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**P.G. Entrance Examination, June - 2022****M.Sc. ZOOLOGY****Sub. Code: 58719****Day and Date : Friday, 10 - 06 - 2022****Total Marks : 100****Time : 03.30 p.m. to 05.00 p.m.**

- Instructions :**
- 1) All questions are compulsory.
  - 2) Each question carries 1 mark.
  - 3) Answers should be marked in the given OMR answer sheet by darkening the appropriate option.
  - 4) Follow the instructions given on OMR sheet.
  - 5) Rough work shall be done on the sheet provided at the end of question paper.

- 1) Duration of the heart beat in man is \_\_\_\_\_.  
(A) 0.6 sec/ beat  
(B) 0.2 sec/ beat  
(C) 0.5 sec/ beat  
(D) 0.8 sec/ beat
- 2) The main nitrogen reservoir in the biosphere is the \_\_\_\_\_.  
(A) Rocks  
(B) Organism  
(C) Atmosphere  
(D) Ocean
- 3) The normal pH of saliva .....OR..... The fish byproduct obtained from air bladder is  
(A) 5.5....OR....Fish meal  
(B) 7.5....OR....Isinglass  
(C) 8.5....OR....Fish Pickle  
(D) 9.5....OR....Fish manure

- 4) What is the effect of GnRH hormone produced by hypothalamus? ....OR....  
The marine animals tolerating narrow range of salinity are known as .....
- (A) Stimulates secretion of milk in mammary glands. ....OR....Euryhaline
  - (B) Stimulates the synthesis and secretion of androgens. ....OR....Stenohaline
  - (C) Stimulates synthesis of carbohydrates from non carbohydrates in the liver. ....OR....Stenothermal
  - (D) Stimulates foetal ejection reflex .....OR....Eurythermal
- 5) Reabsorption of  $\text{Na}^+$  is controlled by which one of the following hormones?  
....OR....The marine animals tolerating wide range of salinity are known as .....
- (A) Glucocorticoids....OR....Stenothermal
  - (B) Oestrogen....OR....Stenohaline
  - (C) Aldosterone....OR....Euryhaline
  - (D) Testosterone....OR....Eurythermal
- 6) Addison's disease results from.....OR....There is virtually total darkness in .....zone.
- (A) Hyposecretion of adrenal cortex ....OR....Bathypelagic
  - (B) Hyperactivity of leydig cells....OR....Epipelagic
  - (C) Hypertrophy of gonads....OR....Pelagic
  - (D) None of the above....OR....Mesopelagic
- 7) The peripheral region of the chick blastodisc surrounding the area pellucida which is in direct contact with the yolk is .....
- (A) area vasculos
  - (B) zone of junction
  - (C) area opaca
  - (D) area ascaroside
- 8) The egg of hen is .....OR..... is a good adhesive obtained from trimmings, skins and bones of fishes.
- (A) Polylecithal ....OR....Fish glue
  - (B) Mesolecithal ....OR....Fish flour
  - (C) Microlecithal ....OR....Fish ham
  - (D) Telolecithal ....OR....Fish manure

- 9) Blastopore is the opening of future .....OR..... instrument is used to sample sediment from the water.
- (A) coelom ....OR.... Water sampler bottle  
(B) blastocoel ....OR.... Thermometer  
(C) alimentary canal ....OR.... Grab  
(D) archenteron ....OR.... Secchi disk
- 10) The cells which digest the germ by using enzymes are .....
- (A) Erythrocytes (B) Thrombocytes  
(C) B lymphocytes (D) Phagocytes
- 11) A foreign protein that enters our body generally acts as an .....
- (A) Antigen (B) Antibody  
(C) Antitumor agent (D) Antivenom
- 12) The largest pearl bearing oyster is the marine .....
- (A) Pinctada albina (B) Pinctada margaritifera  
(C) Pinctada mertensi (D) Pinctada maxima
- 13) Father of Genetics is .....
- (A) Charles Darwin (B) Lamark  
(C) Gregor Mendel (D) Robert Hook
- 14) Family of marine bivalve molluscs is .....
- (A) Pteriidae (B) Margaritiferidae  
(C) Unionidae (D) None of these
- 15) Pinctada is a genus of .....
- (A) Prawn (B) Fish  
(C) Pearl oyster (D) Goat

- 16)** The first scientific research in artificial insemination of domestic animals was performed on dogs in .....
- (A) 1779 (B) 1790  
(C) 1785 (D) 1780
- 17)** The sound producing organ of bird is .....
- (A) Larynx (B) Vocal sac  
(C) Syrinx (D) None of these
- 18)** The genetic disorder called Down's syndrome is due to .....
- (A) crossing over (B) monosomy  
(C) polyploidy (D) trisomy
- 19)** In a typical vertebrate embryo, according to basic embryonic plan ..... pair of aortic arches are present.
- (A) 5 (B) 4  
(C) 6 (D) 7
- 20)** DNA replication is\_\_\_\_\_
- (A) Conservative  
(B) Conservative and discontinuous  
(C) Semi-conservative  
(D) Semi-conservative and discontinuous
- 21)** Lac Operon will be turned on when .....
- (A) Lactose is less than glucose  
(B) Lactose is less in the medium  
(C) Glucose is enough in the medium  
(D) Lactose is more than glucose

- 22)** The sequence of the structural genes in the lac operon is .....
- (A) lacZ-lacY-lacA (B) lacA-lacZ-lacY  
(C) lacZ-lacA-lacY (D) lacA-lacY-lacZ
- 23)** The Wobble hypothesis was proposed by \_\_\_\_\_
- (A) Arthur Kornberg (B) Francis Crick  
(C) James Watson (D) William Asbury
- 24)** ABO blood group system is due to \_\_\_\_\_
- (A) Epistasis (B) Multiple allelism  
(C) Incomplete dominance (D) Multifactor inheritance
- 25)** The site of protein synthesis is .....
- (A) Chromosome (B) Endoplasmic Reticulum  
(C) Nucleus (D) Ribosome
- 26)** Polymerase used for PCR is extracted from .....
- (A) Escherichia coli  
(B) Homo sapiens  
(C) Thermus aquaticus  
(D) Saccharomyces cerevisiae
- 27)** The production, secretion and ejection of milk by mammary glands require the synergistic effect of .....OR ..... is the subdivision of deep sea system
- (A) Prolactin ....OR..... Oceanic zone  
(B) Oestrogen and progesterone....OR.....Neritic zone  
(C) Oxytocin....OR.... Littoral zone  
(D) All of the above ....OR.....Abyssal zone

- 28)** In the chick .....lies next to the shell and carries on gas exchange  
(A) allantois (B) placenta  
(C) chorion (D) amnion
- 29)** Which of the following immunity is obtained during a lifetime? .....OR..... is used in manufacture of laundry soap.  
(A) Acquired immunity....OR....Fish body oil  
(B) Active immunity....OR....Fish liver oil  
(C) Passive immunity...OR.... Fish meal  
(D) None of the above....OR.....Fish manure
- 30)** Antigen binding site of an immunoglobulin is located in .....OR..... is used in dressing of leather and tanning of skin.  
(A) Variable regions of the antibody....OR..... Fish body oil  
(B) Constant region of the antibody .....OR.. Fish liver oil  
(C) Heavy chain alone....OR.... Fish meal  
(D) Light chain alone....OR.....Fish manure
- 31)** The technology used for the production of monoclonal antibodies is .....OR.....Cod liver oil is extracted from .....  
(A) Hybridoma Technology.....OR..... cartilaginous fish  
(B) Suspension culture....OR....both (A) and (B)  
(C) Mass culture technology....OR..... bony fish  
(D) None of these ....OR.....none of these
- 32)** Plague is caused by:  
(A) Yersinia pestis  
(B) Trichinella spiralis  
(C) Leishmania donovani  
(D) Salmonella typhimurium

- 33)** The presence of prosopyle is characteristic feature of a cell called .....in Sycon.
- (A) myocytes (B) amoebocytes  
(C) porocyte (D) scleroblasts
- 34)** Clitellum has role to play in .....
- (A) cocoon formation (B) copulation  
(C) locomotion (D) burrowing
- 35)** The most of elasmobranch fishes consist ..... pair of gill slits on either side of pharynx....OR....Chiton is an example of class \_\_\_\_\_.
- (A) 4....OR....Aplacophora (B) 5....OR....Polyplacophora  
(C) 6....OR....Monoplacophora (D) 7....OR....Scapopoda
- 36)** Rostellum is part of .....
- (A) scolex (B) gravid proglottid  
(C) neck (D) mature proglottid
- 37)** Hemoglobin has maximum affinity for \_\_\_\_\_
- (A)  $O_2$  (B)  $CO_2$   
(C) Co (D)  $NH_3$
- 38)** *Helicoverpa armigera* is a polyphagous pest commonly known as .....
- (A) Bean Weevil (B) Lime Butterfly  
(C) Sugarcane plant hopper (D) Cotton bollworm
- 39)** Which of the following is a indigenous breed of poultry.
- (A) Rhode island red (B) White polymouth rock  
(C) White leghorn (D) Kadaknath

- 40)** In gut presence of scroll valve is the peculiarity of .....  
(A) Calotis (B) Scoliodon  
(C) Pigeon (D) Frog
- 41)** The cavity in the various parts of the brain are commonly called as .....  
OR..... is commonly called as Electric Ray fish.  
(A) Ventricular....OR.....Torpedo  
(B) Conus arteriosus ....OR.....Pristis  
(C) Sinus venosus....OR.....Chimaera  
(D) Auricle ....OR.....Scoliodon
- 42)** The middle ear cavity or tympanic cavity is connected with pharynx by .....OR..... Polypterus is included in class.....  
(A) Oesophagus ....OR....Dipnoi  
(B) Fallopian Tube....OR.....Chondrichthyes  
(C) Auditory canal....OR.... None of these  
(D) Eustachian Tube....OR....Osteichthyes
- 43)** The enzyme involved in amino acid activation is .....OR.....Catla is a \_\_\_\_\_ feeder.  
(A) Aminoacyl rRNA synthetase....OR.....none of the above  
(B) Aminoacyl mRNA synthetase....OR.... bottom  
(C) Aminoacyl tRNA synthetase....OR....surface  
(D) ATP synthetase ....OR.... column



- 44)** Classification of data by attributes is called:
- (A) Geographical classification                      (B) Chronological classification  
(C) Qualitative classification                      (D) Quantitative classification
- 45)** ..... is the process of over growth of plants and algae in lakes
- (A) Reproduction                      (B) Photosynthesis  
(C) Transpiration                      (D) Eutrophication
- 46)** Data arranged in ascending or descending order of magnitude is called
- (A) Ungrouped data                      (B) Arrayed data  
(C) Grouped data                      (D) Discrete frequency distribution
- 47)** Human eggs are .....
- (A) Alecithal                      (B) Macrolecithal  
(C) Mesolecithal                      (D) Microlecithal
- 48)** Superficial cleavage is found in.....
- (A) insect                      (B) chick  
(C) amphibian                      (D) mammals
- 49)** During embryonic development the process of bending and twisting of chick embryo is called as .....
- (A) Invagination                      (B) Inversion  
(C) Involution                      (D) Flexion and torsion
- 50)** Three germ layers are formed during ..... stage of embryonic development.
- (A) Gastrula                      (B) Morula  
(C) Blastula                      (D) In any two stages

- 51)** ..... is the only fertile female of the bee colony.
- (A) Queen (B) Worker  
(C) Drone (D) All of the above
- 52)** Female of *M. rosenbergii* lay .....eggs during one spawning.
- (A) 1,00,000-2,00,000 (B) 80,000-1,00,000  
(C) 40,000-80,000 (D) 10,000-20,000
- 53)** ..... ppt salinity of water may be acceptable for the culture of *M. rosenbergii*
- (A) 0-1 (B) 3-4  
(C) 6-7 (D) 4-5
- 54)** In prawn culture, monoculture period may be of ..... days.
- (A) 6-8 days (B) 3-5 days  
(C) 10-11 days (D) 1-2 days
- 55)** Larvae of *M. rosenbergii* go through ..... distinct stages before metamorphosis into post larvae .....OR..... is the causative agent of dropsy disease
- (A) 10 ....OR.....none of these  
(B) 11 ....OR....Pseudomonas punctata  
(C) 15....OR.... Aeromona salmonicida  
(D) 20....OR....Chondroccus columnaris
- 56)** Sandfly(*Phlebotomus*) transmit the disease?:
- (A) Kala-azar  
(B) Typhoid  
(C) Malaria  
(D) Sleeping sickness

- 57)** The series weight 15-2020-2525-3030-3535-40 No. of items 10 15 30 10 5 is categorized as:
- (A) Discrete series
  - (B) Geometric series
  - (C) Continuous series
  - (D) Time series
- 58)** The carrier of Trypanosoma in man is:
- (A) Honey bee
  - (B) Mosquito
  - (C) Housefly
  - (D) Tsetse fly
- 59)** Yellow fever is transmitted by:
- (A) House-fly
  - (B) Tsetse fly
  - (C) Aedes
  - (D) Anopheles
- 60)** The study of fossils comes under \_\_\_\_\_
- (A) Herpetology
  - (B) Paleontology
  - (C) Paleogeography
  - (D) Organic evolution
- 61)** The excremental proof was provided to the theory of chemical evolution by .....
- |                       |                    |
|-----------------------|--------------------|
| (A) Spallazani        | (B) Louise Paster  |
| (C) Oparine & Haldane | (D) Stanley Miller |

- 62)** Which is not true for Osteichthyes  
(A) Presence of homocercal tail fin.  
(B) Exoskeleton is of cycloid or ctenoid scales  
(C) Endoskeleton is bony  
(D) Gills are laminiforms and covered by operculum
- 63)** Circular suctorial mouth without jaws is the characteristic feature of .....  
(A) Agnatha  
(B) Cephalochordata  
(C) Gnathostomata  
(D) Urochordata
- 64)** A snake with large hexagonal row of vertebral scales and largest 4th infralabial scale is a venomous snake .....  
(A) Sea Snake  
(B) Krait  
(C) Viper  
(D) Cobra
- 65)** ..... molecules of ATP are utilized in preparatory phase of glycolysis.  
(A) 2  
(B) 4  
(C) 5  
(D) 7
- 66)** ..... Is the only pathway to generate FADPH in animals.  
(A) Glycogenolysis  
(B) Pentose phosphate pathway  
(C) Beta oxidation  
(D) Glycolysis
- 67)** ..... in the secretion of prostate gland is essential for liquification of serum after ejaculation.  
(A) Prostaglandin  
(B) Acid phosphatase  
(C) Fibrinolysin  
(D) Beta glucuronidase

- 68) The cumulative frequency of last class in less than cumulative frequency distribution is always equal to:
- (A) 100 (B)  $\Sigma f$   
(C) 1 (D)  $\Sigma X$
- 69) Presence of ..... Hormone in urine is an indication of pregnancy.
- (A) HCL (B) Progesterone  
(C) AMH (D) HCG
- 70) Function of skin is .....
- (A) to secrete hormones (B) to secrete enzymes  
(C) to maintain body temperature (D) to secrete bile
- 71) Presence of hoofs is the characteristics of .....
- (A) Mammals (B) Primates  
(C) Aves (D) Ungulates
- 72) Glucose 6-phosphate is not a substrate for ..... pathway.
- (A) Pentose phosphate (B) Glycolysis  
(C) Glycogenesis (D) Glycogenolysis
- 73) Bones of shank region are .....
- (A) Radius and ulna  
(B) Tibia and ulna  
(C) Tibia and fibula  
(D) Radius and fibula

- 74) The pathway of a tRNA during polypeptide elongation on the ribosome is .....OR.....Prawn belongs to sub class \_\_\_\_\_.  
(A) A site → P site → E site....OR.... Malacostraca  
(B) P site → A site → E site....OR.....Copepoda  
(C) A site → P site → entry site....OR.....Ostracoda  
(D) P site → entry site → exit site....OR.... Brachiopoda
- 75) ..... membranes have greater binding capacity than nitrocellulose membranes OR.....Crab is included in Class \_\_\_\_\_.  
(A) Agarose....OR....Pelecepoda  
(B) Sucrose ....OR....Chondrichthyes  
(C) Nylon....OR....Crustacea  
(D) Teflon....OR....Dipnoi
- 76) ..... of the following can be Biological samples for DNA fingerprinting. ....OR.....Each semicircular canal of membranous labyrinth bears a swelling called \_\_\_\_\_.  
(A) Saliva....OR.... lagena  
(B) Hair....OR.... sacculus  
(C) Blood ....OR....knob  
(D) All of them ....OR....ampulla
- 77) Which of the following statements is true about the correlational analysis between two sets of data? .....OR.....The tide formed on full moon and new moon day is known as ..... tide.  
(A) The correlational analysis between two sets of data is known as multiple correlation....OR.....flood  
(B) The correlational analysis between two sets of data is known as a simple correlation....OR.....Spring  
(C) The correlational analysis between two sets of data is known as partial correlation....OR.... Ebb  
(D) None of the above....OR....Neap

- 78)** Cumulative frequency polygon can be used for the calculation of: .....OR..... is an example of unsaturated fatty acids.
- (A) Median .....OR..... Lauric or Dodecanoic
  - (B) Mean .....OR.....Linoleic or Octadecatrienoic
  - (C) Mode .....OR.... Palmitic or hexadecanoic
  - (D) Geometric mean.....OR....Myristic or tetradecanoic
- 79)** Animals often have shells or bury themselves to be protected from the Sun.
- (A) Aphotic zone
  - (B) Intertidal zone
  - (C) Open Ocean zone
  - (D) Photic zone
- 80)** The number of tally sheet count for each value or a group is called:
- (A) Class width
  - (B) Class limit
  - (C) Class boundary
  - (D) Frequency distribution
- 81)** The arrangement of data in rows and columns is called .....OR....\_\_\_\_\_ is most common species of used for prawn culture.
- (A) Classification... .OR.....Macrobrachium lopopodus
  - (B) Tabulation....OR....Macrobrachium rosenbergii
  - (C) Frequency distribution ....OR.... Macrobrachium auratum
  - (D) Cumulative frequency distribution .....OR.... Macrobrachium malayanum
- 82)** In classification, the data are arranged according to:
- (A) Differences
  - (B) Percentages
  - (C) Ratios
  - (D) Similarities

- 83)** Histogram can be drawn only for .....OR.... In the concurrent system rice and fish are cultured \_\_\_\_\_.  
(A) Relative frequency distribution .....OR.....All the above  
(B) Continuous frequency distribution . ...OR.... Simultaneously  
(C) Cumulative frequency distribution.....OR.....At same time  
(D) Discrete frequency distribution ....OR.....Alternately
- 84)** Why are estuaries important to our environment?  
(A) They help to filter pollutants from water.  
(B) They are important nursery of wildlife areas for a variety of marine life.  
(C) They provides homes for many species of wildlife.  
(D) All the above
- 85)** What is an Estuary?  
(A) The land area that drains water into a lake or river or pond.  
(B) The area where the river meets the ocean where fresh and saltwater mix.  
(C) The large body of saltwater that covers most of the Earth's surface.  
(D) The underground system that provides drinking water to an area.
- 86)** The correct sequence of process of development after fertilization and cleavage is .....OR....Trash fish meal mixed with rice bran and vitamin, forms an excellent feed in \_\_\_\_\_.  
(A) Gastrulation – Morulation – Blastulation .....OR....agriculture  
(B) Morulation – Blastulation – Gastrulation.....OR.... aquaculture  
(C) Blastulation – Gastrulation – Morulation.....OR....sericulture  
(D) Morulation – Gastrulation – Blastulation .....OR....apiculture



- 87)** If 13 somites are seen in chick embryo how many hours of chick embryo is is..... OR..... To estimate the degree of transparency of water sample, simple & standard instrument used is .....
- (A) 33 Hours....OR.... Secchi disk
  - (B) 34 Hours ....OR.....Reversing Thermometer
  - (C) 32 Hours ....OR.... Grab
  - (D) 31 Hours ....OR.....Water sampling bottle
- 88)** Bursa of fabricius in chicks is found .....
- (A) Above kidney
  - (B) Near cloaca
  - (C) Near liver lobes
  - (D) Around spleen
- 89)** ..... plays an important role in trapping and killing of blood borne antigen
- (A) Bursa of fabricius
  - (B) Thyroid gland
  - (C) Bone marrow
  - (D) Spleen
- 90)** Which zone gets the most sunlight for photosynthesis .....
- (A) Bathypelagic
  - (B) Mesopelagic
  - (C) Abyssopelagic
  - (D) Epipelagic

- 91)** ..... prevents the entry of nasal and oral pathogen
- (A) Tonsils (B) Payer's patches  
(C) Lymph node (D) All of these
- 92)** The antibodies which found in to the secretions of nose, eyes and mouth are .....
- (A) IgG (B) IgA  
(C) IgD (D) IgE
- 93)** The optimum temperature range for year-round production in prawn culture is between .....OR.. ..isinglass is employed in \_\_\_\_\_.
- (A) 20-25 °C....OR....preparation of wines  
(B) 30-40 °C....OR....distillation of wines  
(C) 25-31°C....OR.... clearing of wines  
(D) 35-40 °C....OR.... preservation of wines
- 94)** ..... is secreted from the corpus luteum in estrus cycle ...OR.....itch disease effects \_\_\_\_\_.
- (A) Growth hormone....OR.... Kidney  
(B) Testesteron....OR.....lungs  
(C) Projesteron ....OR.... skin  
(D) None of these....OR....fins
- 95)** ..... breed if goat is used for dual purpose i.e. for milk and meat production. ....OR....Dermatomycoses is \_\_\_\_.
- (A) Osmanabadi OR....viral  
(B) Jamunapari ....OR....fungal  
(C) Sannen ....OR..... bacterial  
(D) None of these....OR.... parasitic

- 96)** Malaria is transmitted by:
- (A) Female Culex (B) Female Aedes  
(C) Male Anopheles (D) Female Anopheles
- 97)** You can prevent mosquitoes from breeding outside your home by removing which of the following from your yard?
- (A) standing water like poodles and pools  
(B) old tyres  
(C) buckets and potted plant trees  
(D) all of the above
- 98)** Vector Of chikungunya is ..... OR.....Fin and Tail Rot disease is caused by \_\_\_\_\_.
- (A) Culex Mosquito....OR.....Chondroccus columnaris  
(B) Aedes mosquito.....OR.....Aeromonas salmonicid  
(C) Anopheles mosquito....OR.... myobacteria  
(D) Fleas....OR.... none of these
- 99)** Of the total amount of saliva secreted by all the salivary glands about 60% is secreted by .....OR.... Furunculosis disease is caused by \_\_\_\_\_.
- (A) Sublingual glands ....OR.....myobacteria  
(B) Submandibular glands....OR.....Aeromona salmonicida  
(C) Parotid gland ....OR.....both (A) and (B)  
(D) None of the above....OR.... none of these
- 100)** The Islet of Langerhans are found in ....OR.....The sisal raw material used for making webbing and ropes is extracted from .....
- (A) Pancreas....OR.....abaca  
(B) Liver....OR.... coconut  
(C) Alimentary canal....OR.....agave  
(D) Stomach....OR....flax



**Rough Work**