ZIAUDDIN UNIVERSITY
EXAMINATION BOARD

RESOURCES FOR

"HSC-I ZOOLOGY"

ZUEB EXAMINATIONS 2021

PREFACE:

The ZUEB examination board acknowledges the serious problems encountered by the schools and colleges in smooth execution of the teaching and learning processes due to sudden and prolonged school closures during the covid-19 spread. The board also recognizes the health, psychological and financial issues encountered by students due to the spread of covid-19.

Considering all these problems and issues the ZUEB Board has developed these resources based on the condensed syllabus 2021 to facilitate students in learning the content through quality resource materials.

The schools and students could download these materials from www.zueb.pk to prepare their students for the high quality and standardized ZUEB examinations 2021.

The materials consist of examination syllabus with specific students learning outcomes per topic, Multiple Choice Questions (MCQs) to assess different thinking levels, Constructed Response Questions (CRQs) with possible answers, Extended Response Questions (ERQs) with possible answers and learning materials.

ACADEMIC UNIT ZUEB:

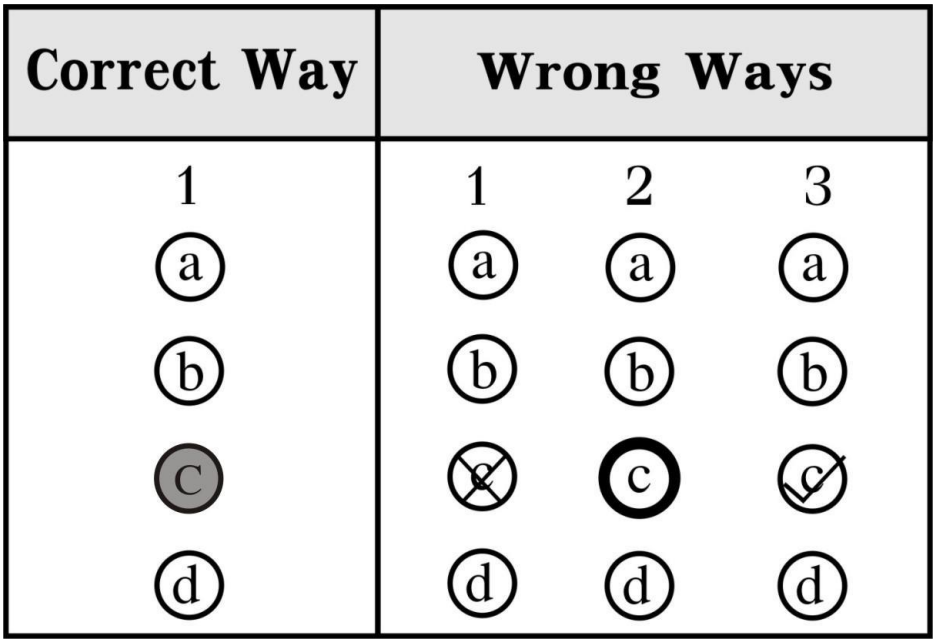
1: Multiple Choice Questions:

The Multiple-Choice Questions with a stem, correct answer and 3 distractors or plausible wrong answers format is designed to assess the content and thinking of students from; R (Remembering); U(Understanding) and A (Applying, Analyzing, Evaluating, Creating). The questions are also classified into three difficulty levels accordingly; D (DIFFICULT), M (MODERATE), E (EASY)

HOW TO ATTEMPT AN MCQ:

MCQ:

- **EACH MCQ HAS FOUR OPTIONS, A, B, C AND D. SELECT ONE OPTION AS THE BEST ANSWER AND FILL IN THE CIRCLE OF THAT OPTION, FOLLOWING THE INSTRUCTIONS GIVEN BY THE INVIGILATOR.**
- **USE BLACK PEN/PENCIL TO FILL IN THE CIRCLE.**



S#	MCQ'S MATERIAL (CHAPTER -01)	KEY	CL	DL
1	Five kingdom system of classification was introduced by_____ A. Whittaker B. Pasteur C. Margulis D. Florey	**Whittaker**	**R**	**E**
2	The part of earth inhabited by organisms is called _____ A. Ecosystem B. Biosphere C. Community D. Biome	**Biosphere**	**A**	**D**
3	_____ is unbroken series of species arranged in ancestor to descendent sequence. A. Community	**Phyletic Lineage**	**R**	**E**

	B. Population C. Phyletic lineage D. Ecosystem			
4	The study of viruses, bacteria, protozoans and pathogenic fungi is called_____ A. Parasitology B. Bacteriology C. Microbiology D. Virology	**Microbiology**	**U**	**M**
5	_____ deals with the use of the data and techniques of engineering and technology for the welfare of mankind. A. Molecular biology B. Microbiology C. Social biology D. Biotechnology	**Biotechnology**	**R**	**E**
6	The study of life in oceans is called_____ A. Fresh water biology B. Marine biology C. Phycology D. Geology	**Marine Biology**	**A**	**M**
7	_____ is the vector of malaria. A. Plasmodium B. Mosquito C. Tse tse fly D. Sand fly	**Mosquito**	**A**	**D**
8	The breakdown of a polymer to from monomers is called _____ A. Hydrolysis B. Photolysis C. Condensation D. Fractionation	**hydrolysis**	**U**	**M**
9	The union of monomers to form a polymer is called _____ A. Evaporation B. Specific heat capacity C. Condensation D. Hydrolysis	**Condensation**	**R**	**E**
10	Nucleic acids are polymers of units called_____ A. Nuclein	**Nucleotides**	**A**	**M**

	B. Nucleotides C. Trace elements D. Polypeptides			
11	Those molecules which act as both acid and base are _____ A. Macromolecules B. Micro-molecules C. Organic molecules D. Amphoteric molecules	**Amphoteric molecule**	**R**	**E**
12	All Living cells contain a living material called A. Protoplasm B. chlorophyll C. Chromoplast D. leucoplast	**Protoplasm**	**R**	**E**
13	Which of the following is a monomer? A. Protein B. carbohydrates C. fats D. amino acids	**Amino acids**	**U**	**M**
14	During_____ a water molecule breaks into H+ and OH- ions. A. Condensation B. hydrolysis C. Transpiration D. dehydration synthesis	**Hydrolysis**	**U**	**D**
15	_____ is the minimum amount of energy required for a chemical process to start A. Activation energy B. threshold energy C. both a and b D. heat energy	**Both a and b**	**R**	**E**
16	_____ are the surface depressions in an enzyme molecule. A. Allosteric sites B. Active sites C. Substrates D. Activators	**Active sites**	**U**	**D**
17	When a substrate is attached to an enzyme it induces change in an enzyme which enables the enzyme to work more effectively this is proposed by A. Induced fit model b) B. key-lock theory	**Induced fit model**		**D**

	C. both of them D. fluid mosaic model			
18	The optimum pH for the activity of trypsin enzyme _____ A. 2 B. 7 C. 6 D. 8	**8**	**R**	**M**
19	Enzymes require _____ medium for their activity. A. Aquatic B. Acidic C. Basic D. Neutral	**Aquatic**	**U**	**E**
20	The optimum temperature for the activity of human enzymes is_____ A. 37^{o}C B. 98.6^{o}F C. 100^{o}C D. Both 'a' and 'b	**37^{o}C**	**R**	**E**
21	Enzymes _____ the activation energy of the reactions A. Increase B. Lower C. Does not change D. None	**Lower**	**U**	**M**
22	The holoenzymes in which prosthetic group is an organic compound is known as A. co factor B. co enzyme C. both A and B D. inhibitor	**Co enzyme**	**U**	**M**
23	According to the cell theory the cell arises from a _____ cells A. Mature B. Immature C. Pre-existing D. None of the above	**Pre existing**	**U**	**E**
24	Cells are the _____ units of life A. Structural and minor B. Structural and compositional C. Structural and functional D. Structural and receptive	**Structural and Functional**	**U**	**E**

25	_____ have membrane bounded structures A. Eukaryotes B. Prokaryotes C. Animals D. Plant	**Eukaryotes**	**U**	**E**
26	Singer and Nicholson gave _____ for plasma and membrane A. Trilaminar model B. Fluid mosaic bilayer model C. Lock and Key model D. None	**Fluid mosaic bilayer model**	**R**	**E**
27	Smooth endoplasmic reticulum is not associated with _____ A. Nucleus B. Vacuoles C. Mitochondria D. Ribosomes	**Ribosomes**	**R**	**E**
28	The inner membrane of mitochondria forms irregular incomplete partitions called as _____ A. Cristae B. Crystal C. Cones D. Canes	**Cristae**	**A**	**M**
29	Lysosomes have been referred as _____ A. Voluntary sacs B. Friendly sacs C. Suicide sacs D. None of them	**Suicide Sacs**	**A**	**E**
31	The final tool of classification is _____ A. Homology B. Biochemistry C. Cytology D. Genetics	**Genetics**	**R**	**M**
32	Musca domestica is the biological name of_____ A. Cat B. House fly C. Dog D. Pigeon	**House fly**	**R**	**M**
33	Viruses are considered as non-living because they are non-cellular, can be_____ and is completely inactive outside the host cell A. Genetically recombine	**Crystallized**	**U**	**M**

	B. Replicated C. Crystallized D. All of them			
34	_____ viruses are the DNA enveloped viruses A. Pox B. Influenza C. Paramyxoviruses D. Poliomyelitis	**Pox**	**R**	**D**
35	AIDS do not spread by_____ A. Sexual contact B. Contaminated syringes C. Infected blood D. Casual contact	**Casual contact**	**U**	**E**
36	The phage which instead of taking over the control of host machinery becomes in- corporated in the host cell chromosome is known as _____ A. Lysogenic B. Temperate C. Virulent D. Both a and b	**Both a and b**	**A**	**D**
37	The subunits of capsid are known as _____ A. Capsomeres B. Nucleocapsid C. Envelope D. Prions	**Capsomeres**	**A**	**E**
38	Bacteriophages are_____ attacking bacteria A. Fungi B. Algae C. Viruses D. Bacilli	**Viruses**	**A**	**E**
39	_____ performs the function of respiration in bacteria as mitochondria are absent in them A. Cell wall B. Cell membrane C. Ribosome D. Nucleus	**Cell membrane**	**R**	**E**
40	Bacteria cell consists of _____, plasma membrane, cytoplasm and nuclear material A. Cell wall B. Mitochondria C. Golgi apparatus	**Cell wall**	**A**	**E**

	D. Endoplasmic reticulum			
41	Bacteria which grow in the presence of oxygen, are called _____bacteria A. Aerobic B. Anaerobic C. Microaerophilic D. Facultative	**Aerobic**	**A**	**M**
42	Bacteria increase in number by _____ A. Nuclear fission B. Binary fission C. Nuclear fission D. All of them	**Binary fission**	**A**	**M**
43	_____ is absent in bacteria cell wall A. Amino acid B. Sugar C. Chitin D. Cellulose	**Cellulose**	**R**	**M**
44	Bacteria have single chromosome so they are _____ A. Haploid B. Diploid C. Triploid D. Tetraploid	**Haploid**	**A**	**E**
45	A bacterial cell unlike the eukaryotic cells _____ discrete chromosome and nuclear membrane A. Have B. Lack C. Neither a nor b D. Both a and b	**Lack**	**A**	**E**
46	The type of locomotion in Sarcodina is A. Amoeboid locomotion B. flagellated locomotion C. both of them D. none of them	**Amoeboid**	**R**	**M**
47	Reproduction in Suctoria is by A. Budding B. fission C. regeneration D. fusion.	**Budding**	**R**	**M**

48	Monocystis is the example of A. sporozoa B. Suctoria C. cliliata D. sarcodina	**Sporozoa**	**R**	**M**
49	Erythrocyte phase of life cycle of malarial parasite happens in A. RBC B. WBC C. Leukocytes D. lymph cells.	**RBC**	**U**	**E**
50	Sporozoa: A. Cause coccidiosis B. have locomotory structures C. not Parasitic D. cause flu	**Cause coccidiasis**	**A**	**M**
51	_____ appears to evolve from ciliates A. Saracondina B. Sporozoa C. Suctoria D. protozoa	**Suctoria**	**R**	**M**
52	Man serves as a _____ host in Malaria A. Primary B. secondary C. tertiary D. last	**Primary**	**U**	**E**
53	_____ cells maintain the shape of poriferans A. Amoeboid B. Choanocyte C. Porocyte D. Spicule	**Choanocytes**	**R**	**M**
54	Poriferans reproduces by A. Sexually B. Gemmule C. Fragmentation D. Fission	**Gemmule**	**R**	**E**
55	_____ are polypoid cnidarians. A. Obelia B. Sea anemon C. Hydra D. Physalia	**Physalia**	**R**	**M**

56	Dugesia (Planaria) is an example of A. Turbelaria B. cestoda C. Trematoda D. aschelminthes	**Turbelaria**	**R**	**M**
57	_____ is the largest Mollusca A. Oyster B. Octopus C. Giant squid D. Loligo	**Giant Squid**	**R**	**E**
58	Octopus locomotes by A. Tube feet B. Muscular foot C. Jet propulsion D. Arms	**Jet Propulsion**	**R**	**E**
59	. Sea horse belongs to the class A. Mammalia B. Osteicthyes C. Insecta D. None	**Osteicthyes**	**U**	**M**
60	_____ is an example of marsupial mammal. A. Duckbill platypus B. Kangroo C. Spiny anteater D. Camel	**Kangaroo**	**U**	**M**
61	Name the class of vertebrate whose members have naked skin. A. Amphibia B. Reptilia C. Aves D. Mammalia	**Amphibia**	**A**	**E**
62	. Amphibians are : A. Poikilothermic B. Homiothermic C. Heterothermic D. None	**Poikilothermic**	**A**	**M**
63	All except _____ belongs to the Phylum Annelida A. Earth worm B. Tape worm C. Neries D. Leech	**Tapeworm**	**R**	**M**

64	Due to less oxygen Pyruvic acid is converted into A. Lactic acid B. hcl C. Sulphuric acid D. Pepsin	**Lactic acid**	**A**	**M**
65	Glycolysis takes place in _____ A. Golgi complex B. Mitochondria C. Lysosome D. Cytoplasm	**Cytoplasm**	**R**	**M**
66	Which of the following processes involves pyruvic acid _____ A. Lactic acid fermentation B. wound healing C. reabsorption of minerals D. both b and c	**Lactic acid fermentation**	**A**	**M**
67	Complete oxidation of 1 gram of carbohydrate releases _____ amount of energy A. 367 kCal b. B. 4 kCal C. 637 kCal D. 673 kCal	**4kCal**	**R**	**D**
68	_____ ATPs are produced during anaerobic respiration A. 38 B. 2 C. 3 D. 8	**2**	**A**	**M**
69	The process of incomplete oxidation of glucose is called _____ A. Fermentation B. Carboxylation C. Distillation D. Chemiosmosis	**Fermentation**	**R**	**M**
70	Fructose 6 – phosphate is the isomeric form of _____ A. G3P B. Glucose 6- phosphate C. Phoshpo glycerate D. Pyruvic acid	**Glucose 6-phosphate**	**R**	**M**

71	Glycolysis end product is _____ A. Pyruvate B. Lactic acid C. Carbon D. Amino acid	**Pyruvate**	**A**	**E**
72	_____ is the elimination of undigested matter from the body A. Ingestion B. Absorption C. Egestion D. Assimilation	**Egestion**	**R**	**E**
73	There are three sites of digestion in the digestive system of man that are oral cavity, stomach & ____ A. Large intestine B. Small intestine C. Calcium D. Colon	**Small intestine**	**R**	**E**
74	Slimy food mass is rolled in to small oval lump called_____ A. Bolus B. Crop C. Cyclop D. Hunger pang	**Bolus**	**A**	**M**
75	Hydrochloric acid in stomach is secreted by _____ A. Mucous cells B. Oxyntic cells C. Zymogen cells D. Gastric cells	**Oxyntic**	**R**	**M**
76	The pepsinogen is secreted by_____ A. Gastric chief cells B. Neurons C. small intestine D. enzyme	**Gastric Chief cells**	**A**	**M**
77	Liver secrets bile which may be temporally stored in _____ and released in to the duodenum through the bile duct A. Lung B. Gall bladder C. Stomach D. Intestine	**Gall bladder**	**A**	**M**

78	_____ is a thick secretion that prevents the underlying walls from being digested A. Saliva B. Mucus C. Blood D. Bolus	**Mucus**	**R**	**E**
79	_____ is also called as amylase A. Trypsin B. Lysozyme C. Ptyalin D. Ligase	**Ptyalin**	**R**	**M**
80	The lungs of birds have thin walled duct termed as_____ A. Gills B. Alveoli C. Parabronchi D. All	**Parabronchi**	**A**	**E**
81	In cockroach the main tracheal trunk communicates with the exterior through 10 pairs of paired apertures called as _____ A. Tracheoles B. Chitin C. Spiracles D. None	**Spiracles**	**R**	**M**
82	In earth worm oxygen is released from the oxyhaemoglobin at _____ level A. Cellular B. Tissue C. Organismic D. Systemic	**Tissue**	**A**	**D**
83	In man _____ are located in the thoracic cavity within the pleural sacs A. Stomach B. Liver C. Heart D. Lungs	**Lungs**	**A**	**E**
84	External nares lead into A. Nasal cavity B. pleura C. lungs D. nostrils	**Nasal cavity**	**A**	**E**

85	Trachea bifurcates into two smaller branches called A. Bronchioles B. alveoli C. Bronchi D. surfactants	**Bronchi**	**A**	**M**
86	The internal area of alveolus is provided with A. Surfactant B. nares C. bronchi D. tendons	**Surfactant**	**R**	**E**
87	Relaxation of external intercoastal muscles happen in A. Inspiration B. exhalation C. expiration D. both b and c	**Both b and c**	**A**	**M**
88	A human normal heart beats _____ times per minute at rest. A. 100 B. 120 C. 82 D. 72	**72**	**R**	**E**
89	SA-node is also known as the pace maker of heart which is located in_____ A. Right atrium B. Left atrium C. Right ventricle D. Left ventricle	**Left atrium**	**A**	**M**
90	It is present in open type circulatory system A. Blood vessels B. haemolymph C. haemocoel D. both c and d	**Both c and d**	**A**	**E**
91	In fishes the blood flows in A. the blood flows in One direction B. the blood flows in two direction C. heart receives oxygenated blood for pumping D. both b and c	**The Blood flows in one direction**	**U**	**M**
92	Following is not a layer of arterial wall A. Tunica externa B. tunica media C. tunica intima	**Tunica superficial**	**R**	**M**

	D. Tunica superficia			
93	The exchange of materials between body and blood in chordates occurs in: A. Arteries B. Veins C. Capillaries D. All	**Capillaries**	**U**	**M**
94	All veins carry deoxygenated blood except A. Vena cava B. pulmonary vein C. jugular vein D. both and c	**Pulmonary vein**	**U**	**M**
95	The lymphoid tissue does not contain A. Antibody B. lymphocytes C. macrophages D. surfactant	**Surfactant**	**U**	**E**
96	Blood pressure is measured by A. Sphygmomanometer B. pace maker C. thermometer D. oximeter	**Sphygmomanometer**	**R**	**E**
97	Mitral valve is present in A. Right ventricle B. right atrium C. aorta D. between left atrium and ventricle	**Between left atrium and ventricle**	**A**	**M**
98	Cytotoxicity is the function of _____ A. Natural killer cells B. Macrophages C. T-cells D. B-cells	**Natural killer cells**	**U**	**M**
99	What is (are) the function(s) of macrophages? A. Phagocytosis B. Antigen presentation C. Cytotoxicity D. Both ‘a’ and ‘b’	**Both a and b**	**A**	**M**

100	The suppressor T-cells shut off the immune response of_____ A. Macrophages B. B-cells C. T-cells D. Both B-cells and T-cells	**Both B-cells and T-cells**	**U**	**D**