrangement of feathers is called
 - Pterylation
- The feathers having central axis and vane are

- Quill feathers and contour feathers

- Small delicate feathers with short calamus and weak barbs are Filoplumes
- The feathers sparsely distributed, covering the inter spaces are **Filoplumes**
- The largest feathers are –Quill feathers
- The feathers helpful for flight are

– Quill feathers

• Proximal hollow part of axis is

-Quill or calamus

- The expanded portion of axis is
 - -Vane or vexileum

The central axis of vane is called

– Rachis

- Interlocking mechanism is formed by
 - Barbules & barbicels
- Small opening at the lower end of quill is – Inferior umbilicus
- Nutrients are supplied to the feather through - Inferior umbilicus
- Aperture present at the junction of quill and rachis – **Superior umbilicus**
- A small tuft of soft barbs or spines arising near superior umbilicus is called

-After shaft or hyporachis

• Quill feathers present on wings are called

– Remiges

- Quill feathers present on the tail are called Rectrices
- Small, soft, wooly feathers without rachis are - Down feathers
- Rachis is absent in **Down feathers**
- Barbs are long and flexible with sharp barbules without barbicels in

- Down feathers

• Covering of newly hatched birds is by

– Down feathers

Functions of feathers are :
 Heat retention, protection, flight and formation of nest

CLASSIFICATION OF BIRDS

Class Aves is divided into two sub classes, namely

- 1. Archaeornithes
- 2. Neornithes

<u>1 Subclass . Archaeornithes</u>

• Extinct jurassic birds of the Mesozoic era are included in the sub class

-Archaeornithes

• Long, lizard like tail with rectrices arranged on either side is seen in the bird

- Archaeopteryx (lizard bird)

- Wings with three clawed fingers are seen in the bird *Archaeopteryx*
- Type of teeth in Archaeopteryx

– Thecodont

- Vertebrae are amphicoelous in the bird *Archaeopteryx*
- Bones are non pneumatic in

– Archaeopteryx

- Sternum has no keel in the extinct bird - Archaeopteryx
- Archaeopteryx lithographica belongs to the sub class Archaeornithes
- Fossil of Archaeopteryx was found in

 Upper Jurassic rocks of Bavaria in Germany
- The connecting link between reptiles and birds is Archaeopteryx
 The bird with abdominal ribs is Archaeopteryx
 The bird in which ribs are without uncinate processes is Archaeopteryx
 The bird in which the carpals and metacarpals are free Archaeopteryx
 The bird in which the cerebellum is small Archaeopteryx
 Archaeopteryx
 The bird in which the cerebellum is small Archaeopteryx
 Archaeopteryx
 The bird in which the cerebellum is small Archaeopteryx
 Archaeopteryx
 The bird in which the cerebellum is small Archaeopteryx
 Archaeopteryx
 The bird in which the cerebellum is small Archaeopteryx
 Archaeopteryx
 The bird in which the cerebellum is small Archaeopteryx
 Archa

2. Sub class : Neornithes

- Post Jurassic modern birds are included in the subclass Neornithes
- Type of vertebrae in modern birds

- Heterocoelous

- Characteristic structures on the thoracic ribs of modern birds are
 - Uncinate processes In modern birds the abdominal ribs are -Absent

Metacarpals are fused with distal carpals to form - Carpometacarpus

• Neornithes is divided into four super orders

Super order I Odontognathae

- Extinct, upper cretaceous, marine birds with teeth on the jaws belong to the super order Odontognathae
- Modern toothed birds belong to the super order - Odontognathae
- *Hesperornis* belongs to the superorder **Odontognathae**

Super order II Impennae:

• Modern, aquatic, flightless birds with paddle like wings or flippers and webbed feet belong to the super order

- Impennae

• Impennae birds are commonly called

- Penguins

• Birds confined to southern hemisphere are -Penguins

- Skeleton is solid and air sacs are absent in - Penguins
- Integument is fatty insulating layer in

- Penguins

• Aptenodytes forsteri is commonly called

- Emperor penguin

- Spheniscus demersus is commonly called - Jackas penguin
- Eudyptes pachyrhynchos is commonly called • Rock hopper penguin

Super order III Palaeognathae:

• Modern, flightless birds without teeth belong to the super order

- Palaeognathae

- Characters of Palaeognathae are Wings are vestigial or Rudimentary
- Interlocking mechanism absent in feathers Pterylae are irregular
- Preen gland absent (except tinamous)
- Sternal keel is absent (except tinamous) Sternum is flat or raft like
- Pygostyle absent or rudimentary Syrinx absent (Except Rhea) Males have penis
- Young ones are **precocial** (not dependent on parents)
- Exhibit discontinuous distribution
- Palaeognathae includes *Tinamous* (with keel) and ratites (without keel)
- Palaegnathae birds with preen gland is *Tinamus*
- Ratitae bird with syrinx

– Rhea americana

- Ratitae bird with keen sense of smell Kiwi
- Struthio camelus is commonly called - African ostrich
- *Rhea americana* is commonly called American ostrich
- The scientific name of emu is • *Dromaius*(Australia)
- Cassowary is scientifically called

– Casuarius

• Casuarius (Cassowary) lives in -Australia and New Guinea

- Aftershaft of feathers is as long as main shaft in - Casuarius and Dromaius
- *Apteryx* is commonly called **Kiwi** (New Zealand)
- The smallest ratite bird is Kiwi
- Feathers are hair like and aftershaft is absent in Kiwi
- Tinamou is *Tinamus*
- Tinamou lives in

- South Mexico, Central and South America Super order IV Neognathae or Carinatae

- Modern flying birds, with well developed wings and feathers with interlocking mechanism, regular pterylae and keel are-Neognathae or Carinatae
- Copulatory organ is absent in members of - Neognathae
- Young ones are altricial (dependent on parents) in – Neognathae
- Pigeon is scientifically called Columba
- *Passer* is commonly called

- House sparrow

- Corvus splendens is commonly called - Crow
- *Eudynamys* is commonly called Koel
- *Psittacus* is comonly called **–Parrot**
- Bubo is commonly called Owl
- Pavo cristatus is commonly called - Pea fowl-(National bird of India
- Apus melba is commonly called - Alpine swift (Fastest flying bird)
- Archilochus colubris is commonly called
 Ruby throated humming bird
 State bird of A.P.

- Coracious bengalensis (Blue jay)

Introduction:

LEVEL-I

- 172. Birds evolved during the
 - 1. Devonian period
 - 2. Jurassic period
 - 3. Triassic period
 - 4. Carboniferous period
- 173. Birds evolved from
 - 1. therapod dinosaurs
 - 2. therapsid dinosaurs
 - 3. synapsid dinosaurs
 - 4. parapsid dinosaurs

- 174. The scientist who described the birds as 'glorified reptiles' is
 - 1. Haeckel2. Hanson
 - 3. Huxley4. Hyman
- 175. The study of birds is1. Ichthyology 2. Herpetology
 - 3. Ornithology 4. Mammology
- 176. Birds became modernised during
 - 1. Jurassic period
 - 2. Cretaceous period
 - 3. Triassic period
 - 4. Carboniferous period

LEVEL - II

- 177. Statement (S) : Birds are glorified reptiles Reason (R) : Birds became modernised in the Cretaceous period
- 178. Study the following statements

 Huxley described birds as Masters of air.
 Birds and Reptiles are included in Sauropsida
 The beehumming bird is the smallest homeotherm
 Correct combination is
 i & iii 2. i & ii 3. ii & iii

Characters:

LEVEL-I

- 179. The only cutaneous gland found in birds is
 1. Preen gland
 2. Uropygeal gland
 3. 1 and 2
 4. Lacrimal gland
- 180. Warm blooded feathery bipedal vertebrates are
 - 1. reptiles2. birds3. mammals4. fishes
- 181. Muscles that take part in the up lift of wings are called
 1. coracobrachialis brevis
 2. supracoracoides
 3. coracobrachialis longus
 - 4. pectoralis major

3. reptiles

- 182. The systemic arch retained in birds is1. dorsal2. ventral
 - 3. left 4. right
- 183. The vertebrates with reduced renal portal system1 Mammals2 Birds

1. Iviaiiiiiais	2. Difus
3. Reptiles	4. 1,2 and 3

184. Sinus venosus and truncus arteriosus are absent in1. birds2. amphibians

4. 1, 2 and 3

185.	In birds proventriculus	and gizzard are the	198.	Sternum
	1 buggel covity 2	oosonhagus		2 Potito
	1. Duccal cavity 2	intestine		2. Kalla 2. Birda
196	Trachael rings are here a	nd complete in		J. Difus
160.	1 rentiles 2	birds	199	\neg . 1, 2, \neg
	a mommals 2	1.2 and 3	177.	1 Keen
187	Suring is the voice produ	1,2 and 5		2 Facilit
107.	1 amphibians 2	rentiles		3. Maint
	1. amplification 2	nale		4. Are a
188	The part of the brain of	f hirds which is re-	200.	Posterio
100.	duced is	i oli us which is ic-		1. Pygos
	1 ontic lobe 2 cereb	ralhemisnhere		3. Urost
	3 cerebellum 4 olfac	tory lobe	201.	Foramen
	5. cerebenum 4. onde	101 y 100 c		1. Clavio
189	The number of cranial ne	erves in hirds is		3. Corac
107.	1 10 pairs 2	33 nairs	202.	Wish bor
	3. 31 pairs 4	12 pairs		1. carina
190.	The vascular pleated stru	cture found in the eve		3. nygos
190.	of birds is		203	The "wi
	1. sclerotic plate 2	. cornea	203.	1 corac
	3. crystalline style 4	. pecten		3 clavic
191.	Birds are chiefly	1	204	Vortobro
	1. ammonotelic 2	. ureotelic	204.	formention
	3. uricotelic 4	. 1, 2 and 3		Iormatior
192.	Cervical vertebra in mode	ern birds is		1) Sacral
	1. procoelous 2	. amphicoelous		2) Lumba
	3. opisthocoelous 4	. heterocoelous		3) Lumba
193.	Tendon of pectoralis mine	or passes through		4) Anteri
	1. foramen of Monro		205	
	2. foramen of Panizza		205.	In birds, 1
	3. foramen triosseum			tion of
	4. foramen magnum			1) Gizzar
194.	Warm blooded amniotes	sare		2) Crop a
	1. reptiles, Birds			3) Gizzar
	2. birds, Mammals			1) Small
	3. fishes, Amphibians		2 06	4) Siliali I
105	4. reptiles, Amphibians	1 11	206.	Unpaired
195.	The following are the pr	robable structures to		1)Abdom
	nourish the retina of eye in	n birds		vical 4
	1. Scierotic plates		207.	Retina of
	2. Preen gland			1) Kiwi
	3. Niculating memorane	,		$2) C_{asses}$
106	4. FOUCH	is formed by	• • • •	5) Casso
190.	1 one pair of carotids	is formed by	208.	Alveoli a
	2 two pairs of carotide			1) Hyla
	3 single right eveternic			3) Psitta
	4 single left systemic		209	Supracor
197	In hirds the eggs are		209.	Supracor
1710	1. covered by hard calc	careous shell		1) Coraco
	2. megalecithal			2) Pector
	3. fertilised internally			3) Pector
	4. 1. 2 and 3			4) Rotato
	, -			.,

98.	Sternum has a carina in
	2. Detites hinds
	2. Ratilae birds 2. Dirds of the subalass Arabacomithes
	4 1 2 and 3
99	Air sacs of hirds
	1. Keep body warm
	2. Facilitate blood circulation
	3. Maintain body temperature
	4. Are a flight adaptation
200.	Posterior tail vertebrae of birds fuse to form
	1. Pygostyle 2. Coccyx
0.1	3. Urostyle 4. Synsacrum
201.	Foramentriosseum is present at the junction of
	1. Clavicie 2. Scapula
02	Wish hone in bird is technically called
.02.	1 carina 2 furcula
	3 pygostyle 4 rib
203	The "wish bone" of a bird is formed by the
	1. coracoids 2. scapulas
	3. clavicles 4. pubes
204.	Vertebrae of which region do not take part in the
	formation of synsacrum
	1) Sacral and Caudal
	2) Lumbar and sacral
	3) Lumbar and thoracic
	4) Anterior thoracic and last caudal
05	In birds intestinal caecae are present at the junc-
.05.	tion of
	1) Gizzard and Proventriculus
	2) Crop and Gizzard
	3) Gizzard and small intestine
	4) Small intestine and rectum
206.	Unpaired air sac is
	1) Abdominal 2) Interclavicular 3) Cer-
	vical 4) Anterior thoracic
207.	Retina of the eye is not protected in
	1)Kiwi 2)Emu
	3) Cassowary 4) Ostrich
208.	Alveoli are absent in
	1) Hyla 2) Trionyx
	3) Psittacula 4) Echidna
209.	Supracoracoideus is also called
	1) Coracobrachlalis longues
	2) Pectoralis minor
	3) Pectoralis major
	4) Rotatory muscles
	, <u>,</u>

- 210.In birds, pygostyle is formed by the fusion of
1) Scapula2) Clavicies
 - 3) Caudal vertebrae
 - 4) Cervical vertebrae
- 211. Number of air sacs in birds is [EAMCET]
 - 1. Six 2. Nine
 - 3. Seven 4. Eight
- 212. Preen gland is especially well developed in (CBSE)
 - 1. aquatic birds 2. terrestrial birds
 - 3. ratite birds 4. all the above
- 213. Down stroke of the wing is enabled by the following muscle
 - 1. Coracobrachialis
 - 2. Pectoralis major
 - 3. Pectoralis minor
 - 4. Triceps
- 214. The flight muscles which help in up lift of wings
 - 1. Coracobrachialis longus
 - 2. Pectoralis major
 - 3. Pectoralis minor
 - 4. Coracobrachialis brevis

LEVEL - II

Note: The following questions consists of Statement (S) and Reason (R).Identify the correct answer from the choices given below.

1. Both 'S' and 'R' are true and 'R' is the true explanation to 'A'

2. Both 'S' and 'R' are true but 'R' is not the true explanation

- 3. 'S' is true but 'R' is false
- 4. Both 'S' and 'R' are false
- 215. Statement (S) : Birds can adjust their body temperature depending on the surrounding temperature

Reason (R) : Birds are exothermic

- 216. Statement (S) : In birds blood cells can not be produced in long bonesReason (R) : In birds long bones are
 - pneumatic and lack marrow.
- 217. Statement (S): In birds renal portal system is vestigial

Reason (R) : In birds hepatic portal system is well developed

218. Statement (S) : Syrinx is the sound producing organ in birds Reason (R) : In birds larynx does not function as voice box 219. Statement (S): Birds have very poor sense of smell.

Reason (R) : In the brain of a bird olfactory lobes are poorly developed.

220. Statement (A): Birds are lacking urinary bladder

Reason (R) : Its presence in the body disturbs the balance of the bird during flight.

221. Statement (A): Cleavage in birds is meroblastic.

> Reason (R) : Eggs of birds are megalecithal.

222. Statement (A): Urinary bladder is absent in birds

Reason (R) : Temporary storage of Uric acid is dangerous for Aves.

<u>Feathers in birds:</u>

LEVEL-I

223.	The feathers restricted to wings and tail of birds 1. Contour feathers		
	2. Down feathers	s	
	3. Quill feathers		4. Filoplumes
224.	Hair like feathers	are	*
	1. down feathers		2. quill feathers
	3. contour feather	s	4. filoplumes
225.	The feathers with	outra	achis are
	1. quill feathers	2. do	own feathers
	3. filoplumes	4. co	ontour feathers
226.	The feathers found	lonly	in newly hatched young
	ones are the		
	1. filoplumes	2. cc	ontour feathers
	3. down feathers	4. qı	uill feathers
227.	The feathers with	hout	barbules and barbicels
	covering the body of	ofbird	sarethe
	1. quill feathers	2. cc	ontour feathers
	3. down feathers	4. fil	oplumes
228.	Ramphotheca in a	a bird	lis
	1. horny sheath o	fbea	k
	2. horny sheath o	ver th	ne toes
	3. horny sheath or	ver th	e pygostyle
	4. horny sheath o	ver t	he keel
229.	The feathers with in	terloc	king system are the
	1. quill feathers	2. d	lown feathers
2 20	3. contour feathers	$\frac{1}{2}$ s 4. fi	
230.	I he expanded port	ion of	the quill feather is called
	1. vane 2. $h = 1$		2. scapus
	3. barb		4. calamus

231.	In a quill feather, the superior umbilicus is	1	Correc	t combination is	
2011	present between		1.i&i	ii	2. i & ii
	1. scapus and rachis		3. ii & i	iii	4. All the above
	2. calamus and scapus	240.	Spot th	e feather(s) with	nout hyporachis irrespec-
	3. rachis and barb		tive of	presence or abs	ence of shaft
1 21	4. calamus and rachis		I) Quill	featner II) Do	wn feather
232.	respectively known as		III) Filc	plume IV) Co	ontour feather
	1. Contours and Filoplumes		1) I and	d II 2) II a	nd III
	2. Remiges and Rectrices		3) I and	d IV 4) III c	only
	3. Rectrices and Remiges	241.	The fol	lowing are the s	tatements about feathers
222	4. Down feathers and Filoplumes		ofbirds	s and identify the	e correct statements
233.	Feathers without rachis are		I) Rem	iges and Retrice	s are quill feathers which
	1) Rectrices 2) Filoplumes		are pres	sent on wings ar	d tail respectively
	3) Contour feathers 4) Down feathers		II) The	small delicate fe	athers with short calamus
234.	Waxy coating is present on		and we	ak barbs are cal	led contour feathers.
	1) Down feathers 2) Quill feathers 2) Filophymos 4) Scales on loss		III) Fea	athers of newly	hatched birds are down
	5) Filoplumes 4) Scales on legs		Teathers	s which provide	
	LEVEL - II		IV) The are guil	e feathers withou I feathers	t interlocking mechanism
235.	Small, soft, wooly feathers of birds differ from		1) I and	d∏ 2) Гап	d III
	contour feathers of birds by the		3) II an	$\frac{1}{2} = \frac{1}{2}$	and IV
	1) Absence of calamus	242	Studyt	he following:	
	2) Absence of inferior umbilicus	Eooth		Character	Desition
	3) Absence of superior umbilicus		51 5	Wall develope	I USILIUII
	4) Absence of rachis			horbs horbulas	a ran & wing
236.	Type of feathers in which barbs arise directly			barbicola	
	from calamus		C .1	barbiceis	NT 11411
	1) Filoplumes	11) Dow	/nieathe	cp 1.	Newly natched
	2) Down feathers			of Rachis	young ones
	3) Quill feathers	111) Filoj	pumes	Weak barbs	Covering all over
	4) Contour feathers				the body
237.	Feathers with well developed barbs, barbules	iv)Con	tour	Barbs form	Sparsely
	and barbicels are	feather	-		
			S	interlocking	distributed
	1. contour feathers 2. quill feathers		8	interlocking mechanism	distributed on the body
228	1. contour feathers2. quill feathers3. filoplumes4. down feathersStudy the following statements		s Which	interlocking mechanism of the above tw	distributed on the body o are correct?
238.	 contour feathers quill feathers filoplumes down feathers down feathers Study the following statements Ouill feathers are with interlocking mechnism 		which 1) i and	interlocking mechanism of the above tw d ii 2) ii an	distributed on the body o are correct? d iii
238.	 contour feathers quill feathers filoplumes down feathers down feathers Study the following statements Quill feathers are with interlocking mechnism Newly hatched young ones are provided with 		Which 1) i and 3) iii an	interlocking mechanism of the above tw d ii 2) ii an d iv 4) i an	distributed on the body o are correct? d iii d iv
238.	 contour feathers quill feathers filoplumes down feathers down feathers Study the following statements Quill feathers are with interlocking mechnism Newly hatched young ones are provided with down feathers. 		Which 1) i and 3) iii an	interlocking mechanism of the above tw d ii 2) ii an d iv 4) i an	distributed on the body o are correct? d iii d iv
238.	 contour feathers quill feathers filoplumes down feathers down feathers Study the following statements Quill feathers are with interlocking mechnism Newly hatched young ones are provided with down feathers. In filopulmes the rachis is small and with 		Which 1) i and 3) iii an CLA	interlocking mechanism of the above tw d ii 2) ii an d iv 4) i an	distributed on the body o are correct? d iii d iv PN OF BIRDS
238.	 contour feathers quill feathers filoplumes down feathers Study the following statements Quill feathers are with interlocking mechnism Newly hatched young ones are provided with down feathers. In filopulmes the rachis is small and with vestigial barbs. 		Which 1) i and 3) iii an CLA	interlocking mechanism of the above tw d ii 2) ii an d iv 4) i an SSIFICATIC LEVEL	distributed on the body o are correct? d iii d iv PN OF BIRDS
238.	 contour feathers quill feathers filoplumes down feathers down feathers Study the following statements Quill feathers are with interlocking mechnism Newly hatched young ones are provided with down feathers. In filopulmes the rachis is small and with vestigial barbs. Correct combination is i& iii 	243.	Which 1) i and 3) iii an CLA Archae	interlocking mechanism of the above tw d ii 2) ii an d iv 4) i an SSIFICATIO LEVEL eopteryx was d	distributed on the body o are correct? d iii d iv N OF BIRDS I iscovered in
238.	1. contour feathers2. quill feathers3. filoplumes4. down feathersStudy the following statementsi. Quill feathers are with interlocking mechnismii. Newly hatched young ones are provided withdown feathers.iiii. In filopulmes the rachis is small and withvestigial barbs.Correct combination is1. i & iii2. i & ii3. ii & iii4. All the above	243.	Which 1) i and 3) iii an CLA Archae 1. Bar	interlocking mechanism of the above tw d ii 2) ii an d iv 4) i an ASSIFICATIO LEVEL eopteryx was d celona	distributed on the body o are correct? diii d iv N OF BIRDS - I iscovered in 2. Austria
238. 239.	 contour feathers 2. quill feathers filoplumes 4. down feathers Study the following statements Quill feathers are with interlocking mechnism Newly hatched young ones are provided with down feathers. In filopulmes the rachis is small and with vestigial barbs. Correct combination is i & iii i & iii i & iii To filopulmes the rachis is small and with vestigial barbs. 	243.	Which 1) i and 3) iii an CLA Archae 1. Bar 3. Bay Archae	interlocking mechanism of the above tw d ii 2) ii an d iv 4) i an SSIFICATIC LEVEL eopteryx was d celona varia	distributed on the body o are correct? diii div NOF BIRDS I iscovered in 2. Austria 4. Belgium
238. 239.	 contour feathers 2. quill feathers filoplumes 4. down feathers Study the following statements i. Quill feathers are with interlocking mechnism ii. Newly hatched young ones are provided with down feathers. iiii. In filopulmes the rachis is small and with vestigial barbs. Correct combination is i & iii 2. i & ii ii & iii 4. All the above Following are the statements about feathers. i. contour feathers provide general covering of 	243. 244.	Which 1) i and 3) iii an CLA Archae 1. Bar 3. Bav Archae 1. repti	interlocking mechanism of the above tw d ii 2) ii an d iv 4) i and ASSIFICATIO LEVEL eopteryx was d celona varia eopteryx is the c iles and Aves	distributed on the body o are correct? diii d iv N OF BIRDS - I iscovered in 2. Austria 4. Belgium onnecting link between
238. 239.	 contour feathers 2. quill feathers filoplumes 4. down feathers Study the following statements Quill feathers are with interlocking mechnism Newly hatched young ones are provided with down feathers. In filopulmes the rachis is small and with vestigial barbs. Correct combination is i & iii i & iii i & iii i & iii To four the above following are the statements about feathers. contour feathers provide general covering of the body 	243. 244.	Which 1) i and 3) iii an CLA Archae 1. Bar 3. Bav Archae 1. repti 2. Aves	interlocking mechanism of the above tw d ii 2) ii an d iv 4) i an SSIFICATIC LEVEL eopteryx was d celona varia eopteryx is the c iles and Aves s and mammals	distributed on the body o are correct? diii div NOF BIRDS I iscovered in 2. Austria 4. Belgium onnecting link between
238. 239.	 contour feathers 2. quill feathers filoplumes 4. down feathers Study the following statements Quill feathers are with interlocking mechnism Newly hatched young ones are provided with down feathers. In filopulmes the rachis is small and with vestigial barbs. Correct combination is i & iii In filopulmes the rachis is small and with vestigial barbs. Correct combination is i & iii Norachis occurs in down feathers iii Writhers here here here in the statements 	243. 244.	Which 1) i and 3) iii an CLA Archae 1. Bar 3. Bav Archae 1. repti 2. Aves 3. Aves	interlocking mechanism of the above tw d ii 2) ii an d iv 4) i and ASSIFICATIO LEVEL <i>eopteryx</i> was d celona <i>varia</i> <i>eopteryx</i> is the c iles and Aves s and mammals s and fishes	distributed on the body o are correct? diii d iv N OF BIRDS - I iscovered in 2. Austria 4. Belgium onnecting link between

EAMCET-SENIOR ZOOLOGY

LEVEL - II

÷.

245	The reptilian character found in Archaeontervx
210.	is
	1. Presence of furcula2. Rhamphotheca
	3. Abdominal ribs 4. Sternum with keel
246.	Following are the statements about
	Archeopteryx and choose the correct combi-
	nation
	i It is a connecting link
	11. Jaws show teeth
	111. Flight muscles are well developed
	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
247.	The following are statements about <i>Archae</i> -
	opteryx
	i. Tail is long and lizard like, with
	caudal feathers on both sides
	ii. Vertebrae are amphicoelous
	111. Sternum has a keel 2×8^{-11}
	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
248	Shot the wrong statement with reference to Ar-
	chaeopteryx
	1) Sternum is flat
	2) Originated during the 'period' dominated by
	dinosaurs
	3) Bones are pneumatic
	4) Vertebrae are similar to those of 'Hatteria'
249.	Archaeopteryx, a fossil bird with teeth and a long tail, lived during the
	1) Permian period 2) Triassic period
	3) Cretaceous period 4) Jurassic period
250.	Vertebrae of extinct Jurassic birds were
	1. Acoelous 2. Heterocoelous
	3. Amphicoelous 4. Procoelous
251.	Which of the following character is not related
	1) Vertebree ere erenbige eleve
	2) Panas are not magimetic
	2) Dones are not precumatic 3) Teeth are absent on both the jaws
	4) Stormura without keel
Neer	
Neori	<u>IIIIIes:</u> I FVFL - I
2.52	The extinct aquatic, cretaceous flightless bird
202.	with teeth in the jaws is
	1) Penguin 2) Struthio
	3) Duck 4) <i>Hesperornis</i>
253.	The type of vertebrae in Neornithes
	1) Acoelous 2) Heterocoelous
	3)Amphicoelous 4) Procoelous

		LEVEL -	Ш
x	254.	Common features of An	rchaeopteryx,
		Hesperornis and Ichthy	yornis
		1) Pygostyle and uncina	ate process
ıt		2) Heterocoelous verte	brae and solid bones
i-	3) Uncinate process and true flight		
		4) Extinct forms with tee	eth
	Supe	r order II Impennae	
		LEVEL-	- I
	255.	Penguins are flightles	s aquatic birds exclu-
e-		sively distributed in th	ne
		1. Southern hemisphere	3
		3. Equatorial region	
		4. Northern hemisphere	e
	256.	Identify the members of	f the order impennae
		1) Aptenodytes, Eudyr	namus
r-		2) Spheniscus, Eudypt	es
		3) Dromaeus, Casuari	us
		4) Eudyptes, Apus	
у	257.	Pneumatic bones are ab	osent in
		1) Eudyptes 2) Pass	ser
		3) Psittacus 4) Cor	vus
ıg	258.	The super order	to which Penguin
-		belongs	2 Imponnoo
		3 Palaeognathae	2. Imperinae 4. Neognathae
	259.	Flightless bird with padd	lle like wings of flippers
		1) Rhea	2) <i>Apteryx</i>
		3) Aptenodytes	4) Psitittacus
d			
	<u>Supe</u>	r order III Palaeog	nathae:
		LEVEL-	-I
	260.	The birds showing disc	continuous distribution

on belong to the super order 1. Odontognathae 2. Palaeognathae 3. Impennae 4. Neognathae All extant flightless birds are included in 261. 1. Neognathae 2. Palaeognathae 4. Odontognathae 3. Carinatae Pecten is absent in the ratitae bird of 262. 2. South America 1. Australia 4. New Zealand 3. Africa & Arabia Rhea is found in 263. 1. deserts of Australia

2. deserts of Africa 3. deserts of Arabia 4. plains of South America 264. Palaeognathae bird with preen gland is 1. Tinamous 2. Struthio 3. Dromaius 4. Rhea 265. The bird with long aftershaft among the following is 1. kiwi 2. cassowary 3. *Struthio* and *Rhea* 4. Penguin and *Rhea* The most developed sense in kiwi compared 266. to others is 1. sense of touch 2. sense of smell 3. sense of vision 4. sense of hearing 267. The smallest ratitae bird 1. Struthio 2. Emu 4. Rhea 3. Kiwi The commonest ratite of Australia and New 268. Guinea 1. Rhea 2. Struthio 3. Aptervx 4. Casuarius A rare bird of South America with mixed char-269. acters of Ratitae and Carinatae is the 1. Tinamous 2. Kiwi 3. Penguin 4. Arachaeopteryx 270. Based on evolution arrange the birds in a sequence A) *Struthio* B) Hesporornis C) Archaeopteryx 1) C - B - A2) B – C – A 4) A - C - B3) A - B - CBirds with copulatory organs belong to 271. 1. Archaeornithes 2. Odontognathae 3. Palaeognathae 4. Neornithes This ratitae bird fat is used at lubricant (BHU) 272. 2) Casuarius 1) Tinamus 4) Struthio 3)Emu Fastest running bird is 273. 1. Struthio 2. Rhea 4. Casuarius 3. Tinamus LEVEL - II Which of the below given has a raft like keel, a 274. preen gland and a penis ?(EAMCET 2005) 1) Dromaius 2) Passer 4) Tinamus 3) Struthio 275. Identfy th correct pair of birds with a raft-like keel and lacking preen gland and syrynx: (EAMCET 2006)

1) Tinamus and Apteryx 2) Rhea and Dromeous 3) Casuaris and Struthio 4) Kiwi and Rhea 276. The following are statements pertaing to Palaeognathae birds i. Emu is the native of Africa ii. Tinamou has a keel in the sternum iii. Kiwi is a ratite bird Identify the correct statement(s) 1. i and ii 2. i and iii 3. ii nd iii 4. only i 277. Spot the feature of emu 1. The flightless bird naturally confined to the Australia 2. The Palaeognathae bird which has a keeled sternum 3. The ratite bird with a preen gland 4. 1,2 and 3 Note: The following questions consists of Statement (S) and Reason (R). Identify the correct answer from the choices given below. 1. Both 'S' and 'R' are true and 'R' is the true explanation to 'S' 2. Both 'S' and 'R' are true but 'R' is not the true explanation 3. 'S' is true but 'R' is false 4. Both 'S' and 'R' are false 278. Statement (S): Ostrich is a flightless bird **Reason** (R) : The feathers of ostriches are with interlocking arrangement Statement (S) : Kiwi is the National bird of 279. New Zealand Reason (R) : Kiwi is confined to New Zealand only 280. Statement (S): In *Tinamous* sternum is with keel Reason (R): *Tinamous* is not a ratitae bird. 281. Pick the correct statements about birds i. Odontognathae are the extinct, marine birds which lived in the upper cretaceous period. ii. Neognathae birds have uncinate pro cesses on the ribs iii. Rhea has preen gland near the cloaca. Correct combination is 1. i & iii 2. i & ii 3. ii & iii 4. All the above 282. Find out the correct statements about Palaeognathae birds

I. Preen gland is found in Tinamou

48

	II. Dromaeius lives in America		perature they are called		
	III. Smallest flight less bird is <i>Apteryx</i>			– Homeothermic or Endothermal	
	IV. Emu is scientifica	lly called <i>Casuarius</i>	•	Exoskeleton of a	mammal is made up of
				T 11. 11	– Hair
	3. 11 & 111	4. III & IV	•	Exoskeleton is red	uced in
C		a • •		- WI	nales and armadillos
Super	order IV Neognath	ae or Carinatae	•	Mammary glands	are the modified
202		-1			– Sweat glands
283.	Scientific name of pai	TOT 1S	•	Glands that help i	n regulating body tempera-
	1. Coracias benghal	ensis		ture – Sweat or s	udoriferous glands
	2. Fusser admessica 3 Corvus marcrory	s nchus A Psittacus	•	Glands that keep t	he skin and hair soft
284	Scinetific name of Ko	elis			– Sebaceous glands
2011	1. Brachypternus be	nghalensis	•	Thoracic and abdo	minal cavities are separated
	2. Psittacus krameri			in mammals by	
	3. Passer domestici	IS			– Diaphragm
	4. Eudynamis scolop	paceus	•	Function of diaphra	agm
285.	Lungs in pigeon are			- res	spiratory movements
	1. spongy	2. non-elastic	•	Based on number	of condyles skull of a mam-
	3. with air sacs	4. 1, 2 and 3		mal is	– Dicondylic
286.	Choose the bird with a	ltricial young ones	•	Each half of lowe	r jaw of a mammal is made
	1) Apteryx	2) Tinamus		up of a single bor	ne called
	3) Passer	4) Rhea			– Dentary
LEVEL - II		•	Dentary articulate	s with - Squamosal of skull	
287.	The smallest flightles	s bird confined to New	•	Nasal passages a	nd oral cavity are separated
	Zealand is characterise	ed by		by a bony	– Palate
	1) Hair like feathers and pecten		•	Bones that take p	art in the formation of sec-
	2) Presence of syrinx and preen glands			ondary palate are	
	3) Presence of a horny	helmet on head		- Fremaxinae, N Based on nature	of centrum vertebrae are
	4) Absence of function	aleyes	•	described as	of centrum vertebrae are
				-Acoelo	ous orAmphiplatyon
	MAMMA	ALIA	•	Usual number of o	cervical vertebrae
•	Mammals evolved fr	om the group of reptiles			- 7
•	called – Therapsi	d rentiles	•	No.of cervical	vertebrae in manatee
•	Mammals evolved d	luring the period of the		(Trichechus) and t	wo-toed sloth –
•	mesozoic era called	uning the period of the		6	
		– Triassic period	•	Number of cervio	cal vertebrae in three toed
•	Age of mammals is –	Coenozoic Era		sloth	- 9
•	The study of mammal	s is – Mammology	•	In most of the mar	nmals the number of sacral
•	Number of living spec	ies in mammals is		vertebrae fuse to f	Form sacrum - 3-5
		- 4500	•	Dentition in ma	mmals is described as –
•	Smallest mammal	- Bumblebee bat		Heterodont, the	codont and Diphyodont
	(Craseonycteris tho	nglongyai)	•	Types of teeth in n	nammals
	- Thailand - 30-40m	m, 1.5-2.0 grams		– Incisors, Cani	ines, premolars and mo-
•	Smallest of the mamm	als by mass – Etruscan		lars	
	Pygmy Shrew - 1.3 g	rams	•	Incisors are	- Cutting teeth
•	Largest mammal - Blu	e whale - Balaenoptera	•	Canines are	– Tearing teeth

- *musculus-*30m, 190 tonnes)
- As mammals maintain constant body tem-

- Grinding teeth

Premolars and molars are

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•

- Number of salivary glands in mammals -4 pairs (3 pairs in man)
- The type of salivary glands absent in man - Infra orbital
- The flap guarding glottis is- Epiglottis
- Elliptical RBC are seen in

- Llamas and camels

- Pace maker in the heart is the
 - Sino atrial node
- Sinus venosus incorporates into right atrium as Sino atrial node
- The two aortic arches arising from the heart are

- Pulmonary arch and left systemic arch

- The portal system absent in mammals is - Renal portal system
- Dorsal part of cerebrum forms Cerebral cortex
- The nerves band connecting the two cerebral hemispheres is the

– Corpus callosum

• Optic lobes divide to form

– Corpora quadrigemina

- Number of cranial nerves **12 pairs**
- Lobe of the external ear characteristic of mammals is the – **Pinna**
- External ear (pinna) is absent in -monotremes, cetaceans and sirenians
- Number of ear ossicles connecting tympanum and the internal ear -3
- Names of ear ossicles

- Malleus, Incus and Stapes

- The three bones of primitive reptiles that form malleus, incus and stapes are **Articular, quadrate and hyomandibular**
- Smallest bone in the body of a mammal is the Stapes
- Coiled part of the internal ear is the

– Cochlea

- Echolocation is seen in Bats, whales, manatees, seals and shrews
- Type of kidney in mammals

– Metanephros kidneys

- The chief nitrogenous excretory waste is Urea (Ureotelic)
- Testes occur in pouches called - Scrotal sacs

- Among the mammals scrotal sacs are absent in – Monotremes, some marsupials and eutherians like elephants, cetaceans, sirenians, rhinos etc.,
- Menstrual cycle is found in Humans and many other primates
- Oestrous cycle is seen in Other viviparous mammals
- Number of extraembryonic membranes are 4

Classification of Mammalia

• Vaughan etal classified Mammalia into two subclasses - Prototheria and Theria

Sub class : Prototheria

- The part of the ear absent in prototherians - External ear (Pinna)
- In the prototherians teeth occur only in the **Juveniles**
- The reptilian feature associated with the pectoral girdle

- T shaped inter clavicle

- Epipubic bones extend from **Pubis**
- Ribs are single headed without **tuberculum**
- Mammary glands of prototherians differ from those of the higher mammals in not possesing – Nipples
- A primitive feature with reference to the fore brain of a prototherian is

- Absence of corpus callosum

- Nature of cochlea Simple (not coiled)
- Position of testes abdominal (scrotum is absent)
- Urino-genital sinus and rectum open into
 Cloacal sac
- Number of uteri in Prototheria 2
- Lack of vagina is seen in Prototheria
- As prototherians lay eggs they are described as **Oviparous**
- Type of egg is Megalecithal
- Type of cleavage is Meroblastic
- Distribution Australia & Tasmania
- The only living order of Prototheria is - Monotremata
- Common name of *Ornithorhynchus anatinus is* – **Duck-billed platypus**
 - Platypus occurs in

-Australia and Tasmania

•

- Eggs deposit in nest in Platypus
- A grooved erectile poisonous spine is present at

- Tarsus of male platypus

• Nature of toes in platypus

-Clawed and webbed

- Poisonous spur occurs on the heel of - Male platypus
- Common name of *Tachyglossus aculeatus* - Short nosed echidna
- Common name of Zaglossus bruijni

- Long nosed echidna

Subclass Theria:

Viviparous mammals included under -Theria Mammae provided with – Nipples Pinna is formed in – Theria Reduced structure in pectoral girdle is – Coracoid Ribs of Theria are – Double headed Cervical ribs are absent in – Theria Cochlea in Theria is – Coiled Testes are – Extraabdominal Gestation period is seen in – Theria Placenta is developed in – Theria The subclass Theria is divided into two infraclasses – Metatheria and Eutheria

Infraclass : Metatheria

• The only order of Metatheria

- Marsupialia

- The pouch to carry young ones in the females is called Marsupium
- Bones supporting the marsupium are called

– Epipubupic bones

- Dental formula of a typical metatherian is - i 5/4, c1/1, pm 3/3/, m 4/4
- Last premolars are replaced in

- Marsupials

• Viviparous mammals without corpus callosum

– Marsupials

- All parts of neopallium are connected in marsupials by - **Hippocampal and anterior commissures**
- Nature of anus and urinogenital aperture -Controlled by common sphincter
- Uteri and vaginae are **Double**
- Glans penis is forked in

- Male marsupials

- Nature of scrotal sacs
 - Occur infront of the penis (penis occurs behind the scrotum)

• Type of placenta

- Chorio-vitelline placenta

• Placenta of *Perameles* is

- Chorioallontoic placenta

- Shortest gestation period among mammals is seen in Marsupials
- Nature of young ones at the time of birth - Naked and blind
- The land of marsupials is -Australia
- *Didelphis* (Opossum) lives in
 North, Central and South America
- Coenolestes (Opossum rat) lives in - South America

Shortest gestation period among mammals is

– Opossum (12 – 14 days)

• Zoological name of kangaroo

– Macropus

- Zoological name of koala bear is - *Phascolarctos*
- Zoological name of marsupial bandicoot - *Perameles*
- Zoological name of Tasmanian wolf is *Thylacinus*
- Zoological name of banded anteater - Myrmecobius

Infraclass : Eutheria :

seen in

•

•

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- Highest evolved placental mammals are Eutherian mammals
 - Dental formula of a typical eutherian is - i 3/3, c1/1, pm 4/4/, m 3/3
 - Space between anus and urino-genital aperture
- is Perineum
 Mammals with a well developed corpus cal-
- losum Eutherians
- Epipubic bones are absent in

– Eutheria

• Corpus callosum is well developed in

– Eutheria

• Nature of anus and urinogenital apertures in Eutherians

- Controlled by separate sphincters

- Type of placenta in Eutheria is - Chorio allantoic placenta
- Longest gestation period is seen in

- Elephants (24 months)

- Orders of Eutheria: Order
- Animals
- 1. **Insectivora** Hedgehogs, shrews

2. 3.	Chiroptera Primates	Bats Lemur, loris, monkeys,	
4	Rodentia	apes, numan Rats squirrels porcupines	
5. 6. 7.	Lagomorpha Cetacea Carnivora	Guinea pigs Rabbits, hares Whales, dolphins Dogs, foxes, cats, leopards, tigers, lions, seels	
8. 9.	Proboscidea Sirenia	Elephants Sea cows (dugongs and	
10. 11.	Perissodactyl Artiodactyla	manatees) a Horse, ass, zebra, rhino Pigs, hippos, camels, cattle, sheep, deer, giraffes	
•	Odd-toed ungt	Devices de style	
	F (1		
•	Even toed ungu	liates and ruminents belonged to	
•	Even toed ung	ulates - Pigs, hippos	
•	Ruminants - C	amels, cattle, sheep, deer,	
	gi	raffes	
	GENERAL L	L CHARACTERS EVEL - I	
288.	Longest gestation	n period is seen in	
	 human being elephants 	gs 2. rabbits 4. opossums	
289.	 human being elephants spot the mami cervical vertebi Horse Giraffe 	gs 2. rabbits 4. opossums mal that does not possess seven rae among the following 2. Elephant 4 Manatee	
289. 290.	 human being elephants spot the mamin cervical vertebric Horse Giraffe Mammals evo birds amphibians 	gs 2. rabbits 4. opossums mal that does not possess seven rae among the following 2. Elephant 4. Manatee lved from the 2. reptiles 4. fishes	
289. 290. 291.	 human being elephants spot the mamin cervical vertebric Horse Giraffe Mammals evon birds amphibians An exclusive modeling diaphragm 4-chambered 	gs 2. rabbits 4. opossums mal that does not possess seven rae among the following 2. Elephant 4. Manatee lved from the 2. reptiles 4. fishes mammalian trait among the fol-	
289.290.291.292.	 human being elephants spot the mamin cervical vertebility Horse Giraffe Mammals evon birds amphibians An exclusive in lowing is diaphragm 4-chambered sudoriferout Middle ear an among the follo malleus, incomparent 	gs 2. rabbits 4. opossums mal that does not possess seven rae among the following 2. Elephant 4. Manatee lved from the 2. reptiles 4. fishes nammalian trait among the fol- ed heart s glands 4. viviparity d inner ear parts respectively owing are cus parti cochlea	
 289. 290. 291. 292. 293. 	 human being elephants spot the mamin cervical vertebric Horse Giraffe Mammals evon birds amphibians An exclusive in lowing is diaphragm 4-chambered sudoriferours Middle ear an among the folic malleus, ind corgan of cod cochlea, ind stapes, sem Eggs of egg lay alectithal 	gs 2. rabbits 4. opossums mal that does not possess seven rae among the following 2. Elephant 4. Manatee lved from the 2. reptiles 4. fishes nammalian trait among the fol- ed heart s glands 4. viviparity d inner ear parts respectively owing are cus icircular canal ring mammals are 2. mesolecithal	
 289. 290. 291. 292. 293. 293. 294. 	 human being elephants spot the maminicervical vertebric Horse Giraffe Mammals evoid birds amphibians An exclusive in lowing is diaphragm 4-chamberod sudoriferout Middle ear and among the follocial manenation of constrained and the follocial states, sem Eggs of egg lay alectithal macrolecithat Number of cervit. 	gs 2. rabbits 4. opossums mal that does not possess seven rae among the following 2. Elephant 4. Manatee lved from the 2. reptiles 4. fishes nammalian trait among the fol- ed heart s glands 4. viviparity d inner ear parts respectively owing are cus orti, cochlea cus icircular canal ving mammals are 2. mesolecithal al 4. microlecithal vical vertebrae in manatee is 2. 8	

295.	The chief function of diaphragm is		
	1. holding alimentary canal in place		
	2. preventing stomach, liver etc from		
	occupying the lower abdomen		
	4 ventilation movements		
296	Organ of Corti is present in		
270.	1. Roof of buccal cavity		
	2. Middle ear		
	3. Internal ear		
	4. Brain		
297.	In which mammal, teeth are present only in		
	the young stages		
	1. Whate 2. Koala 3. Platypus 4. Opossum		
298	Least number of aortic arches are present in		
270.	1) A nampiotes		
	2) Amniotic souronside		
	2) Amnotice homostherma		
	3) Annouch official the area		
200	4) Annhouc, pointhounernis		
299.	ne type of teeth in typical mammals which are present in the least number is		
	1) Premolars 2) Molars		
	3) Incisors 4) Canines		
300	Salivary glands absent in man are		
500.	1) Parotid 2) Infra orbital		
	3) Submaxillary 4) Sublingual		
301	RBC of camels are		
2011	1) Enucleated, biconcave and circular		
	2) Nucleated, biconcave and circular		
	3) Fnucleated, biconcave and elliptical		
	4) Nucleated biconcave and elliptical		
302	Glands not associated with protection of eve are		
502.	1) Lacrimal 2) Harderian		
	3) Infra orbital 4) Meibomian glands		
303	Epidermal hair is found only in larval stage in		
505.	1) Whale 2) Shrew		
	3) Echidna 4) Kangaroo		
304	In Mammals, the bony secondary palate is		
2011	formed by the union of		
	1) Pre maxillae, quadrate and squamosal		
	2) Pre maxillae, maxillae and quadrate		
	3) Parietal, squamosal and Palatine		
	4) Pre maxillae, maxillae and palatine		
305.	Cleavage in mammals is		
	1) Holoblastic and equal		
	2) Meroblastic		
	3) Holoblastic and unequal		
	4) Proboscidae and Sirenia		

306.	External ear is absent in		
	a) Monotremata b) Cetacea		
	c) Sirenia d) Rodentia		
	1) a and b 2) b and c		
	3) a, b and c 4) a, b, c and d		
307.	Vertebrae with flat centra are		
	1) Procoelous 2) Amphicoelous		
	3) Heterocoelous 4) Amphiplatyan		
308.	Pinna is present but scrotal sacs are absent in	1	
	1) Manatamata 2) Bush and da		
	1) Monotremata 2) Proboscidea		
	3) Cetacea 4) Marsupialia		
309	Number of bones present in the lower jaw of	f	
507.	mammals is		
	1. two 2. three		
210	3. four 4. one only		
310.	I he following are the statements about mam- mals	•	
	I. Mammals dominated in coenozoic era		
	II. Mammals have single headed ribs, mostly	7	
	III. In mammals sweat glands are modified		
	into milk glands		
	1. 1 & II are true 2. II & III are true		
	3. I & III are true 4. Only I is true		
311.	Corpus callosum is well developed in		
	1) Mammals with allantoic placenta		
	2) Mammals with abdominal testes		
	3) Mammals with yolk sac placenta		
	4) Mammals with egg laying habit		
312.	The following are endothermic vetebrates :		
	I) Didelphis II. Delphinus		
	III) Tachyglassus IV. Pteropus		
	Amongst these in which pair, the broad trasverse		
	band of nerve tissue connecting internally the		
	two cerebral hemispheres is either poorly de		
	veloped or absent.		
	1) I and III 2) I and II		
212	3) II and IV 4) III and IV		
313.	of Aves and Mammalia?	\$	
	I) Extraembryonic membrane		
	II) Double headed ribs		
	III) Skull		
	IV) Metanephric kidnev		
	1) I and II 2) II and III		
	$\begin{array}{c} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 $		
	<i>3j</i> 1, 11 anu 1 v 4 <i>j</i> 11 anu 1 v		

Classification of Mammalia LEVEL-I

314.	Among the flollowing which character is not common to reptiles and prototherians		
	1. Type of interclavicle		
	2. Simple cochlea		
	3. Lack of epipubic bones		
	4. Having cloaca		
315.	Monotreme that has poison spine is		
	1. duckbilled platypus		
	2. short nosed echidna		
216	5. long nosed echidina 4. opossum		
510.	Animoles with 1 shaped inter clavicle and		
	1 Squamatas 2 Croadilas		
	1. Squamates 2. Crocodnes		
217	5. Monouremes 4. Filmates		
517.	Louing mommals		
	I Eshidas 2 Antolons		
	1. Echidaa 2. Antelope 2. Man 4. Elambant		
210	3. Man 4. Elephant		
516.	of [FAMCET]		
	1. Oviparous mammals		
	2. Pouched mammals		
	3. Oviparous reptiles		
	4. Viviparous snakes		
319.	The reptilian character of prototherians is		
	[EAMCET]		
	1. Diaphragm		
	2. "1" shaped inter clavicle		
	J. Seven cervical vertebrae A. Only left cortic arch present		
	LEVEL - II		
320.	The following are the statements about ovipa-		
	rous mammals		
	I. 'T' shaped pectoral girdle is present		
	II. Sweat glands are modified mammary glands		
	III. Abdominal testes are present		
	1. 1 & II are correct		
	2. If & III are correct		
	3. 1 & III are correct		
221	4. An are wrong		
321.	which of the following are true to the		
	prototherians?		
	A. Pectoral girdle is associated with 'T' shaped		
	interclavicle.		
	B. Mammary glands are modified as sebaceous glands.		
	C. Pelvic girdle possesses cpipubic bones		
	D. Vertebrae are with epinbyses		
	The correct statements are		
	which of the above two are correct?		
	1) A and C 2) A and B		

3) C and D 4) B and C

- 322. Following statements are about Duck billed platypus
 I. It has clawed & webbed toes
 II. Female has a spur on heel
 III. It is oviparous
 1. I, III are correct
 2. I only correct
 - 3. II & are corret 4. All are correct

Subclass Theria:

LEVEL-I

323.	Choriovitelline placenta occcurs in	
	1. Tachyglossus 2. Panthera	
	3. Felis 4. Phascolarctos	
324.	Dental formula of a typical marsupial is	
	1. i 3/3, c1/1, pm 4/4, m 3/3	
	2. i 2/3, c1/1, pm 4/4, m 3/3	
	3. i 5/4, c1/1, pm 3/3, m 4/4	
	4. i 5/4, c1/1, pm 2/2, m 4/4	
325.	Number of incisors present in each half of the	
	lower jaw of <i>Didelphis</i> is	
	1.5 pairs 2.18	
	3.4 pairs 4.4 only	
326.	Phascolarctos is commonly called	
	1. kangaroo2. kangaroo rat	
	3. Koala bear 4. brown bear	
327.	Australian marsupial is	
	1. <i>Macropus</i> 2. <i>Didelphis</i>	
	3. Caenolestes 4. Zaglossus	
328.	Two uteri without vagina can be seen in	
	1. Metatheria 2. Prototheria	
	3. Theria 4. Eutheria	
329.	American marsupial is	
	1. Didelphis 2. Panthera	
	3. Felis 4. Acinonyx	
330.	In Didelphis the total number of Incisso	
	teeth present in upper jaw	
	1. 12 2. 10	
	3. 8 4. 5	
331.	Glans penis is forked in	
	1. Echidna 2. Whale	
	3. Oposum 4. <i>Sphenodon</i>	
332.	Common sphincter for anus and urinogenital	
	opening is possessed by	
	1. Unfinished mammals	
	2. Aquatic mammals	
	3. Flying mammals	
	4 Marsunial Mammal	
222	Valle sage plaganta is sage usually in the daya	
555.	Fork sac pracenta is seen usually in the devel-	
	opment of	
	1) Macropus 2) Tachyglossus	
	3) Oryctolagus 4) Ursus	
334	Incisors in Didelphis are	
551.	1) A in symmetric and A in 1	
	1) 4 m upper jaw and 4 m lower jaw	

2) 4 in upper jaw and 4 in lower jaw

- 3) 4 pairs in upper jaw and 5 pairs in lower jaw
- 4) 5 pairs in upper jaw and 4 pairs in lower jaw
- 335. Mammals in which incisors are not more than three in each half of the jaw, are characterised by
 - 1) Bifid penis
 - 2) Single headed ribs
 - 3) Presence of coracoids
 - 4) Well developed corpus callosum

LEVEL - II

336.	Following are the statements about marsupials		
	I. Anal and urinogenital openings are with a com-		
	II. Corpus callosum is absent		
	III. Epipubic bones support marsupium		
	1. I & II are correct		
	2. II & III are correct		
	3. I & III are correct		
227	4. I, II & III are corect		
337.	sum		
	I. It is confined to America		
	II. Upper jaw is with ten incisors		
	III. It has chorioallontoic placenta		
	1. 1 & II are correct		
	2. 1 & III are correct		
	4. III only is correct		
338.	Which of the following can be found in the 'Land		
	of Archiac mammals'?		
	A) Ornithorthynchus, Tachyglossus B) Di-		
	delphis, Macropus		
	C) Macropus Casuarius		
	D) Struthio, Apteryx		
	1) A and B 2) A and C		
	3) A, C and D (4) A, B and D		
339.	Which of the following is not true of <i>Didelphis</i> ?		
	A) It is an arboreal marsupial		
	B) It is a mammal with shortest gestation period		
	C) It has 18 incisor teeth		
	D) It is with rudimentary tall		
	1) A and B 2) B and C		
	3) D 4) C and D		
340.	Following are the statements regarding Opossum		
	i) it is tree dwelling marsupial		
	ii) It is diurnal		
	iii) it has 4 pair of incisors in upper jaw and 5 pair		

UNIT-II

of incisors in lower jaw	
iv) Tail is prehensile	
Correct statements are	
1) i and ii	2) ii and iii
3) i and iv	4) iii and iv

Infraclass : Eutheria LEVEL-I

341.	Hedgehog belongs to 1. Carnivora	2. Artiodacty	/la	
342	3. Insectivora Number of teeth in ea	4. Perissoda half of the u	ctyla	aw
512.	of a Eutherian does not exceed			
	1. 11	2. 13		
	3. 22	4.44		
343.	Which of the followir whales justifies their i mammalian?	ng group of chan nclusion under	racters [.] the cla	of
	1) Presence of hair			
	2) Presence of externa	al ear		
	3) Presence of testis in Presence of mammary	n scrotal sacs glands	4)
3//	In sub class Futheria	the total number	r of too	th

344. In sub class Eutheria, the total number of teeth, in both the jaws never exceeds

2) 22

3) 36 4) 48

LEVEL - II

345. If a member of Eutheria consists maximum number of teeth, its jaws consist

Canines Premolars Molars Incisors

1) 12	4	16	12
2) 4	12	16	18
3) 4	16	12	12
4) 2	8	6	6

- 346. Which of the following is true about Eutherians
 - A. Commonly known as placental mammals
 - B. Gestation is longer than oestrous cycle.
 - C. Epipublic bones are present

LEVEL - III

Note: The following questions consists of Statement and Reason (R). Identify the correct answer from the choices given below.

1. Both 'S' and 'R' are true and 'R' is the true explanation to 'A'

2. Both 'S' and 'R' are true but 'R' is not the true explanation

3. 'S' is true but 'R' is false

4. Both 'S' and 'R' are false

347. Statement (S) : Mesozoic era is called the golden age of reptiles.

Reason (R) : Reptiles evolved during the mesozoic era.

348. Statement (S) : Reptilian skull is monocondylic

Reason (R): Reptilian skull articulates with atlas by a single occipital condyle

349. Statement (S) : Reptilian vertebrae are of the procoelous type

Reason (R): Reptilian vertebrae have concavities on both sides of the centrum

350. Statement (S): Reptilian zygote undergoes meroblastic cleavage

Reason (R): Reptilian eggs contain large amount of yolk

351. Statement (S) : The embryo of a reptile has an inbuilt aquatic environment that protects it from desiccation

> **Reason (R) : The embryo of a reptile develops an amnion that contain amniontic fluid.**

352. Statement (S): Reptiles are first true terrestrial vertebrates.

Reason (**R**) : Reptiles are first group of vertebrates with exoskeleton.

353. Statement (S): In reptiles the three aortic arches directly originate from the ventricle.

Reason (R) : In reptiles truncus arteriosus is absent.

- 354. T shaped interclavicle is present in I) First formed terrestrial amniotes II) First formed tetrapods
 - III) First formed hairy quadrupeds IV) First formed jawed vertebrates

1) I only	2) I and II
3) I and IV	4) I and III

	Mate	ch the	follo	wing		
	List	-I		List – II	[
	A)D	liapsic	1	I) Cotvl	osai	irus
	B)P	arapsi	id	II) Ichth	vos	aurus
	C) E	uryap	sid	III) Pter	osau	irus
	D)A	napsi	d	IV) Ples	siosa	urus
	E) S	ynaps	sid	V) Pely	cosa	urus
				VI) Ura	eoty	phlus
		А	В	С	D	E
	1)	Ι	II	III	IV	Ι
	2)	III	II	Ι	V	IV
	3)	III	Π	IV	Ι	V
	4)	IV	V	III	II	VI
356.	Stud	y the	follov	wing		
Type of	f skull	Num	ber of	f pairs of	P	rincipal
		te	mpor	al opening	gs g	groups
1.Ana	psid		2		С	otylosaurs
2. Par	apsid		1		Ic	hthyosaurus
3. Syr	apsid	l	1		C	ynognathus
4. Dia	psid		2		Ch	elonians
The co	orrect	comb	oinati	ons of th	e ab	ove are
1. 1 a	nd 2			2. 1 an	d 3	
3. 2 a	nd 3			4. 1 an	d 4	
357.	Stud	y the f	ollov	ving:		
Skull		Tem	por	al fossae		Present in
I) Ana	psid	A	bsent	ţ		Testudo
				1 . 1.1	eve	e Ichthyosaurus
II) Par	apsid	L	ow b	ehind the	JUYU	-
II) Par III) Eu	apsid ryaps	L id B by	ow b ordei v posi	ehind the red belov t orbital	N	Plesiosaurus
II) Par III) Eu IV) Di	apsid ryaps apsid	L id B by Ty	ow b orden y posi wo	ehind the red below t orbital	N	Plesiosaurus Peterosaurs
II) Par III) Eu IV) Di The cc	apsid ryaps apsid orrect	L id B by Tv combi	ow b order y pos wo inatic	ehind the red below t orbital on is	N	Plesiosaurus Peterosaurs
II) Par III) Eu IV) Di The cc 1) I an	apsid ryaps apsid orrect	L id B by Ty combi	ow b orden y post wo inatic	ehind the red below t orbital on is 2) II and	d III	Plesiosaurus Peterosaurs
II) Par III) Eu IV) Di The cc 1) I an 3) I, II	apsid ryaps apsid orrect d II I and	L id B by Tv combi	ow b order y pos ^r wo inatic	ehind the red below t orbital on is 2) II and 4) I. II.	d III III a	Plesiosaurus Peterosaurs nd IV
II) Par III) Eu IV) Di The cc 1) I an 3) I, II 358	apsid ryaps apsid orrect d II I and Arra	L id B by Tv combi IV	ow b orden y pos wo inatic he ty	ehind the red below t orbital on is 2) II and 4) I, II, pes of sk	d III III a	Plesiosaurus Peterosaurs nd IV corresponding to
II) Par III) Eu IV) Di The cc 1) I an 3) I, II 358.	apsid ryaps apsid orrect d II I and Arra the	L id B by Tv combi IV nge t supra	ow b order y pos wo inatic he tyj temp	ehind the red below t orbital on is 2) II and 4) I, II, pes of sk	d III III a culls	Plesiosaurus Peterosaurs nd IV corresponding to ordered below by
II) Par III) Eu IV) Di The cc 1) I an 3) I, II 358.	apsid ryaps apsid orrect d II I and Arra the s	L id B by T combi IV .nge t supra orbita	ow b order y pos wo inatic he ty temp l and	ehind the red below t orbital 2) II and 4) I, II, pes of sk poral foss squamos	d III III a culls sa bo al, s	Plesiosaurus Peterosaurs nd IV corresponding to ordered below by upra temporal fossa
II) Par III) Eu IV) Di The cc 1) I an 3) I, II 358.	apsid ryaps apsid orrect d II I and Arra the post with	L id B by T combi IV nge t supra orbita post	ow b orden y pos wo inatic he ty temp l and front	ehind the red below torbital on is 2) II and 4) I, II, pes of sk poral foss squamost al and su	d III III a culls sa bo al, su	Plesiosaurus Peterosaurs nd IV corresponding to ordered below by upra temporal fossa temporal meeting
II) Par III) Eu IV) Di The cc 1) I an 3) I, II 358.	apsid ryaps apsid orrect d II I and Arra the post with belo	Lid B by Tw combine IV nge t supra orbita post	ow b order y post wo inatic he ty temp l and front ra ten	ehind the red below t orbital 2) II and 4) I, II, pes of sk poral foss squamost al and su nporal fos	d III III a culls sa bo al, si ipra	Plesiosaurus Peterosaurs nd IV corresponding to ordered below by upra temporal fossa temporal meeting vith post orbital and
II) Par III) Eu IV) Di The cc 1) I an 3) I, II 358.	apsid ryaps apsid orrect d II I and Arra the post with belov squa	L id B by T combi IV nge t supra orbita post w, inf mosal	ow b order y post wo inatic he ty temp l and front ra tem	ehind the red below t orbital 2) II and 4) I, II, pes of sk poral foss squamost al and su nporal foss ting above	d III III a culls sa bo al, ss upra ssa v e in r	Plesiosaurus Peterosaurs nd IV corresponding to ordered below by upra temporal fossa temporal meeting vith post orbital and eptiles sequentially
II) Par III) Eu IV) Di The cc 1) I an 3) I, II 358.	apsid ryaps apsid orrect d II I and Arra the sost with belov squa 1. E	Lid B by Tw combine IV nge t supra orbita post w, inf mosal uryps	ow b order y post wo inatic he ty temp l and front ra ten meet id, p	ehind the red below t orbital 2) II and 4) I, II, pes of sk poral foss squamost al and su nporal foss ting above arapsid,	d III III a culls sa bo al, ss ipra sssa v e in r syna	Plesiosaurus Peterosaurs nd IV corresponding to ordered below by upra temporal fossa temporal meeting vith post orbital and eptiles sequentially apsid
II) Par III) Eu IV) Di The cc 1) I an 3) I, II 358.	apsid ryaps apsid orrect d II I and Arra the spost with belov squa 1. E 2. Pa	L id B by T combi IV nge t supra orbita post w, inf mosal uryps arapsi	ow b order y post wo inatic he ty temp l and front ra tem inatic id, p	ehind the red below t orbital 2) II and 4) I, II, pes of sk poral foss squamos al and su nporal fos ting above arapsid, irypsid,	d III III a culls sa bo al, su pra ssa v e in r syna syna	Plesiosaurus Peterosaurs nd IV corresponding to ordered below by upra temporal fossa temporal meeting vith post orbital and eptiles sequentially apsid
II) Par III) Eu IV) Di The cc 1) I an 3) I, II 358.	apsid ryaps apsid orrect d II I and Arra the spost with belov squa 1. E 2. Pa 3. S	Lid B by Tw combine IV nge t supra orbita post w, inf mosal uryps arapsi ynaps	ow b order y post wo ination he ty temp l and front ra tem ind, p id, et id, et	ehind the red below t orbital 2) II and 4) I, II, pes of sk ooral fose squamose al and su nporal fose arapsid, urypsid, urypsid,	d III III a culls sa bo al, s ipra ssa v e in r syna syna para	Plesiosaurus Peterosaurs nd IV corresponding to ordered below by upra temporal fossa temporal meeting vith post orbital and eptiles sequentially apsid apsid
II) Par III) Eu IV) Di The cc 1) I an 3) I, II 358.	apsid ryaps apsid orrect d II I and Arra the spost with belov squa 1. E 2. P. 3. S 4. E	L id B by Tw combi IV nge t supra orbita post w, inf mosal uryps arapsi ynaps uryps	ow b order y post wo inatic he ty temp l and front ra tem id, p id, et id, et id, s	ehind the red below t orbital on is 2) II and 4) I, II, pes of sk poral foss squamoss al and su nporal fos ting above arapsid, urypsid, urypsid, ynapsid,	d III III a culls sa bo al, si ipra ssa v e in r syna syna para	Plesiosaurus Peterosaurs nd IV corresponding to ordered below by upra temporal fossa temporal meeting vith post orbital and eptiles sequentially apsid apsid apsid apsid
II) Par III) Eu IV) Di The cc 1) I an 3) I, II 358. 358.	apsid ryaps apsid orrect d II I and Arra the sost with belov squa 1. E 2. Pa 3. S 4. E Stud	Lid B by Tw combined IV nge t supra orbita post w, inf mosal uryps arapsi ynaps uryps y the t	ow b order y post wo inatic he ty temp l and front ra tem id, p id, eu id, eu id, s follo	ehind the red below t orbital 2) II and 4) I, II, pes of sk poral foss squamost al and su nporal foss arapsid, urypsid, urypsid, ynapsid, wing tabl	d III III a culls sa bo al, si ipra ssa v e in r syna syna para para e (E	Plesiosaurus Peterosaurs nd IV corresponding to ordered below by upra temporal fossa temporal meeting vith post orbital and eptiles sequentially apsid apsid apsid apsid AMCET 2008)
II) Par III) Eu IV) Di The co 1) I an 3) I, II 358. 359. Subcl	apsid ryaps apsid orrect d II I and Arra the spost with belov squa 1. E 2. P 3. S 4. E Stud ass	Lid B by Tw combined IV nge f supra orbita post w, inf mosal uryps arapsi ynaps ynaps ythe t	ow b order y post wo inatic he tyj temp l and front ra tem id, p id, et id, et id, s follow	ehind the red below t orbital 2) II and 4) I, II, pes of sk poral foss squamos al and su nporal fos arapsid, urypsid, urypsid, ynapsid, wing tabl Skull	d III III a culls sa bo al, si ipra syna syna para para e (E E	Plesiosaurus Peterosaurs nd IV corresponding to ordered below by upra temporal fossa temporal meeting vith post orbital and eptiles sequentially apsid apsid apsid AMCET 2008) xample
II) Par III) Eu IV) Di The cc 1) I an 3) I, II 358. 358. 359. Subcl A.Ana	apsid ryaps apsid orrect d II I and Arra the sost with belov squa 1. E 2. Pa 3. S 4. E Stud ass psida	La id B by Tw combine IV nge t supra orbita post w, inf mosal uryps arapsi ynaps yraps yraps	ow b order y post wo inatic he ty temp l and front ra tem id, p id, et id, et id, et id, s follow	ehind the red below t orbital 2) II and 4) I, II, pes of sk ooral foss squamost al and su nporal fos arapsid, urypsid, urypsid, ynapsid, wing tabl Skull Anapsid	d III III a culls sa bo al, ss upra syna para para para e (E E d H	Plesiosaurus Peterosaurs nd IV corresponding to ordered below by upra temporal fossa temporal meeting vith post orbital and eptiles sequentially apsid apsid apsid AMCET 2008) xample latteria

C.Syap	otosauria	a	Eurya	Euryapsid Plesiosaurus				
D.Lepi	dosauria	a	Diaps	id Co	otylosauri	a		
Which	oneoft	he ab	ove is cor	rect con	nbination	?		
	1) A 4) D		2) B			3) C		
360.	The fol	lowir	ng are the	cheloni	ans found	in fresh		
	water,	marir	ne water a	nd land				
	a. Turtl	es b.	Terrapin	s c. To	ortoises			
	Arrang	e the	se in sequ	lence				
	1. c b a	l	2. b :	a c				
	3. b c	a	4. al	o c				
361.	Match	the fo	ollowing					
Anima			Char	acter				
A. Che	elone		I. Theco II Absen	10nt Ice of lii	nh girdle	c		
C Sna	ake		III Ampl	nicoelou	sverterbra	e e		
D. Spi	henodoi	n	IV. Duct	is Botall	i	e		
_ · ~r		-	V. Diph	yodont	_			
The co	rrect co	mbin	ation is	-				
	_	A	B	C	D			
	1.	IV	II	l	V			
	2.		I П	II T				
	5. 4	Ш		I IV	V I			
362.	Match	the fo	ollowing	1,	1			
	Anima	ıl	0	Orde	er			
	A. Tri	onyx		I. Ap	oda			
	B. Spl	henod	don	II. Cr	rocodilia			
	C. All	igato	pr	III. C	helonia			
	D. He	mida	ctylus	IV. RI	nynchocep	halia		
	The co	orrect	combina	v. so tion is	Juamata			
	1110 00	A	B	С	D			
	1.	II	III	IV	Ι			
	2.	III	IV	II	Ι			
	3.	V	II	III	IV			
262	4.	III			V	, .		
363.	Statem	ient ((S): Spl	henodo sail"	on puncta	<i>itum</i> 18		
	caneu		aving Fo	5511.				
	Reason	n (R) 	: Sphen	odon p d accar	unctatum	15 con-		
	iinea t	o oni	y a limite	a zoog	eographic	ai area		
261	Dead	ha fai	11			tife, the		
504.	correct	state	monts ne	areiuiiy	and iden	est close		
	ofamn	iotes	that ever	slved o	g to the face	st class		
	earth	lotes		Jiveu (
	i Tuo	tara	lizord h	alongs	to the s	ih class		
	I. Iua Lenido	iara sanris	nzaru D	ciongs		10 01888		
	ii Gila	mon	• ster helon	os to th	e order I	acertilia		
		1		igo 10 11				
	111. Col	ylose	and c		ans donot	possess		
	tempor	ai 109	ssae min	e skull				

EAMCET- SENIOR ZOOLOGY

1.	i & ii are	correct			369. Match the following					
2.	i & iii are	e correc	t		Animal name		Com	imon na	me	
3.	ii & iii are	e correct			A. Phrynosom	а	I. Gila	a monste	er	
4.	i, ii & iii a	re corre	ct		B. Ophiosauri	us	II. Col	lourchar	nging liz	zard
365. CI	noose the	correct	statem	ent	C. Heloderma		III. Gla	ass snak	e	
D	Komodo d	ragon is 1	the large	est lizard	D. Chameleon		IV. He	orned to	ad	
1) I	Readed liz	vard is the	e only n	oisonous lizard			V. Mo	nitor liz	ard	
ш Ш) Python ha	s vestigi	al foreli	mbs	Correct combin	nations				
1)	J and II	2) II -	and III	1105		Α	В	С	D	
3)	I and III	2) II 3 (1) I 1	II and II	т	1.	Π	III	Ι	IV	
366 C	noose the	correct	combin	ations	2.	IV	III	Π	Ι	
Animal	Cha	racter 1	Cha	racter 2	3.	III	Π	Ι	IV	
A. Crotal	us Pit v	iper	Haen	nolytic toxin	4.	IV	III	Ι	Π	
B. Pythor	n Larg	est non-	Vestig	gial hindlimbs						
reticula	tus veno	mous			370. Study t	the foll	owing	: Salia		
C Dhan you	snal	ke nutood	Mou	hla avalida	Animai Ivame	Nam	non ne	Salle featu	nı ires	
D. Draco	Flvir	ny toad	Petag	na eyenus	1. Chelone	Turtl	e	Transv	erse	
1.	A and C a	re corre	ct			TT		cloacal	openin	g
2.	A and B	are cor	rect		2. Sphenodon	Hatt Flyir	eria	Parieta Patagi	al eye	
3.	C and D	are con	rect		4. Ophiosauru	s Glas	ss snake	e Crania	al	
4. 367 M	A, C and atch the fol	D are	correct		1			nerve	es 10 pa	irs
507. IVI	4011 UIC 101	lowing	List	П	The correct of	combi	nation	s of the	above	are
	El ring liza	nd	DISU-		$1) 1 \propto 2 = 2)$ 371 Statem	1 & 3 ent (S	3) 2 S) • Dra	& 3 coisa fl	4) 1 Iving liz	& 4 vard
A) D)	Decided lie	iu rond		utotomy	Reason	n (R) :	Drac	o has a	patagi	um sup-
D) C)	Manitar li			holomy	ported	l by r	ibs		1 0	
() (D	Wontor II				372. Statem	ent (S): Glass	s snakes	belong	to sub or-
D)	wall lizard	1	IV)E th	rough eves	der Lac	ertilia				
			V) L	roest lizard	Reason	\mathbf{R}	: They	are liza	rds but	with-
	٨	D		D	373 Match t	able e	yends a	ind exter	nai ear (openings.
1)	A III	Б I	V V	D IV	S75. Match	ific na	me (Commoi	ı name	`
2)	Ш	I	v	П	A. Oph	iophagi	us hanne	ah I. Sea	a snake	;
2) 3)	Ш	IV	V	П	B. Bun	garus		II. Ind	ian pit v	viper
(3) (4)	ш	IV	T	п	C. Enh	ydrind	7	III. Coi	nmon H	Krait
368 M	atch the fol	lowing	1	11	D. Irth	nerisu	rus	V. Ki	in ng cobr	.a
500. Mi	t = I	List.	_п			A	В	C	D	u
A) Elvinal	izard	D Au	totomy		1.	IV	III	I	V	
R) Render	llizord		mbless c	ondition	2.	V II	IV	I III		
C) Wall lie	ard		atagium	ondition	4.	II IV	I II	III III	V I	
D) Glass c	naka		Ieurotos	vicnoison	374. Match	the fol	lowing		_	
D) Olass S		D D	C		A. Snal	ke eati	ng snak	te i. Co	mmon	krait
1)	A III	ы Г	IV	П	B. Spo	ots on t	he belly	y 11. Ba	anded ki	rait
2)	I	Ш	IV	П	D. Zan	zarus 1enis	jusciul	us III. F iv. K	Car sliak	ora
2) 3)	Î	IV	T	П				v. He	mibung	garus
3) 1)	Ш П/	T	т Ш	П	A B	CD)	A B	C	D
4)	1 V	I	111	ш	$\begin{vmatrix} 1. & v & iv \\ 2 & \cdot & \cdot \end{vmatrix}$		i 2.	v i		V
					3. 1V V	1 11	4.	1V V	11 11	11

375.	Match swer	the foll	owing a	nd choo	ose the	correct an-	3. But coe	ngarus Truleus	Banded krait	4 th Ir large	nfralabial er
List-l	[List	-11		4. Eci	his	Saw scaled	Arro	ow mark
A)Ar	row ma	rk on th	e head	D La	chesis	5	Car The co	<i>inata</i> rrect.com	viper binations of the a	on h bove a	ead re
B)Ho	orse sho	e mark (on head	$I \cap C$	alloph	nis		1. 1 &	2 2.2 &	: 3	
C) Sn	ectacle	mark or	the ho	od III) A	Bunga	rus		3.3&	4 4.1&	: 4	
D)Cc	oral spot	s on the	belly	IV)	Echis		379.	Followi	ing are the stater	nents a	ibout snakes
E) Tra	ansverse	stripes	on hood	1 V)Λ	laia n	aia		i) Singl	e row of sub cau	idal sca	ales are found in
_)				VI) (Dohioi	phagus		Echis a	nd Bungarus	1 1	1 0 1.
		А	В	C	D	E		11) IWO	rows of sub cau	dal sca	ales are found in
	1)	IV	Ι	V	Π	II		iii) Ana	s viper and <i>vuj</i>	<i>u nuju</i> d in an	d Onkionkagus
	2)	IV	Ι	V	II	VI		hanna a	nd <i>callophis</i>	u ili ali	d Opniopnagas
	3)	Ι	IV	V	III	VI		iv) Ver	tebrals are lar	ge and	d hexagonal in
	4)	IV	III	V	II	VI		Hemibi	ungarus and Bu	ngarus	s
376.	Match	the fol	lowing	two set	s and	choose the		Which	of the above are	correc	xt?
	correc	t answe	r					1)Alle	xcept III 2) I and	d II	
	List -	[List-	- II				3) III ar	nd IV 4) II ar	nd III	
	A) Typ	ohlops	I) Ves	stigial pi	neal e	ye	380.	The foll	lowing statemen	its refei	r to the snakes of
	(B) Py	thon	II) Re	educed l	ungs	l-a		India			
	C Ap	honodo		esugiai l		mos		I) Whip	snake has a pre	hensile	e tail
	D) Spi	nenouo	$\frac{n}{V}$ V)R ₁	idiment	eyes arv wi	nøs		II) Ponc	l snake, has a la	terally	compressed tail
		А	B	С	D	1165		III) Doi	ible headed sna	ke has	no tail
	1)	IV	III	V	I			1. Only	I is true		
	2)	IV	Π	III	Ι			2. Only	I and II are true	9	
	3)	V	III	Ι	Π			3. Only	II and III are tr	ue	
	4)	III	Π	Ι	IV			4. Only	II is true		
377.	Match	the foll	owing:				381.	Find ou	t the correct con	nbinati	on:
	List-	Ι	List-	- II				Name	Character	Distr	ibution
A) Ar	icistrod	on I) Subca	udals a	re in t	wo rows	I) Cro	otalus	Loreal pit is pr	resent	America
B) En	hydrind	ı II) Anal sl	hield is	clefte	d	II) An	aconda	Second largest	Sou	ith America
C) <i>N</i> a	aja	II	I) Lorea	al pit is	presei	nt			non poisonous		
			betwo	een nos	tril and	leye		_	snake		
D) He	emibung	arus IV) Rudd	er shape	ed tail		$ $ III) L_{ℓ}	nchesis	Cuneate Shield	d Nort	th West Asia
		A	В	С	D				present		
	1)	III	IV	1	11		IV) H	ydrophis	Laterallycomp	ressed	European seas
	2)	III •	l	II T	IV			0	or rudder shape	d body	7
	3)	l	III	II •	IV			1) All a	re correct excep	ot III -	
	4)	11	IV	I	111			2) All a:	re false except l	1	
378.	Study	the follo	owing:					3) II and	d IV are correct	t	
Anim	al name	e Co	mmon	Sai	lent		202	4) I and The fall	I II are correct	. fan t	ha idantification
1 M	aia naia	Na Co	me	fea	tuers	mortz	382.	ofpois	nous snakes	ey for u	ne identification
1. 11(лји пији	Co	bra	on	hood	IIICIN		a. Natu	re of head b. I	Vature	ofVentrals
2. Vij	pera	Pit	less	Sul	cauda	ıls		c. Nati	ure of tail d. N	lature	ofvertebrals
ru	ssellii	vip	er	sin	gle rov	W		e. Nati	ure of head shie	elds/sc	cales

Arrange these in sequence that is generally followed for observation in identifying an Indian poisonous snake

1.	a-b-c	e-d-e	2.	c-ł)-a-e	:-c
-						

3. b-a-c-d-e 4. d-a-b-c-e

383. Arrange the following snakes based on their body length in descending order

a) Typhlpos b) Python reteculatus c) Eunectes d) Eryx 1) a-b-c-d 2) b-c-d-a 3) a-d-c-b 4) b-a-c-d

- 384. S. An Indian snake with triangular head and small cephalic scales can be considered a venomous snake, with certainity R: No nonvenomous snake in India has small cephalic scales and a triangular head
- 385. S: An Indian snake with diamond shaped rings on the body can detect its warm blooded prey in complete darkness R: it can detect warm blooded prey with the help of 'heat sensors' called loreal pits, present between the eyes and nostrils
- 386. S: A person bitten by *Enhydrina* could die of asphyxia involving insufficient supply of oxygen to the tissues by blood R: The poison of *Enhydrina* is toxic to the blood making it ineffective in transporting oxygen to the tissues
- 387. Statement (S): Snakes cannot perveive sound waves passing through the air Reason (R) : Middle ear is absent in snakes
- 388. Statement (S): A person bitten by a cobra dies of respiratory paralysis
 Reason (R): Poison of cobra is basically neurotoxic
- 389. Statement (S): Given the same quantities of venom the venom of *Bungarus* can kill a person faster than any other land neurotoxic snake Reason (R): Krait's venom is three times more virulant than cobra's venom
- 390. Statement (S): IV infralabial is the largest in the most venomous land snake of India
 Reason (R): Vertebral scales are large and hexagonal in the largest of the Indian non-venomous snakes

- 391. Statement (S): Snakes are highly sensitive to earth borne vibrations
 Reason (R) : As the tympanum of snakes can directly make a contact with the ground.
- 392. Statement (S): Ophiolphagus cannot receive sound waves passing through air whereas. Ophiosaurus can receive at born sound vibration

Reason (R) : Ophiosaurus is a limbless lizard.

- 393. Statement (S): Snakes have asymmetrical lungs and kidneys.Reason (R) : In snakes body is cylindrical and elongated.
- 394. Study the following:

Animals	Character	Distribution
i) Sphenodon	Vertebrae are	Newzealand
	amphicoelous	
ii) Heloderma	Poisonous lizar	d Mexico
iii) Gavialis	Long, narrow s	nout River Krishna
iv) <i>Naja naja</i>	Spectacle mark	Ireland
Which of the al	bove two are con	rrect
1) i and iv	2) i and ii	
3) ii and iii	4) iii and iv	
395.Study the f	ollowing:	
Animals	Character	Distribution
i) Python	Grows to over	South East Asia
reticulatus	10mts	
ii) Chelone	Fat is green	Rivers
iii) Trionyx	Shell is bony	Marine waters
iv) <i>Komodo</i>	Largest lizard	Indonesia
dragon		
Which of the al	bove two are con	rrect
1) i and iv	2) i and ii	
3) ii and iii	4) iv and iii	
396. Study th	e following:	
Animals	Character	Distribution
i) Ophiophagus	Builds nest for egg laying	Ireland
ii) Enhydrina	flattened tail	Marine habitat
iii) Python	vestigial	New Zealand
reticulatus	hind limbs	
iv) Heloderma	Poisonous animal	Mexico
Which of the al	bove two are con	rrect
1) i and ii	2) i	i and iii

3) iv and iii

4) ii and iv

397.	Match	the follo	owing				are rec	duced				
	Anima	al name		Salie	nt feature		II) Only right systemic in birds, left systemic					temic in
a. Typl	hlops	I. Four	nd in fre	esh wate	er		mamn	nals are	present		, ,	
b. Ptyc	as		II. Viv	viparous	5		III) Ui	rinarv ł	- oladder a	nd con	ulatory or	gans are
c. Tro	pidonot	US	III. C	ontrols	rat menace		absent	t in snal	kes and b	oirds	ulutory of	Suits are
d. <i>Ery</i> .	x		IV. H	ind limb	sare		1) A 11	t III SIIdi	2) L a	nd III		
			rud	limentai	ry		1)All	4	2)1a			
			V. Ey	es are ve	estigial and		3) I ar	nd II	4) II a	and III		
	T 1		hidde	n beneat	h the scales	402.	The fo	ollowin	ig are the	air sac	s found in	birds,
	The co	rrect co	mbinat	tion is	D		a. Po	sterior	thoracic	air sac	S	
	1	A	B	С Ш	D II		b. An	terior 1	thoracic	air sac	s	
	1. 2	I П			II V		c. Ce	rvical a	ir sacs			
	2. 2	II V		IV I	V II		d. Ab	domina	al air sac	5		
	з. Л	v V		I T	II W		e. Int	er-cla	vicular a	ir sac		
398	т. Study	v the follo	wing.	1	1 V		Arran	ige ther	n in the	posteric	or to anteri	or order
570.	Anima	al name	Com	mon	Sailent		1. a-ł	o-c-d-e	2. b-a	a-c-d-e		
	-		Nam	e	featuers		3. c-c	l-b-a-e	4. d-a	a-b-c-e		
	1. <i>Typ</i>	hlops	Worn	n snake	Eyes are well	403.	Arrang	e the fo	llowing arterior t	endosk o poster	eletal char rior end of	nges in a the body
					developed			4 1				uie oody
	2. Ptyc	<i>AS</i>	Farm friend	ler's	Viviparous		A) Pyge C) Syns	sacrum	В) Carin	a	
	3. <i>Dry</i>	ophis	Whip	snake	Oviparous		1) B – (C-A	2	(A - B)	– C	
	4. <i>Eryx</i> Double head Hindlimbs snake are vestigial						3) B – 2	A - C	4) A – C	-B	
	The co	rrect cor	nbinatio	ons of the	e above are	404.	Match	the foll	owing			
	1.1&	2		2.28	& 3 P= 1		List –	·I	List -	- II		
	5. 5 Q	4		4.20	x 4		A) Glo	orified	entiles I) Andre	as wagner	
300	Study	the follo	wings	about sn	akes		B) M	asters c	of air – I	() Parke	er	
i. Pvt	hon	Ovivi	narity	Non	venomous		C) 4r	achaoo	ntomy	III) Voi	ina	
ii. Pt	vas	Oar lik	tail	Non	venomous			·c	риегул · с	111) 100 1'	mg nau	1
iii. Erj	vx	Double	e heade	ed Hind	llimb rudi-		D)Cla	issincai		ummana	in Iv) Hux	ley
		snake		me	nts present				R	С	D	
iv. Ca					F			A	D 		-	
	llophis	Coral	spots	Ven	omous		1)	A II	III	IV	Ι	
	llophis	Coral	spots	Ven sna	omous ake		1) 2)	A II IV	III III	IV I	I II	
	<i>llophis</i> Find th	Coral a	spots ;combi	Ven sna ination	omous ake		1) 2) 3)	A II IV IV	III III III I	IV I II	I II III	
	Find th	Coral : ie wrong y iii	spots 5 combi	Ven sna ination 2. on	omous ake ly iv		1) 2) 3) 4)	A II IV IV II	III III I IV	IV I II III	I II III I	
	Find th 1. Onl 3. only	Coral: ne wrong y iii 7 i & ii	spots ; combi	Ven sna ination 2. on 4. Or	omous hke ly iv hly ii	405	1) 2) 3) 4) Match	A II IV IV II n the fol	III III I IV lowing	IV I II III	I II III I	
400.	Find th 1. Onl 3. only Read th	Coral : ne wrong y iii y i & ii ne staten	spots gcombi nents al	Ven sna ination 2. on 4. Or bout Ave	omous ake ly iv aly ii es and choose the	405	1) 2) 3) 4) Match	A II IV IV II n the fol	III III I IV lowing	IV I II III	I II III I	
400.	Find th 1. Onl 3. only Read th incorre	Coral: he wrong y iii y i & ii he staten e ct state	spots g combi nents al ment(sj	Ven sna ination 2. on 4. Or bout Ave	omous ake ly iv nly ii es and choose the	405	 1) 2) 3) 4) Match Struc A. Pee 	A II IV IV II n the fol ture ctoralis	III III IV lowing major	IV I II III Activ	I II III I vity	od
400.	Find th 1. Only 3. only Read th incorr I) Free	Coral ie wrong y iii y i & ii ie staten ect state vertebra	spots g combi nents al ment(s) ae are h	Ven sna ination 2. on 4. Or bout Ave) neteroco	omous ake ly iv aly ii es and choose the pelous	405	 1) 2) 3) 4) Match Struc A. Pee 	A II IV IV II n the fol ture ctoralis	II III IV lowing major	IV I II III Activ I. Sto mat	I II III I vity prage of fo	od
400.	Find th 1. Only 3. only Read th incorred I) Free II) All pygosty	Coral ne wrong y iii y i & ii ne staten ect state vertebra caudal /le	spots gcombi nents al ment(s ae are h vertel	Ven sna ination 2. on 4. Or bout Ave) neteroco brae are	omous ake ly iv aly ii es and choose the belous e fused to form	405	 1) 2) 3) 4) Match Struc A. Pea B. Pea 	A II IV IV II n the fol ture ctoralis	III III IV lowing major minor	IV I II III Activ I. Sto mat II. Gr	I II III I vity orage of fo cerial rinding of cod	od
400.	Find th 1. Only 3. only Read th incorrec I) Free II) All pygosty III) Unerites of	Coral: he wrong y iii y i & ii he staten ect state vertebra caudal /le cinate p	spots gcombi nents a ment(s ae are h vertel rocesse thae bi	Ven sna ination 2. on 4. Or bout Avo) neteroco brae aro	omous ake ly iv nly ii es and choose the pelous e fused to form esent on thoracic	405	 1) 2) 3) 4) Match Struc A. Pee B. Pee C. Giz 	A II IV IV II n the fol ture ctoralis	II III IV lowing major minor	IV I II III Activ I. Sto mat II. Gr ft III. U	I II III I vity prage of fo rerial rinding of pod p lift of ving	od
400.	Find th 1. Only 3. only Read th incorred I) Free II) All pygosty III) Unerits of 1.	Coral e wrong y iii y i & ii ne staten ect state vertebra caudal /le cinate p Neogna 1 IV	spots gcombi nents a ment(s ae are h vertel rocesse thae bin	Ven sna ination 2. on 4. Or bout Avo) neteroco brae are es are pr rds	omous ake ly iv aly ii es and choose the belous e fused to form esent on thoracic	405	 1) 2) 3) 4) Match Struc A. Pea B. Pea C. Giz D. Cr 	A II IV IV II n the fol ture ctoralis ctoralis	III III IV lowing major minor	IV I II III Activ I. Sto mat II. Gr fo III. U V IV. D	I II III I vity orage of fo terial inding of ood up lift of ving own strok	od
400.	Find th 1. Only 3. only Read th incorre I) Free II) All pygosty III) Un- ribs of 1. I and 2. H	Coral the wrong y iii y i & ii the statent ect state vertebra caudal /le cinate pr Neogna 1 IV	spots g combi nents a ment(s ae are h vertel rocesse thae bin 2. II a	Ven sna ination 2. on 4. Or bout Avo) neteroco brae aro es are pr rds and IV	omous ake ly iv nly ii es and choose the pelous e fused to form esent on thoracic	405	 1) 2) 3) 4) Match Struc A. Pee B. Pee C. Giz D. Cr 	A II IV IV II on the fol ture ctoralis ctoralis zzard	III III IV lowing major minor	IV I II III Activ I. Sto mat II. Gr ft III. U V IV. D ot	I II III I vity orage of fo rerial rinding of cod p lift of ving own strok f wing	od
400.	Find th 1. Only 3. only Read th incorrec I) Free II) All pygosty III) Uneribs of 1. I and 3. II and	Coral e wrong y iii y i & ii ne staten ect state vertebra caudal /le cinate p Neogna 1 IV d III	spots g combi nents a ment(s ae are h vertel rocesse thae bin 2. II a 4. I an	Ven sna ination 2. on 4. Or bout Avo) neteroco brae are es are pr rds and IV nd III	omous ake ly iv aly ii es and choose the belous e fused to form esent on thoracic	405	 1) 2) 3) 4) Match Struc A. Pea B. Pea C. Giz D. Cr 	A II IV IV II on the fol ture ctoralis ctoralis zzard	III III IV lowing major minor	IV I II III Activ I. Sto mat II. Gr fd III. U V IV. D of V. R	I II III I vity orage of fo terial inding of ood up lift of ving own strok f wing otation of	od
400.	Find th 1. Only 3. only Read th incorred I) Free II) All pygosty III) Uneribs of 1. I and 3. II and The fol	Coral: ne wrong y iii y i & ii ne staten ect staten caudal /le cinate p Neogna ł IV d III lowing s	spots gcombi nents a ment(s ae are l vertel rocesse thae bin 2. II a 4. I an stateme	Ven sna ination 2. on 4. Or bout Ave) neteroco brae are es are pr rds and IV nd III ents refe	omous ake ly iv nly ii es and choose the belous e fused to form esent on thoracic	405	 1) 2) 3) 4) Match Struc A. Pee B. Pee C. Giz D. Cr 	A II IV IV II of the fol ture ctoralis ctoralis zzard	III III IV lowing major minor	IV I II II II I. Sto mat II. Gr fr III. U VV. D of V. Ro wi	I II III I vity orage of fo cerial inding of cod p lift of ving own strok f wing otation of ng in	od ce
400.	Find th 1. Only 3. only Read th incorre I) Free II) All pygosty III) Unv ribs of 1. I and 3. II and The fol tebrate	Coral : ne wrong y iii y i & ii ne staten ect state vertebra caudal /le cinate p Neogna 1 IV d III lowing s	spots g combi nents a ment(s ae are f vertel rocesse thae bin 2. II a 4. I an stateme	Ven sna ination 2. on 4. Or bout Ave) neterocco brae are pr rds and IV nd III ents refe	omous ake ly iv aly ii es and choose the belous e fused to form esent on thoracic r to amniotic ver-	405	1) 2) 3) 4) Match Struc A. Pea B. Pea C. Giz D. Cr	A II IV IV II on the fol ture ctoralis ctoralis zzard	III III IV lowing major minor	IV I II III Activ I. Sto mat II. Gr ft III. U V. D of V. Ro wi gla	I II III I vity orage of fo cerial cinding of cod Ip lift of ving own strok f wing otation of ng in enoid cave	od te

		A	В	С	D
	1.	IV	III	Π	Ι
	2.	III	Π	V	IV
	3.	IV	III	Ι	V
	4.	V	IV	III	II
406.	Match	the follo	wing		
	Structu	ure		Locati	on
	A. Pec	eten		I. Lung	5S
	B. Pyge	ostyle		II.Pecto	oral girdle
	C. Furc	cula		III. Ster	rnum
	D. Air	sacs		IV. Tail	
				V. Reti	na
	The co	rrect cor	nbinatio	onis	_
		А	В	С	D
	1.	III	II	I	V
	2.	V	IV	III	Ι
	3.	I	II	III	IV
	4.	V	IV	II	Ι
407.	Read th bination	e follow 1	ring and	choose t	he correct com-
Name of	f the bone	Shape o	fbone		Animal
I. Scap	ula	Sabre s	shaped	Passer	domesticus
II. Inte	rclavicle	T-shape	ed	Ornith	orhynchus
III. Pyg	gostyle	Plough	share	Struth	io camelus
		shaped	1		
IV. Fur	cula	V-shap	ed	Rhea a	imericana
1. All a	are corre	ct	2. I an	d II	
3. I, II	and III		4. I, II	[and IV	
408.	The foll	owingar	e the par	tsofa qui	ill feather
	a. Barł	oicel	b. Bar	bule	
	c. Cala	mus	d. Barl	0	e. Rachis
	Arrang	e these	in a sec	quence f	rom the base
	1. a-b-	c-d-e	2. b-a-	-c-e-d	
	3. c-e-	d-b-a	4. d-a-	-c-b-e	
409.	Match	the follo	owing		
	Feathe	ers		Salien	t feature
	A. Quil	ll feather	rs	I. barbs	s with
				rudime	ntary
				barbule	es
	B. Dov	vn feath	ers	II. Lon	g rachis
				with fe	w weak
				barbs	
	C. Con	tour fea	thers	III. for	n the gen
				eral co	vering of
				the bo	dy
	D. Filo	plumes		IV. Bar	bules and
	[-	L		barbice	els with
				inter lo	cking
				mechar	nism

				V. Ra	achis	
				with	out barbs	
	The c	correct co	ombinat	ions is		
		Α	В	С	D	
	1.	Ι	III	Π	V	
	2.	V	II	III	Ι	
	3.	IV	Ι	III	Π	
	4.	IV	III	Π	V	
410.	Matc	hing the	followir	ıg		
	Struc	cture		Loca	ntion	
	A. Rl	namphot	heca	1. Ta	il	
	B. Py	gostyle		II. Sł	cull	
	C. O.	ccipital c	condyle	III. S	ternum	
	D. K	eel		IV. E	leak	
				V. P	ectoral girdle	
	The	correct	combina	tion is		
		Α	В	С	D	
	1.	III	II	Ι	IV	
	2.	IV	Ι	Π	V	
	3.	III	II	I	V	
	4.	IV	Ι	II	III	
411.	Matel	h the foll	owing			
	Featl	ner	Char	acter		
	A) Co	ontour	I) Insu	ulation		
	B)Fil	oplumes	II) Wi	ings and	ltail	
	C) Qu	uill	III) G	eneral	covering of bod	y
	D)D	own	IV)C	overing	ginterspaces	
	1)	A	B	U U	D	
	1)		IV	11	l	
	2)	IV	111	Ш	1	
	3)	Ι	II	III	IV	
	4)	IV	III	II	Ι	
412.	State	ment (S	b): Of a	ll the t	ypes of feathe	rs
	only	quill fea	thers are	euseful	in flight	
	Reas	on (R)	: Quill t	feathers	s only have we	ell
	devel	oped in	terlockir	ng mecl	nanism	
413.	State	ment (S):Archa	leopter	yx is the connection	ct-
	ing li	ink betw	een rept	iles and	birds	• 4
	Reas	$\operatorname{Sn}(\mathbf{R}): A$	1rchaeop	teryx 1s	basically a rept	ile
41.4	which	1 shows n	nore avia	n teature	S	
414.	State	ment (S	(): Arch	aeopte	<i>ryx</i> is a primitiv	ve
	bird.		T 1	1	1. 1	
	Reas	on(R):	The ver	tebrae a	ire amphicoelo	us
	$\ln Ar$	chaeopt	eryx			
415.	Follo	wing are	e the stat	ements	regarding e	Х-
	tinct J	urassic l	oirds			
	I) Win	ngs are p	rimitive	with lit	le power of fligl	ht
	II) Wi	ings are	with two	clawe	l fingers	
	III) V	ertebrae	are hete	rocoel	ous	

	IV) Sternu	um has no ke	el			ostricł	1	rudin	nentary	
	1) I and II		2) I and IV	III) L)romaeu.	s Emu	A	fter sha	aft is as lon	g
	3) I, II and	1 III	4) I, II, III & IV					as the	e main shaf	t
416.	Study the	following:		IV) 7	inamus	Tinam	ou	Stern	umis	
	Bird	Comn	non Salient					with	out keel	
	1 0 1	Name	e Feature	The c	orrect co	mbinati	onis			
	1. Struthi	0 Africa	an Largest bird		1. I an	d II	2. II a	nd III		
	2 Rhea	Ameri	u can Clavicles		3. I an	d III	4. III a	and IV		
	2. <i>I</i> (<i>n</i>)cu	Ostric	h absent	420	Readf	he follo	wing and	1 choos	e the correc	et com-
	3. Drome	<i>aius</i> Emu	Lack of feathers	.20.	binatio	n:	, ing unit	. •11000	• 1110 • 0011 • 0	
	4. Apter	yx Kiwi	Second largest	Bird		Distri	bution	C	haracter	
	The corre	ct combinat	ions are	D Rh	ea Amer	<i>icana</i> N	lorth An	nerica	Svrinx is	
	1. 1 & 3		2. 2 & 3	, , ,					present	
	3. 1 & 2		4. 1 & 4		ntervr	New 7	7ealand	Pecte	en is absent	t
417	Study the	following		$\lim_{t \to t} T$	inamus	Mexic	ro St	ernum	is with a k_i	201
T 1/.	Bird	Char	acter Distribu-	$ \mathbf{W} \rangle \langle \mathbf{W} \rangle \langle$	numus Tasuariu	s New o		Horn	whelmet or))
			tion	1,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	usuuriu	S INCW E	sunica	head	y nemiet of	1
	1. Struthi	o Fastes	trunning America		1) All	are corre	ect	2) I a	ind III	
	2. Rhea	Preco	cial South America		3) I II	I and IV	7	4) II	III and IV	
	3. Casua	rius Afters	shaft Australia	421	Match	the foll	wing a	nd choo	se the	correct
	1 Kinzi	15 long Dector	g New Guinea	121.	combi	nations:	5 wing a		ise the	correct
	4. N IWI	shield	sthe Zealand		List –	I		List	– П	
		retina			A) Od	lontogna	athae	1) E	udynamis	
	The corre	ct combinati	ions		B) Nee	ognatha	e	2) A	oteryx	
	1.1&3		2. 2 & 3		C) Pal	aeognat	hae	3) St	heniscus	
110	3. 3 & 4	fallarring	4. 1 & 4		D) Imp	bennae		4) <i>Ic</i>	hthyornis	
HIO. Bird	Study the	Distributio	on Character		<i>,</i> 1			5) Ai	rchaeopter	vx
i. Rhea	ı S	South Ameri	ca Ratite bird			А	В	Ć	D	/
ii. Droi	maeius A	Australia	No aftershaft		1)	4	3	2	1	
iii. Stri	ithio A	Arabia	Fastest runner		2)	5	1	2	3	
can	nelus		Δ Ω1Ω :		3)	4	1	2	3	
1V. Ca.	suarius 1	New Guinea	After shall is		4)	5	2	1	4	
			of main shaft	422.	Match	the follo	wing an	d choos	se the correc	ct com-
	Choose t	he correct ar	nswer		binatio	ns:	0			
	1. i & iv	are correct			List –	I	List –	·II		
	2. i, iii &	iv are corre	ect		A)Dre	omaeus	1) Well	develo	ped olfaction	on
	3. 111 & IV	are correct	t		B) Rhe	ea	2) Ste	rnum w	vith keel	
410	4. All are	Correct			C) An	tervx	3) Mo	nogam	ous	
417. Dind	Sudy the I	onowing.	Character		D) Tin	amus	4) Svr	inx pre	sent	
Bira	C	ommon	Character		D) 111	Δ	R	С	D	
T) C	n:	ame	т , 11 г. 1 г. 1		1)	1	4	3	2	
1) Stru	tnio A	Irican	Largest living bird		2)	3	4	1	2	
cam	elus os	strich			3)	3	1	2	- 4	
II) Api	teryx A	merican	Wings are		4)	4	3	- 1	2	
				•	• • •	-	-	-	-	

UNIT-II

						_			
423.	Study t	he follov	ving:				Reas	son (R)	: In Ne
Anima	als	Chara	icter	D	istribution	420	are	without	t air sp
i) Droi	neous	Fatuse	ed as lubric	can	t Australia	429.	State	ement (X rv. orga	5) : IN A n is nre
ii) Tinc	amus	Sternu	m with kee	el	Mexico		Rea	son (R)	: Ducks
iii) <i>Eu</i>	dyptes	Airsac	s present		Southern		bird	s	~
					hemisphere	430.	Mate	ch the fol	llowing
iv) Ca	ssowary	, Horny	helmet		America		Anin	nal	Ту
		on hea	d				A.B	irds	tomus II
	Which	of the a	bove two a	are	correct		D. A. C. M	rcnueop Ian	ieryx II II
	1) i and	d ii	2) ii and i	ii			D. C	hameleo	on IV
	3) iii an	d iv	4) i and i	v					
424.	The fo	llowing	are staten	ner	nts about birds		The	correct	combina
	i. Rhea	<i>a</i> lives in	n South An	ner	ica			A	B
	11. Cas	sowary l	nas no after s mallost of th	shai	It in feathers		1. 2	Ш п	II III
	1 i & i	ii ii	naliest of un	e III i	& ii		2. 3	II T	
	3. ii &	iii	4	. A	All the above		<i>3</i> . 4.	V	II
425.	The fol	lowingi	is a list of n	noc	lern birds. Arrange	431.	Mate	h the foll	owing:
	the foll	owing i	n a sequen	ice	in the descending	5	List -	·I	List -
	order o	f their b	ody size				A) S_{l}	oheniscu	s I) Peo
	a) Caua	arius	b)Archile	ocu	IS		\mathbf{B}) \mathbf{I}	chthyorn	is II) Te
	c) Dror	naeus	d) Struthi	io			C) <i>A</i>	pteryx	III) A
	e)Apte	eryx					D)A	rchiloch	usIV) F
	1) d, c,	e, a, b	2) c, d, a	, e	, b				V)Pc
	3) d, c,	a, e, b	4) d, c, b), e	, a			A	В
426.	Study tl	he follov	ving:				1)	III	II
Bird	(Characte	er E	Dist	ribution		2)	II	Ι
I) Kiwi	i	Keen se	ense N	Jew	v Zealand		3)	III	II
		of smel	1				4)	V	Ι
II) Dre	omaeous	Horny	helmet	Aı	ustralia	432.	Matc	h the foll	owing
III) Sp	heniscu	s Absen	ice of	No	orth America		List-	- I	List-
		air sao	cs				A)B	lue jay	I) <i>Ap</i>
IV) Ca	asuarius	Main	shaft A	Aus	tralia		B) K	oel	II) Co
		and aft	ter shaft				C) Sv	vift	III) E
		are of	almost				D) Eı	nperor p	enguin
		equal le	ength					А	В
	Which	of the a	bove two a	ire	incorrect?		1)	Ι	II
	1) I and	d IV	2) II and	III			2)	Π	IV
	3) I and	d III	4) III and	łIV	V		3)	Π	III
427.	Staten	nent (S)	: Neogna	tha	ae birds are altri-		4)	Ι	III
	cial			, •		433.	Mate	h the foll	owing ar
	Keaso	n (R) : l	Palaeogna	th	ae birds are pre-	•	binati	ons:	
428	cocial. Staton	nent (S) • In Neo	σn	athae hirds fur	.	List	-1	
ע∠ד.	cula is	well de	eveloped.	5 ¹¹	athat phus lul-	-	A)Fa	astest flyi	ing bird
EAMCI	ET-SEN	IOR ZOC	DLOGY			63			

Reason (R) : In Neognathae birds bones are without air spaces.

429.	State	ement (S) : In d	ucks a	nd geese copu-
	lator	ry orga	n is pre	sent	
	Reas	son (R)	: Ducks	and g	eese are ratitae
	birds	8			
430.	Mate	the fol	llowing		
	Anin	nal	Ту	pe of V	ertebrae
	A. B	irds	. 11	l. Proce	belous
	$\mathbf{B}.A$	rchaeop	teryx II	. Amph	icoelous
		lan Thamala		I. Heter	ocoelous
	D. C	nameie		V. Onis	ipiaryan sthocoelous
	The	correct	combina	v. Opis	stilococious
	The	A	В	С	D
	1.	III	II	ĪV	I
	2.	Π	Ш	IV	V
	3.	Ι	III	Π	V
	4.	V	II	Ι	IV
431.	Matc	h the foll	owing:		
	List -	Ι	List-	- II	
	A) Sp	oheniscu	s I) Peo	cten is a	bsent
	B) Ic	hthyorn	is II) Te	eth on j	aws
	C) <i>A</i>	pteryx	III) A	irsacs a	bsent
	D)A	rchiloch	usIV) F	astest fly	ying bird
			V)Pc	ollination	1
		А	В	С	D
	1)	III	Π	Ι	IV
	2)	Π	Ι	IV	III
	3)	III	II	Ι	V
	4)	V	Ι	III	II
432.	Mate	h the foll	owing		
	List-	- I	List-	- II	
	A)Bl	ue jay	I) Ap	tenodyt	es
	B) Ko	oel	II) Co	oraciou	5
	C) Sv	vift	III) E	Sudynan	nis
	D) Er	nperor p	enguin	IV) A	1pus
		А	В	С	D
	1)	Ι	II	III	IV
	2)	П	IV	Ι	Ш
	3)	Π	III	IV	Ι
	4)	Ι	III	IV	II
433.	Mate	h the foll	owingar	nd choos	e the correct com-

List – II

1) Archilochus

| | B) Smallest flightless bird | | |
 | 2) Dromeous
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| | C) Second largest | | |
 | 3) Apus
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| flightless bird | | | |
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| | D) Sm | allest flio | ht hird |
 | 4) Antervx
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| | D) Sindiest inght si | | |
 | 5) Casuarius
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| 434. | Study | the follo | wing |
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| | Bird | | Comn | ion
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| | 1.Arc | hilochus | Humm | ning
 | Cannotfly
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| | 2. <i>Ap</i> | US | Swift |]
 | Fastest flying
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| | 3. <i>Cor</i> | cacious | Blue ja | ay
 | State bird
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| | 4. Pa | VO | Peafor | vl
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| 435. | Study | the follo | wing |
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Neognathae
1 & 4
1 & 2
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about birds and
ttions
neterocoelous
flying birds
i & ii
i, ii and iii
bout birds
by the fusion of ab-
e caudal vertebrae.
ttachment of flight | | | | |
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| Super
Order
Odontognathae
Neognathae
npennae
Neognathae
1 & 4
1 & 2
ents about birds and
ttions
neterocoelous
flying birds
i & ii
i, ii and iii
bout birds
by the fusion of ab-
e caudal vertebrae.
ttachment of flight | | | |
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438.	Following statements are about birds and					
	choose the correct combinations					
	i. Oesophagus dilates into a crop					
	ii. Stomach is divided into proventriculus and					
	gizzard					
	iii. Right aortic arch only is present					
	1. i & iii 2. i & ii					
120	3. ii & iii 4. i, ii and iii					
439.	Statement (S): In mammals only left aor-					
	Reason (R) : Renal portal system is ab-					
	sent in mammals					
440.	Match the following and choose the correct					
	combination					
	LIST - I LIST - II					
	A. Corpora- 1. Cerebral hemi-					
	quadrigemina spheres B Coiled structure ii Hyomondibular					
	C Corpus callosum iii Cochlea					
	D. Stapes iv. Cerebellum					
	v. Optic lobes					
	A B C D					
	1. V II III I					
	2. I IV I III					
	3. II III V IV					
4 4 1						
441.	right and laft are respectively present in					
	1 Reptilia Aves Mammalia					
	2. Mammalia, Aves, Reptilia					
	3. Aves, Reptilia, Mammalia					
	4. Aves, Mammalia, Reptilia					
442.	Identify the true statement pertaining to the lower					
	jaw of endothermic vertebrates with mammae					
	1) Each half consists of a single bone and it ar-					
	ticulates with post orbital					
	2) Each half consists of a single bone and it ar-					
	ticulates with quadrate					
	3) Each half consists of six bones and it articu-					
	lates with pterygoid					
	4) Each half consists of single bone and it ar-					
	ticulates with squamosal					
443.	Statement (S): Mammalian kidneys do not re-					
	ceive venous blood but reptilian kidney receives					
	Reason (R) : Renal portal system is absent in					
	mammals					
444.	Statement (S): Prototherians are not vi-					
	viparous					
	Reason (R): Eggs of prototherians are					
	megalecithal and can support entire de-					
	velopment process inside the egg					

445. Statement (S) : Prototherians are more closely related to the reptiles than the metatherians and eutherians Reason: They show more reptilian features such as the 'T' shaped inter clavicle 446. Statement (S) : Prototherians are mammals Reason (R): In prototherians, the reptilian and mammalian features are noticed 447. Statement (S) : Teeth are absent in adult Tachyglossus. Reason (R): *Tachyglossus* is a marsupial Arrange the following ant eaters in a 448. sequence based on the evolutionary relationship A) Myrmicobius (metathaerian) B) Myrmicophaga (eutherian) C) Echidna (prototherian) 1) C - A - B2) A - C - B4) B - A - C3)A - B - CThe following are endothermic vertebrates 449. [EAMCET - 2005] I. Didelphis II. *Delphinus* III. Tachyglossus IV. Pteropus Amongst these in which pair, the broad transverse band of nerve tissue connecting internally the two cerebral hemispheres is either Character poorly developed or absent. 1. I and III 2. I and II 3. II and IV 3. III and IV Statement (S): First formed viviparous mam-450. mals give birth to immature young ones. D) Echo **Reason** (R) : Period of intrauterine development of foetus in marsupials is short. 451. Statement (S): Australia is called the land of marsupials Reason: Most of the marsupials are confined to Australia 452. Statement (S) : Glans penis is forked in marsupials Reason (R): Vaginae and uteri are double in the metatherians 453. Statement (S) : Marsupials replace only the last premolars Reason (R): The front teeth namely inci-

sors are more in marsupials than in any other group of mammals

454. Statement (S) : With reference to urinogenital aperture and anus and their control, marsupials show a sort of intermedi-EAMCET- SENIOR ZOOLOGY

ate condition

Reason (R): In marsupials urinogenital aperture and anus are controlled by a single common sphincter

455. Different types of teeth are given in a typical marsupial. Arange them in a sequence in ascending order

0	
A. Premolars	B. Canines
C. Incisors	D. Molars
1. B-A-D-C	2. A-B-C-D

- 3. C-A-D-B 4. D-B-C-A
- 456. Match the following

Chai	racter	Exa	mple		
A)G	ynaecon	nastism	1) Marsupilia		
B) Di	idelphic	condition	2) Pı	ototheria	
C)Al	lontoic	placenta	3)Australia		
D) La	and of m	arsupilia	4) Ei	utheria	
	A B			D	
1)	4	1	2	3	
2)	2	4	1	3	
3)	2	1	4	3	
4)	1	4	2	3	

457. Match the following

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Example
```

A) Shortest gestation period 1) Whale

- B) Arboreal with rudimentary 2) Ornithorhyncus tail
- C) Toes are clawed and webbed 3) Oposum

olocation		4) Phascolarctos
	D	C D

	A	Б	C	D
1)	3	4	2	1
2)	4	3	1	2
3)	2	1	4	3
4)	3	2	4	1

Study the following: 458.

,		
r	Distribution	n

Animals Character Distribution i) Macropus Tail act as fifthleg Australia ii) Phascolarctos Arboreal New Guinea iii) Tachyglossus Insectiveore New Guinea Prehensile tail South America iv) Didelphis Which of the above two are correct?

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

459.	Identif	y the true statement(s)	Which of the above two are correct?						
	A)Adu	llt prototherians are without teeth		1) al	l are true	e	2) On	ly i and ii	
	B) Nur	nber of incisors in <i>Didelphis</i> is equal to		3) onl	y i and iii	i	4) only	y iii and iv	
	the nu	mber of teeth in the milk dentition of	464.	Arran	ge the fo	ollowing	animals	in ascendi	ng or-
	Orycto	lagus	_	der in relation to number of 'incisors' in adult.					
	C) In n	nilk set of rabbit premolars and molars		A) Pla	itypus	B) Ma	cropus	C) Man	
		ent		1) A -	- C – B	2) B –	C - A	,	
	rabbit	sterna is present even in mirk dentition of		3) A -	- B – C	4) C –	A - B		
	1)Aan	d B alone are true	465.	Árrar	nge the fo	ollowing	animals	in ascend	ing or-
	2) B ar	nd C alone are true		der w	vith refer	ence their	r numbe	r of cervica	al ver-
	3) A ar	d D are true		tebra	e				
	4) A, E	and C are true		A. El	ephant				
460.	Spot th	e wrong statement(s)		B. M	anatee	1 1 4			
	I) Tail o	of <i>phascolarcots</i> is called "fifth leg"		C. II 1 P	hree toed	a sloth	2 1	R C	
	II) Did	elphis has a prehensile tail		1. D	B-A		2. A- 4. C-	A-B	
	III) The	e Koala bear has a rudimentary tail	466.	Matc	h the fo	llowing	and cho	bose the c	orrect
	IV) Th	e number of 'cutting teeth' of a pouched		combination					
	mamm ·	al is never less than 3 in each half of the		LIST	- I		LIST	– II	
	jaw			A. 01	rnithorh	ynchus	I. Abs	ence of	
	1) Only			חח			scro	talsacs	
161	3) I, II.	l, IV 4) Only III			its ophont		II. Marsupiai		
401.	Stater in hat	nent (S) : Echolocation is observed		C. Elephant		III. Gas	holocation		
	Reaso	, m (R) : Vocal cords of bats produce		D.1 huseolurelos		V. Pois	sonous spine		
	ultra	sonic sounds and they can listen to			A	В	С	D	
	such s	ounds		1.	V	Π	IV	III	
462.	Staten	ent (S) : Eutherian have chorioallan-		2.	IV	Π	Ι	III	
	toic pl	acenta.		3.	II	III	I	IV I	
	Reaso	n (R) : In Eutherians allantois fuses	167	4. Mate	V h tha fa	IV Ilowing	l and che	ll Nose the c	orrect
	with th	e chorion for vasucularisation.	+07.	comb	ination	onowing and choose the correct			
463.	Study t	he following:		LIST	- I		LIST	- II	
Anima	als	Cloaca/Anus Order		A. Ra	it Inhin		i. Lag	omorpha	
i) Ech	idna	Distinct into which Monotremata		C. Ra	ıbbit		iii. Ce	tacea	
		ureters and genital		D. Ba	ıt		iv. Ch	iroptera	
		sinus open				р	v. Sire	nia	
ii) Ma	cropus	Anal, urinogenital Monotremata		1.	A V	В П	U IV	D II	
		apertures are		2.	ĪV	II	I	III	
		separate		3.	II	III	I	IV	
iii) Rał	obit	Anal, urinogential Lagomorpha apertures are		4.	V	111	I	11	
		separate							
iv) Di	delphis	Anal and Urinogenital Cetacea							
		apertures are guarded							
		by sphincter							

| LEVEL - III LINK TYPE QUESTIONS

468. Study the follow	ving and choose the	correct combination		
MAMMAL	CHARACTE	R	DISTRIBUTION	
1. Tachyglossus	Nose is short		Australia	
2. Didelphis	Upper jaw is	with 5 incisors	America	
3. Phascolarctos	Two uteri are p	present	Australia	
4. Ornithorhynchus	Viviparous		New Guinea	
1) 1,2 correct	2) 2, 3 correc	t 3) 3, 4 correct	4) 1, 3 correct	
469				
ANIMAL	ORDER		CHARACTER	
1. Macropus	Metatheria		Marsupium is present	
2. Rats	Rodentia		With chorio-allantoic placenta	
3. Whales	Cetacea		Abdominal testes	
4. Koala bear	Marsupialia		Shortest gestation period	
1) 2, 4 are correct	2) 1, $2, 3$ are	correct 3) 2, 3 are corr	rect 4) 1, 4 are correct	
	, , , ,	, ,	, .	
470.				
ANIMAL	CHARACTE	R	SUB CLASS	
1. Dolphin	Echolocation		Prototheria	
2. Kangaroo	Powerful tail		Theria	
3. Tachyglossus	Short nose		Prototheria	
4. Panthera	Viviparous		Eutheria	
1) 2, 3 are correct	2) 1, 3 are correct	3) $1, 3, 4$ are in correct	t 4) 4 only correct	
ORDER / SUB CLAS	SS EXAMPLE		SCIENTIFIC NAME	
1. Monotremata	Platypus		Tachyglossus	
2. Carnivora	Tiger		Panthera	
3. Rodentia	Rabbit		Orvetolagus	
4. Marsupialia	Opossum rat		Caenolestes	
1) 1. 2 correct	2) 1. 3 correct	3) 2. 4 correct	4) 3 4 correct	
472.		-) _,		
ORDER / SUBCLAS	S EXAMPLE		CHARACTER	
1. Monotremata	Long nose ech	idna	Simple cochlea	
2. Primates	Human being		Lack of corpus callosum	
3. Marsupialia	Opossum		4 pairs of incisors in the lower jaw	
4. Proboscidea	Elepha	int	Choriovitelline placenta	
1) 2, 4 are correct	2) 1, 3 are \cos^{-1}	rrect 3) 2, 3 are corr	$\begin{array}{c} \text{rect} & 4 \end{pmatrix} 1, 2, 3 \text{ are correct} \end{array}$	
473. Study the follo	wing :			
Animals	Cloaca/Anus		Order	
i) Echidna	Distinct into which ure	ters and genital sinus oper	n Monotremata	
ii) Macropus	Anal, urinogenital ape	rtures are separate	Monotremata	
iii) Rabbit	Anal and Urinogential	apertures are separate	Lagomorpha	
iv) Didelphis	Anal and Urinogenital	apertures are guarded by	sphincter Cetacea	
Which of the ab	oove two are correct?	- C 7	-	
1) all are true	2) Only i and ii	3) only i and iii 4) only i	iii and iv	

KEY REPTILIA GENERAL CHARACTERS

	01					
1) 3	2) 3	3) 2	4) 3	5) 3	6) 4	7) 2
8) 2	9) 1	10)4	11)1	12)2	13)2	14)1
15)4	16)4	17)3	18)3	19)4	20)2	21)1
22)2	23)2	24)4	25)4	26)4	27)2	28)1
29)4	30) 3					
			SKULI			
31) 4	32) 2	33) 2	34) 1	35) 3	36) 4	37) 4
38) 3						
	S	ub Clas	s: ANA	PSID	A:	
		Orde	er: Che	lonia		
39) 4	40)2	41)3	42)1	43)4	44)3	45)1
46)2	47)1	48)3	49)3	50) 2	51)3	52)2
53)2						
	Su	b Class	s : Syna	ptosau	ria	
54)1	55)1	56)1	57)3	58)3	59)4	60)3
61)3	62)4	63)1	64)3	65)2	66)1	67)4
		Orde	r : Squa	imata		
68)2	69)4	70)1	71)3	72)2	73)2	74)4
75)2	76)3	77)3	78)1	79)4	80)4	81)3
82)1	83)2	84)3				
		Orde	r : Croc	codilia		
85)1	86)3	87)2	88)2	89)1	90)3	91)2
92)4	93)4	94)2	95)3	96)1	97)1	98)2
Sub o	rder :	Ophid	ia ;			
Venon	nous ar	ld Non	venom	ous sna	akes	
99) 4	100)3	101) 1	102)1	103)2	104)2	105)3
106)2	107)4	108)4	109)1	110)2	111)4	112)1
113)4	114)2	115)3	116)4	117)3	118)4	119)4
120)3	121)1	122)3	123)1	124)1	125)1	126)4
127)2	128)4	129)4	130)2	131)1	132)1	133)2
134)3	135)3	136) 1	137)2	138)4	139)4	140)3
141)2	142)2	143)3	144)2	145)3	146)2	147)3
148)2	1491)1	150)4	151)2			
Venon	nous ap	parati	15			
152) 3	153)4	154) 2	155) 2	156)2	157) 2	158)1

159) 3 160) 3 161) 2 162) 1

Non-Venomous

163) 1 164)4 165) 3 166)2 167)2 168) 3 169)1 170)1 171)2 EAMCET- SENIOR ZOOLOGY

AVES

Introduction:

172) 2 173) 1 174) 3 175) 3 176) 2 177) 2 178)3 **Characters:** 179) 3 180)2 181)2 182)4 183)2 184)1 185)3 186)2 187)3 188)4 189)4 190)4 191)3 192)4 193)3 194)2 195)4 196)3 197)4 198)1 199)4 200)1 201)4 202)2 203)3 204)4 205)4 206)2 207)1 208)3 209)2 210)3 211)2 212)1 213)2 214)3 215)3 216)1 217)2 218)1 219)1 220)1 221)1 222)3 Feathers in birds: 223)3 224)4 225)2 226)3 227)2 228)1 229)1 230)1 231)4 232)3 233)4 234)2 235) 4 236) 2 237) 2 238) 2 239) 2 240) 2 241)2 242)1

CLASSIFICATION OF BIRDS

243)3 244)1 245)3 246)2 247)2 248)3 249)4 250)3 251)3 **Neornithes:** 252)4 253)2 254)4 Super order II Impennae 255)1 256)2 257)1 258)2 259)3 Super order III Palaeognathae: 260)2 261)2 262)4 263)4 264)1 265)2 266)2 267)4 268)4 269)1 270)1 271)3

272)3 273)1 274)4 275)2 276)3 277)1 278)3 279)2 280)3 281)2 282)1

Super order IV Neognathae or Carinatae 283)4 284)4 285)4 286)3 287)1

MAMMALIA

GENERAL CHARACTERS

288)3 289)4 290)2 291)3 292)4 293)3 294)3 295)4 296)3 297)3 298)3 299)4 300)2 301)2 302)3 303)1 304)4 305)1 306)3 307)4 308)2 309)1 310)3 311)1 312)1 313)4

Classification of Mammalia

314)3 315)1 316)3 317)1 318)1 319)2 320)2 321)1 322)1

Subclass Theria:

323)4324)3325)4326)3327)1328)2329)1330)2331)3332)4333)1334)4335)4336)4337)1338) 2339) 3340) 3

Infraclass : Eutheria

341)3	342)1	343)4	344)1	345)3	346) 1
347) 3	348)1	349) 3	350) 1	351) 2	352) 3
353) 2	354)4	355) 3	356) 3	357) 3	358) 1
359)3	360) 2	361)2	362)4	363)2	364)2
365)1	366)4	367)2	368)3	369)4	370)3
371)1	372)3	373) 2	374)4	375)2	376)1
377)1	378)4	379)2	380)1	381)4	382)2
383)2	384)1	385)4	386)3	387)1	388)1
389)1	390)3	391)3	392)1	393)1	394)2
395)1	396)4	397) 4	398)4	399)4	400)4
401)2	402)4	403)1	404)2	405)1	406)4
407)2)	408)3	409)3	410)4	411)1	412)1
413)3	414)2	415)2	416)3	417)2	418)2
419)3	420)4	421)3	422)2	423)1	424)1
425)3	426)2	427)2	428)3	429)3	430)1
431)3	432)3	433)1	434)4	435)2	436) 4
437)1	438)4	439)2	440)4	441)4	442)4
443)1	444)2	445)1	446)2	447)3	448)1
449)1	450)1	451)1	452)1	453)2	454)2
455)1	456)3	457)1	458)4	459)3	460)1
461)1	462)1	463)3	464)1	465)1	466)4
467)3	468) 4	469) 3	470) 1	471) 3	472)2
473)3					