

This booklet consists of **100** questions and **12** printed pages.

RGUCET/\_\_\_\_/\_\_\_\_

Series

NIL
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**RGUCET 2023**  
**Masters in ZOOLOGY**

**Full Marks: 100**

**Time: 2 Hours**

Roll No.

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Day and Date of Examination :

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Signature of Invigilator(s) :

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Signature of Candidate :

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*General Instructions:*

***PLEASE READ ALL THE INSTRUCTIONS CAREFULLY BEFORE MAKING ANY ENTRY.***

1. DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE TOLD TO DO SO.
2. Candidate must write his/her Roll Number on the space provided.
3. This Test Booklet contains 100 Multiple Choice Questions (MCQs). Each question carries 1 mark. There shall be negative marking of 0.25 against each wrong attempt.
4. Please check the Test Booklet to verify that the total pages and total number of questions contained in the test booklet are the same as those printed on the top of the first page. Also check whether the questions are in sequential order or not.
5. Candidates are not permitted to enter into the examination hall 15 minutes after the commencement of the entrance test or leave the examination hall before 30 minutes of end of examination.
6. Making any identification mark in the OMR Answer Sheet or writing Roll Number anywhere other than the specified places will lead to disqualification of the candidate.
7. Candidates shall maintain silence inside and outside the examination hall. If candidate(s) is/are found violating the instructions mentioned herein or announced in the examination hall, they will be summarily disqualified from the entrance test.
8. In case of any dispute, the decision of the Entrance Test Committee, RGU shall be final and binding.
9. The OMR Answer Sheet consists of two copies, the Original copy and the Student's copy.

1	Which part of the given sentence has an error? - She don't speak of either German or French.				a	Don't
	a)Don't	b)Speak	c)Of	d)Or		
2	Select the synonym of incinerate				b	Ignite
	a) Moderate	b) Ignite	c) Parch	d) Quench		
3	"To keep one's temper"-means				b	To be in good mood
	a)To become hungry	b) To be in good mood	c)To preserve ones energy	d) To be aloof from		
4	Insert the missing word in the gap: Her thinking leans ____ democracy.				b	Towards
	a) With	b) Towards	c) for	d) Towards		
5	Insert the missing word in the gap: He crossed the broken bridge ____ warning.				a	In spite of
	a) In spite of	b) In spite off	c) On	d) About		
6	Words of same sound is called as				c	Homonyms
	a)Soundnmys	b) Antonyms	c) Homonyms	d) Synonyms		
7	Look at this series: 7, 10, 8, 11, 9, 12, ... What number should come next?				b	10
	a) 7	b) 10	c) 12	d) 13		
8	Look at this series: F2, __, D8, C16, B32, ... What number should fill the blank?				c	E4
	a) A16	b) G4	c) E4	d) E3		
9	Look at this series: V, VIII, XI, XIV, __, XX, ... What number should fill the blank?				d	XVII
	a) IX	b) XXII	c) XV	d) XVII		
10	Find the odd number/letters from the given alternatives.				d	Driving
	a) Swimming	b) Sailing	c) Diving	d) Driving		
11	If NOIDA is written as OPJEB, then what will be the code for DELHI?					

	a) EFMAK	b) EFAMK	c) EFMIJ	d) EFMIK	c	EFMIJ
12	Which number is wrong in the series 2, 6, 15, 31, 56, 93?					
	a) 6	b) 31	c) 56	d) 93	d	93
13	If a tower 6m high casts a shadow of $2\sqrt{3}$ m long on the ground, then the sun's elevation is:					
	a) $60^\circ$	b) $45^\circ$	c) $30^\circ$	d) $90^\circ$	a	$60^\circ$
14	The zeroes of $X^2 - 2X - 8$ are:					
	a) (2,-4)	b) (4,-2)	c) (-2,-2)	d) (-4,-4)	b	(4,-2)
15	Namdapha National Park is located in the .....district of Arunachal Pradesh					
	a)Changlang	b) East Kameng	c) Lower Siang	d) Upper Subansiri	a	Changlang
16	Kaziranga National Park is home of					
	a) Gangetic dolphin	b) Reticulated python	c) One-horned Rhinoceros	d) All	d	All
17	Name the state flower of Arunachal Pradesh.					
	a) <i>Rhynchosyilis retusa</i>	b) <i>Dendrobium moniliforme</i>	c) <i>Schoenorchismishmensis</i>	d) <i>Dendrobium bigibbum</i>	a	<i>Rhynchosyilis retusa</i>
18	Which of the following is longest river in India?					
	a) Yamuna	b) Godavari	c) Brahmaputra	d) Ganga	d	Ganga
19	Name of Guinness World Record holder mountaineer who was awarded Padma-Shri in the year 2022.					
	a) Sadguru Brahmeshanand Acharya Swami	b)Anshu Jamsenpa	c)YabLobsang Tshering	d)Tsering Namgyal	b	Anshu Jamsenpa
20	Pradhan Mantri Ujjwala Yojana started in the year					
	a) 2009	b) 2020	c) 2004	d) 2016	d	2016

21	Nobel Prize in Physiology or Medicine for the year 2022 was given to.....					
	a) Svante Pääbo	b) David W.C. MacMillan	c) Abdulrazak Gurnah	d) Maria Ressa and Dmitry Andreyevich Muratov	a	Svante Pääbo
22	Ken-Betwa link canal passes through which National Park?					
	a) Pench National Park	b) Panna National Park	c) Kanha National park	d) Bandavgarh National Park	b	Panna National Park
23	In December, 2022, which country took the G20 Presidency					
	a) India	d) Germany	c) China	d) France	a	India

### DOMAIN

2 4	Mast cells are linked to					
	a) Neural tissue	b) Areolar connective tissue	c) Endocrine glands	d) Exocrine glands	B	Areolar connective tissue
2 5	A circular extrachromosomal DNA that replicates independently is known as.					
	a) Cosmid	b) Bacteria	c) Plasmid	d) RNA	C	Plasmid
2 6	Plasmid DNA acts as _____ to transfer the piece of DNA attached to it into the host organism.					
	a) Receptor	b) Protein	c) Antibody	d) Vector	D	Vector
2 7	Bacteria defend themselves against viruses by fragmenting viral DNA with-					
	a) Gyrase	b) Ligase	c) Exonuclease	d) Endonuclease	D	Endonuclease
2 8	The southern blot technique is used for the detection of?					
	a) DNA	b) RNA	c) Protein	d) Fat	A	DNA
2	Which one of the following is a cloning vector ?					

9					B	Ti plasmid
	a) DNA of <i>Salmonella Typhimurium</i>	b) Ti plasmid	c) Amp <sup>r</sup> and Tet <sup>r</sup> loci	d) Ori minus PBR322		
30	Klenow fragment is derived from				B	DNA Pol-I
	a) DNA Ligase	b) DNA Pol-I	c) DNA Pol-II	d) Reverse Transcriptase		
31	RNA interference helps in				C	Cell defence
	a) Cell proliferation	b) Micropropagation	c) Cell defence	d) Cell differentiation		
32	Excision and insertion of a gene is called				B	Genetic engineering
	a) Biotechnology	b) Genetic engineering	c) Cytogenetics	d) Gene therapy		
33	The expression of a transgene in the target tissue is identified by a				D	Reporter
	a) Transgene	b) Promoter	c) Enhancer	d) Reporter		
34	Which bacterium is used in the production of insulin by genetic engineering?				C	<i>Escherichia</i>
	a) <i>Saccharomyces</i>	b) <i>Rhizobium</i>	c) <i>Escherichia</i>	d) <i>Mycobacterium</i>		
35	Mode of DNA replication is				C	Semiconservative and bidirectional
	a) Conservative and bidirectional	b) Semiconservative and unidirectional	c) Semiconservative and bidirectional	d) Conservative and unidirectional		
3	Which enzyme is used to join nicks in the DNA strand?					

6					C	DNA ligase
	a) Primase	b) DNA polymerase	c) DNA ligase	d) Endonuclease		
37	Which of the following processes does not occur in prokaryotes?				B	Splicing
	a) Transcription	b) Splicing	c) Translation	d) Replication		
38	During DNA replication the synthesis newly synthesized DNA strand is known as:				A	Okazaki fragments
	a) Okazaki fragments	b) Satellite segments	c) Kornberg segment	d) Double-helix segment		
39	Microfilaments are composed of a protein called				B	Actin
	a) Tubulin	b) Actin	c) Myosin	d) Chitin		
40	Which of the following is NOT a characteristic of amphibians?				b)	Internal fertilization
	a) Moist skin	b) Internal fertilization	c) External fertilization	d) Lay eggs in water		
41	Which of the following is NOT a mammal?				c)	Turtle
	a) Platypus	b) Kangaroo	c) Turtle	d) Bat		
42	Which of the following is NOT a greenhouse gas?				c)	Oxygen
	a) Carbon dioxide	b) Methane	c) Oxygen	d) Water vapor		
43	Which of the following is a type of mammal that lays eggs?				a)	Platypus
	a) Platypus	b) Kangaroo	c) Koala	d) Lion		

4 4	Which of the following is NOT a characteristic of birds?				d )	d) Do not lay eggs on land
	a) Feathers	b) Wings	c) Warm-blooded	d) Do not lay eggs on land		
4 5	Which of the following is NOT a type of tissue in the human body?				d )	d) Spinal tissue
	a) Epithelial tissue	b) Nervous tissue	c) Muscle tissue	d) Spinal tissue		
4 6	Which of the following is NOT a type of vertebrate?				c )	c) Mollusca
	a) Fish	b) Bird	c) Mollusca	d) Mammal		
4 7	Which of the following is NOT a major component of soil?				d )	d) Carbon dioxide
	a) Sand	b) Clay	c) Silt	d) Carbon dioxide		
4 8	Which of the following is NOT a type of wetland plant?				c )	c) Saguaro
	a) Cattail	b) Mangrove	c) Saguaro	d) Lotus		
4 9	Which of the following animals is a marsupial?				b )	b) Kangaroo
	a) Gorilla	b) Kangaroo	c) Chimpanzee	d) Orangutan		
5 0	Which invertebrate group is characterized by having a soft body, a foot, and a mantle?				c )	Mollusks
	a) Annelids	b) Echinoderms	c) Mollusks	d) Nematodes		
5 1	Which invertebrate phylum includes animals with radial symmetry and stinging cells?					

	a) Annelida	b) Arthropoda	c) Cnidaria	d) Echinodermata	c	Cnidaria
5 2	7. Which of the following is an example of a crustacean?					
	a) Spider	b) Scorpion	c) Lobster	d) Earthworm	c	Lobster
5 3	Which invertebrate group is known for its ability to regenerate body parts?					
	a) Arachnids	b) Cephalopods	c) Flatworms	d) Mollusks	c	Flatworms
5 4	Which mite is known to parasitize honey bees and transmit viruses?				b	Varroa mite
	a) Tropilaelaps mite	b) Varroa mite	c) Acarapis mite	d) Tracheal mite		
5 5	Which disease of silkworms is caused by a microsporidian parasite?					
	a) Flacherie	b) Muscardine	c) Nosema	d) Pebrine	d	Pebrine
5 6	Which bacterial disease affects silkworms, causing the larvae to become sluggish and die prematurely?					
	a) Pebrine	b) Flacherie	c) Muscardine	d) Grasserie	d	Grasserie
5 7	Which disease affects silkworms and leads to the failure of egg hatching?					
	a) Flacherie	b) Muscardine	c) Pebrine	d) Grasserie	c	Pebrine
5 8	What is the process of stifling or killing the silkworm inside the cocoon to obtain unbroken silk threads?					
	a) Pupa extraction	b) Cocoon boiling	c) Pupal incineration	d) Cocoon freezing	b	Cocoon boiling
5 9	What is the term used for the transformation of silkworm larva into a pupa within the cocoon?				a	Metamorphosis
	a) Metamorphosis	b) Molt	c) Ecdysis	d) Diapause		



60	Honey bee nests are typically made of which material?	a	Wax
	a)Wax                      b)Clay                      c)Leaves                      d)Grass		
61	What is the name of the area within the honey bee nest where the queen lays eggs?	c	Brood chamber
	a)Drone zone                      b)Honey storage                      c)Brood chamber                      d)Worker quarters		
62	Which part of the honey bee nest serves as the main storage area for honey?	c	Honeycombs
	a)Drone cells                      b)Pollen baskets                      c)Honeycombs                      d)Queen cell		
63	The exoskeleton of arthropods is made primarily of:	c	Chitin and proteins
	a)Calcium carbonate                      b)Keratin                      c)Chitin and proteins                      d)Cartilage		
64	Which arthropod class includes insects such as bees, ants, and beetles?	c	Insecta
	a)Arachnida                      b)Crustacea                      c)Insecta                      d)Diplopoda		
65	How many pairs of legs do most arachnids have?	d	8
	a) 2                      b) 4                      c) 6                      d) 8		
66	Which arthropod class includes animals such as spiders, scorpions, and ticks?	a	Arachnida
	a)Arachnida                      b)Crustacea                      c)Insecta                      d)Chilopoda		
67	The term 'ecology' was coined by:	b	Ernst Haeckel
	a) A.G. Tansley                      b) Ernst Haeckel                      c) E. P. Odum                      d) Charles Elton		
68	The study of ecology of a single population is called	c	Autecology

	a) Single ecology	b) Synecology	c) Autecology	d) Limnology		
69	According to which ecogeographical rule, the appendages like tail, ears, legs etc are shorter in colder climates				d	Allen's rule
	a) Bergmann's rule	b) Gloger's rule	c) Jordan's rule	d) Allen's rule		
70	Which is the vector of the <i>Trypanosoma gambiense</i>				a	Tsetse fly
	a) Tsetse fly	b) House fly	c) Fruit fly	d) Mosquito		
71	The Predator-Prey model was given by				a	A.J Lotka & V. Volterra
	a) A.J Lotka & V. Volterra	b) A.J Lotka & C.S Holling	c) V. Volterra & F. Gause	d) Volterra, Lotka & Holling		
72	Which of the following is not responsible for ozone depletion				a	NH <sub>3</sub>
	a) NH <sub>3</sub>	b) N <sub>2</sub> O	c) CFC	d) NO		
73	If a population has more individuals in post reproductive age groups, it shows				c	birth rate decreased
	a) Birth rate increased	b) Death rate increased	c) Birth rate decreased	d) All of the above		
74	The most complex food chain occur in which of the following				a	Sea
	a) Sea	b) Lake	c) Land	d) River		
75	Darwin's Finches is not an example of				d	Struggle for existence
	a) Adaptive radiation	b) Niche diversification	c) Niche shift	d) Struggle for existence		
76	Which will be pioneer if succession start on bare rock				b	Mosses
	a) Grass	b) Mosses	c) Lichen	d) Shrubs		

7 7	The Poly climax theory of succession was proposed by:				b	A. G Tansley
a) Robert H. Whittaker	b) A. G Tansley	c) F.E. Clements	d) R.F. Daubenmire			
7 8	Which of the thermal strata of lake have high dissolved oxygen concentration:				c	Epilimnion
a)Hyperlimnion	b) Hypolimnion	c) Epilimnion	d) Metalimnion			
7 9	The Wallace's Line pass between				a	Bali& Lombok island
a) Bali& Lombok island	b) Bali & Java Island	c) Lombok and Phuket	d) Bali & Phuket			
8 0	Which of the following is a plantigrade mammal?					D
a) Dog	b) Horse	c) Lion	d) Bear			
8 1	When two or more inedible or unpalatable species resemble each other is called				b	Batesian mimicry
a) Mullerian mimicry	b) Batesian mimicry	c) Concealing mimicry	d) Warning mimicry			
8 2	What is <i>Zeitgedachtnis</i> in ethology				a	Time memory
a) Time memory	b) Food memory	c) Landmark memory	d)Light-Darkness memory			
8 3	Those animal which active during dawn& dusk is called				b	Crepuscular
a) Diurnal	b) Crepuscular	c) Nocturnal	d)Fassorial			
8 4	The fish which migrate from marine water to fresh water are called b				b	Anadromous
a) Catadromous	b) Anadromous	c)Potadromous	d) Salidromous			

85	Fluid mosaic model was proposed by					
	a) Singer and Nicolson	b) Davson and Danielli	c) Watson and Crick	d) Robert Hooke	b	Singer and Nicolson
86	Peroxisomes are not found in					
	a) Macrophage	b) Hepatocytes	c) Erythrocytes	d) Both a and b	c	Erythrocytes
87	Bacterial cell wall is made up of					
	a) Cellulose	b) Peptidoglycan	c) Chitin	d) Starch	b	Peptidoglycan
88	Which of the following cytoskeletal protein is the largest protein?					
	a) Myosin	b) Troponin	c) Titin	d) Actin	c	Titin
89	Which of the following type of ATPase are present in endosomes?					
	a) V-ATPase	b) P-ATPase	c) F-ATPase	d) Both a and b	a	V-ATPase
90	In ....., the signalling molecules released by a cell affect target cells only in close proximity.					
	a) Autocrine signalling	b) Endocrine signalling	c) Paracrine signalling	d) Both A and C	c	Paracrine signalling
91	Movement of glucose through the biomembrane takes through					
	a) Simple diffusion	b) Facilitated diffusion	c) Active transport	d) None	b	Facilitated diffusion
92	Which of the following feature is not shown by cancerous cells?					
	a) Contact inhibition	b) Self-sufficiency in growth signals	c) Evasion of apoptosis	d) Insensitivity to antigrowth signals	a	Contact inhibition
93	DNA replication happens in					
	a) S-phase	b) M-phase	c) G <sub>1</sub> phase	d) G <sub>2</sub> Phase	a	S-phase
94	Which of the following cell organelle contains DNA					
	a) Mitochondria	b) Chloroplast	c) Endoplasmic reticulum	d) Both a and b	d	Both a and b

95	Cyclin B is					
	a) Mitotic cyclin	b) S-phase	c) G1 cyclins	d) Late G1 cyclin	a	Mitotic cyclin
96	Who discovered the human blood group?					
	a) Robert Koch	b) Max Theiler	c) Daniel Bovet	d) Karl Landsteiner	d	Karl Landsteiner
97	Which of the following cell is generated from myeloid progenitor?					
	a) T <sub>H</sub> helper cell	b) Neutrophil	c) Basophil	d) Both b and c	d	Both b and c
98	T cell recognizes					
	a) Free antigen	b) Antigen bound with MHC	c) Antigen bound with CD8	d) None	b	Antigen bound with MHC
99	Immunoglobulins are					
	a) Alpha-globulin	b) Beta-globulin	c) Gamma-globulin	d) Albumin	c	Gamma- globulin
100	Number of constant region on heavy chain of IgM are					
	a) Three	b) Two	c) Four	d) One	c	Four

**SPACE FOR ROUGH WORK**