

Seat No.	
----------	--

ENT - 45

Total No. of Pages : 26

P. G. Re-Entrance Examination, 2024
M. Sc. (ZOOLOGY)
Subject Code : 58719

Day and Date : Friday, 28-06-2024

Total Marks : 100

Time : 02.30 p.m. to 04.00 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. Axoneme is Observed in.....

- | | |
|----------------|------------------|
| a) Flagella | b) Cilia |
| c) Pseudopodia | d) None of these |

2. Stumpy legs are found in

- | | |
|--------------|-------------|
| a) Peripatus | b) Lobstar |
| c) Cockroach | d) Scorpion |

3. Ecdysone hormone plays an important role in

- | | |
|------------------|-----------------|
| a) Metamorphosis | b) Digestion |
| c) Excretion | d) Reproduction |

4. A nucleosome is made of an octamer of protein.
a) Histone b) Non-histone
c) Both a & b d) None
5. The acrosome of sperm is formed from
a) Mitochondria b) Golgi Complex
c) Lysosomes d) Endoplasmic Reticulum
6. The function of Vibrissae of rat is
a) Tactile b) Auditory
c) Gustatory d) Olfactory
7. Which of the following bacterial species cause Epidemic Typhus?
a) Rickettsia prowazekii
b) Rickettsia typhi
c) Rickettsia akari
d) Rickettsia tsutsugameshi
8. The ratio obtained in complementary interaction of genes is
a) 9:3:3:1 b) 9:7
c) 15:1 d) 13:3
9. A genetic disorder called Down's syndrome is due to
a) Polyploidy b) Nullisomy
c) Trisomy d) Monosomy

- 10) Sex determination method in Honey bee is
- a) Depends on nectar
 - b) Haploidy Diploidy
 - c) ZZ-ZW type
 - d) None of the above.
11. What is the primary mode of respiration in Agnatha?
- a) Gills
 - b) Lungs
 - c) Skin
 - d) Spiracles
12. Which of the following behaviors is associated with parental care in amphibians?
- a) Aggressive defense of territory
 - b) Courtship displays
 - c) Nest-building
 - d) All of the above
13. Which part of the avian digestive system secretes digestive enzymes?
- a) Crop
 - b) Gizzard
 - c) Proventriculus
 - d) Cloaca
- 14) Which fatty acid contains 16 carbon skeleton?
- a) Palmitic acid
 - b) glutamic acid
 - c) Lauric acid
 - d) Myristic acid

- 15) Which of the following acts as a central molecule when transamination and deamination occur simultaneously?
- a) Cysteine
 - b) Glutamate
 - c) Oxaloacetate
 - d) Alpha-ketoglutarate
- 16) is part of the female reproductive tract lined with ciliated epithelium to aid in the movement of ova.
- a. Ovary
 - b. Uterus
 - c. Oviduct/Fallopian Tube
 - d. Vagina
17. is secreted by the anterior pituitary gland to stimulate growth and cell reproduction.
- a. Thyroid-stimulating hormone (TSH)
 - b. Adrenocorticotrophic hormone (ACTH)
 - c. Growth hormone (GH)
 - d. Prolactin (PRL)
18. technique involves the direct injection of a single sperm into an egg to facilitate fertilization.
- a. Sperm bank
 - b. Frozen embryos
 - c. Intrauterine Transfer (IUT)
 - d. Intracytoplasmic Sperm Injection (ICSI)

19. *Rickettsia prowazekii* is a small
 - a) Virus
 - b) Bacterium
 - c) Plant
 - d) Animal
20. Poultry birds need moderate temperature of about..
 - a. 5-10°C
 - b) 10-15°C
 - c) 10-21°C
 - d) Above 30°C
21. Venous heart is present in
 - a) Mammals
 - b) reptiles.
 - c) birds
 - d) fishes
22. are only reptiles to have a four chambered heart
 - a) Turtles
 - b) crocodiles
 - c) snakes
 - d) lizards
23. Sense of smell is under the control of part of brain.
 - a) Olfactory lobes
 - b) Cerebral hemispheres
 - c) Diencephalon
 - d) Optic lobes
24. The eye membrane which prevents the reflection of the extra light within the eye, by absorbing it is called.....OR....Each semicircular canal of membranous labyrinth bears a swelling called
 - a) cornea.....OR....sacculus
 - b) retina.....OR....ampulla
 - c) sclera.....OR....lagna
 - d) choroid.....OR....knob

25. Acetabulum cavity is present in
- a) Pelvic girdle b) Pectoral girdle
- c) Pygostyle d) Typical vertebra
26. The heart is enclosed in a double layered thin walled bag called.....
- a) Peritoneal b) myocardial
- c) epicardium d) pericardium
27. DNA unwinding is done by in sacculus & utriculus are called ..OR.... The groups of sensory cells present
- a) Ligase.....OR....cristae
- b) Helicase.....OR....maculae
- c) Topoisomerase.....OR....ampullae
- d) Hexonuclease.....OR....neuromasts
28.is the primary function of sweat gland.
- a) Thermoregulation
- b) Excretion
- c) Production of Vitamin D
- d) none of the above
29. Cloaca, a part of alimentary canal is absent in
- a) Fish b) Lizard
- c) Frog d) Rat

30.is called Adam's apple in man....OR.... is the stato-acoustic organ of fish.
- a) Cartilage in trachea.....OR.... Weberian ossicles
 - b) Thyroid cartilage in LarynxOR.... Membranous labyrinth
 - c) Cartilage in lungs.....OR.... Ampullae of Lorenzini
 - d) epiglottis.....OR.... Neuromast organ
31. The Okazaki fragments are present onstrand.
- a) Template
 - b) leading
 - c) Lagging
 - d) All the above
32. The sequence of the structural genes in lac operon are.....
- a) lacA-lacZ-lacY
 - b) lacZ-lacA-lacY
 - c) lacZ-lacY-lacA
 - d) lacA-lacY-lacZ
33. A codon contains.....nucleotides.....OR.....Catla catla is afeeder.
- a) 1.....OR....bottom
 - b) 2.....OR.... column
 - c) 3.....OR....surface
 - d) 4OR....none of the above
34. Synthesis of mRNA from DNA is called.....
- a) Transcription
 - b) Translation
 - c) Transition
 - d) Transversion

35. In splicing.....are removed to form mature mRNA.....OR... Labeo rohita is a feeder.
- a) Exon.....OR....bottom
 - b) Intron.....OR....column
 - c) Primers.....OR....surface
 - d) Sequence.....OR....none of the above
36. The polymerase chain reaction is a
- a) DNA sequencing technique.
 - b) DNA degradation technique
 - c) DNA amplification technique
 - d) All of the above
37. Restriction enzyme is known as
- a) Molecular Scissor
 - b) Molecular Knife
 - c) Molecular cutter
 - d) All the above
38. The transfer of protein from electrophoresed gel to nitrocellulose filter is called as blotting.
- a) Southern
 - b) Northern
 - c) Western
 - d) All the above

39. In the process of nitrification, the oxidation of Ammonium is done by gram negative bacteria, such as..... Which helps in conversion of ammonia to nitrites.OR....Essential fatty acids are
- a) Pseudomonas.....OR....Linoleic acid
 - b) Paracoccus.....OR... Arachidonic acid
 - c) Thiobacillus.....OR....Linolenic acid
 - d) Nitrosomonas.....OR....All the above
40. The chemical substance present on the plasma membrane of egg to attract the sperm of same species is known as....
- a) Fertilizin
 - b) Antifertilizin
 - c) Antigen
 - d) Antibody
41. type of cleavage present in molluscan egg.....OR....Zone of Sea lies over continental shelf is.....
- a) superficialOR....Oceanic zone
 - b) discoidal.....OR....Disphotic zone
 - c) spiralOR....Neritic zone
 - d) Radial.....OR....Aphotic zone

42. When data is classified according to the region like nation, states, districts, cities and villages is called.....
- a) Quantitative classification
 - b) Qualitative classification
 - c) Chronological classification
 - d) Geographical classification
43. Cryopreservation is done at temperatureOR....All Indian major carps attains maturity in year.
- a) -140°COR....third
 - b) -196°COR....second.
 - c) -120°COR....fourth
 - d) -180°COR....first
44. The observation which occurs most frequently in a sample is the
- a) Median
 - b) Mean deviation
 - c) Standard deviation
 - d) Mode
45. Nitrogenous waste is stored in.....extra embryonic membrane.....OR....
- There is virtually total darkness in zone.
- a) Chorion.....OR....Mesopelagic
 - b) AmnionOR....Pelagic
 - c) Allantoic.....OR....Bathypelagic
 - d) Yolksac.....OR....Epipelagic

46. Embryonic stem cells are separated from the inner cell mass of the blastocyst embryo. The most common technique that is applied to derive these human embryonic stem cells are?
- a) Single cell blastomere technology
 - b) Immuno-surgery
 - c) Mechanical dissolution method
 - d) Enzymatic dissolution method
47. The following are methods of sterilization EXCEPT
- a) Dry heat sterilization
 - b) Autoclaving
 - c) Sterilization by filters
 - d) Laminar airflow
48. During immune response monocytes are differentiated into cells.
- OR... The main salinity-causing ion in sea is
- a) Neutrophils.....OR....sulphate
 - b) Eosinophils.....OR....phosphate
 - c) Macrophages.....OR....chloride
 - d) Basophils.....OR....sodium

- 49) If a series of values consists of 21 numbers, then, for finding the median, we ordered the series ascending and we use
- a) The 11th value in the ordered series
 - b) The mean between the 10th and 11th values
 - c) The mean between the 11th and 12th values
 - d) The 10th value in the ordered series
50. Parafoollicular cells of Thyroid gland secretes hormone.....OR.... is.....
- most common species of used for prawn culture.
- a) Estrogen.....OR....Macrobrachium lopopodus
 - b) Insulin.....OR....Macrobrachium malayanum
 - c) Progesterone.....OR.... Macrobrachium auratum
 - d) Thyrocalcitonin.....OR.... Macrobrachium rosenbergii
51. Which of the following is/are the method of transfection for making transgenic animals?
- a) Transfer of DNA
 - b) Transfer of whole individual chromosomes/ fragment
 - c) Transfer of whole nuclei
 - d) All of the above

52. The first vaccine developed from animal cell culture was for...OR...
Cirrhinus mrigala is a feeder.
- a) Hepatitis-B.....OR....column
 - b) Polio.....OR.... bottom
 - c) Small pox.....OR....surface
 - d) Somatostatin.....OR.... none of the above
53. Which of the following are the methods of studying the correlation
- a) Scattered diagram
 - b) Karl Pearson's correlation coefficient
 - c) Spearman's rank correlation coefficient
 - d) All of the above
54. The process whereby cells or tissues are frozen is called. .OR....Indian
Major carps breeds naturally in
- a) Proliferation.....OR....ponds
 - b) Cryopreservation.....OR....river
 - c) Differentiation.....OR....estuaries
 - d) All of these.....OR....marine water
55. Epinephrine is the hormone secreted by.
- a) Adrenal Cortex
 - b) Adrenal Medulla
 - c) Adrenal Reticularis
 - d) Adrenal Fasciculata

56. The study of Freshwater habitat is called asOR..... is not a lipid.

- a) Histology.....OR.... Fats
- b) Limnology.....OR.... Proteins
- c) Parasitology.....OR.... Waxes
- d) Physiology.....OR....Oils

57. Following is type of Zooplankton.

- a) Rotifers
- b) Euglena
- c) Neustons
- d) Paramoecium

58. During embryonic development, heart is made up from.....tissue.

- a) Ectodermal
- b) Endodermal
- c) Mesodermal
- d) Oral

59. Extraembryonic membrane 'Chorion' is developed from.....

- a) somatoplure
- b) splachnoplure
- c) allontois
- d) seroamnion

60. The embryo is developed inside the extraembryonic cavity made by.....OR..... is the subdivision of deep sea system

- a) amnionOR....Abyssal zone
- b) chorion.....OR.... Neritic zone
- c) allontois.....OR....Oceanic zone
- d) yolk sac.....OR....Littoral zone

61. Process formation of sperms from spermatids is called as.....
- a) Spermatogenesis b) Oogenesis
c) Spermiogenesis d) Mitosis
62. In sperm acrosome.....enzyme present that dissolve the egg membrane
.....OR.... is an ideal protein supplement for human diet.
- a) Lysins.....OR....Fish flour b) Pepsin.....OR....Fish glue
c) Lipase.....OR....Fish manure d) Amylases.....OR.... Fish guano
63. Marine benthic zone refers to OR.... Duringtide, sea water level
recedes
- a) Limnetic zone.....OR.... flood
b) PelagicOR....Spring
c) Neritic.....OR....Neap
d) Floor of sea. OR... Ebb
64.disease occurs due to excessive secretion of Thyroxine hormone.
- a) Tetany b) Grave's disease
c) Myxedema d) Cretinism
65. region of Adrenal Cortex secretes sex hormones and not the
aldosterone hormone.
- a) Zona reticularis b) Zona glomerulosa
c) Principal cells d) Beta cells.

66.water bodies are still water bodies such as ponds, lakes, ditches, etc.OR..... The marine animals tolerating wide range of salinity are known as
- a) Lotic.....OR....Stenohaline
 - b) Lentic.....OR....Euryhaline
 - c) Flowing.....OR....Furythermal
 - d) Wetlands.....OR.... Stenothermal
67. In Holoblastic cleavage
- a. Cleavage furrows passing through entire egg.
 - b. Cleavage furrows passing through half egg.
 - c. Cleavage furrows passing through only cytoplasm.
 - d. Cleavage furrows passing through only Yolk.
68. During the development of frog, central cavity present in the blastula called ascavity.....OR.... Pelagic region of sea is further divided horizontally into zone.
- a) Archenteron.....OR.... Euphotic
 - b) Mesenteric.....OR....Disphotic
 - c) Blastocoel.....OR....Neritic & oceanic
 - d) Blastoderm.....OR....Aphotic

69. Function of the egg chalazae membrane is.....

- a) Nourishment of Embryo
- b) maintains the viscosity of albumen
- c) Provide strength to the egg.
- d) Maintain Yolk at central position

70.. Is the composition of HAT medium.

- A) Hypoxanthine, Adenine, Thymine
- B) HGPRT, Adenine, Thymine
- C) Hypoxanthine, Aminopterin, Thymidine
- D) Hypoxanthine, Antimycin, Thymidine

71. is the terminally differentiated cell specialized for immunoglobulin production against specific antigen.....OR....Inter tidal zone of benthic region is also known as

- a) Memory cell.....OR....supra littoral zone
- b) Plasma cell.....OR....eulittoral zone
- c) B lymphocyte.....OR....sub littoral zone
- d) Macrophages.....OR....subtidal zone

72. Act as B cell receptor.

- a) IgG and monomeric IgM b) IgD and Monomeric IgM
- c) IgD and IgE d) IgG and IgD

73. Mature T cell with CD8 marker are.....
- A) Cytotoxic T cells B) Regulatory T cells
- C) Helper T cells D) Repressor T cells.
74. Queen bee is aOR..... Study of physico-chemical aspects of sea is called
- a) Sterile female.....OR....zoogeography
- b) Sterile male.....OR....geography
- c) Fertile female.....OR....oceanography
- d) Fertile male.....OR.... geology
75. is the largest sized honey bee found in India
- a) *Apis indica* b) *Apis dorsata*
- c) *Apis mellifera* d) *Apis florae*
76. Which of the following is used for induced breeding in fishes?.....OR....In deep sea system the zone that extend to depth of 200-4000 meters is called.....
- a) MOETOR....Abyssal
- b) Artificial insemination OR....Hadal zone
- c) Hypophysation.....OR.... Bathyal zone
- d) ART.....OR....none of the above

77. Artificial insemination involves
- a) Super ovulation b) Egg collection
 - c) Semen collection d) Embryo collection
78. "Blue Revolution" is related with the following. ...OR....is a good adhesive obtained from trimmings, skins and bones of fishes.
- a) Silk productionOR....Fish ham
 - b) Fish production.....OR....Fish glue
 - c) Milk production.....OR....Fish manure
 - d) Oil seed production.....OR....Fish flour
79. Scientific name of Pearl oyster is
- a) *Pinctada vulgaris*
 - b) *Apis dorsata*
 - c) *Bombax mori*
 - d) *Periplaneta Americana*
80. *Apis dorsata* is used to refer to ...OR...In deep sea system the zone that extend to depth of 4000-6000 meters is called
- a. little bee.....OR....Hadal zone
 - b. Rock bee.....OR....Abyssal
 - c. Monoculture.....OR.... Thermometer
 - d. Monosex culture.....OR.... Water sampler bottle

81. A person has an acute infection of a pathogen and is treated with an injection of antibodies against that pathogen. This is an example of.....
- a) Acquired immunity b) Active immunity
 - c) Hypersensitivity d) Passive immunity
- 82..... Type antibody can cross the placental barrier....OR....All water beyond edge of continental shelf is included in..... zone.
- a) IgG.....OR....oceanic b) IgM.....OR....neretic
 - c) IgD.....OR....benthic d) IgE.....OR....pelagic
- 83.. of following is a primary immune organ.
- A) Thymus b) Lymph nodes
 - c) Spleen d) Peyer's patches
84. are the properties of a potent antigen.
- A) A self/ nonself protein with molecular weight less than 10 KD
 - B) A nonself protein with molecular weight more than 10 KD
 - C) A self/ nonself protein with molecular weight more than 10 KD
 - D) A nonself protein with molecular weight less than 10 KD
85. What is the scientific name of the common housefly?OR....Mackerel is commonly known as
- a) *Stomoxys calcitrans*.....OR....Paplet
 - b) *Sikhotcalinia zhiltzovae*OR....Sarang
 - c) *Brachydiplax denticauda*.....OR....Bombil
 - d) *Musca domestica*.....OR....Bangda

86. Small intestine is divided into parts.
- a) 1 b) 2
- c) 4 d) 3
87. Secretin and cholecystokinin are digestive hormones. These are secreted byOR... Pomfret is commonly known as
- a) Esophagus.....OR.... Saranga
- b) Stomach.....OR....Bangda
- c) Ileum.....OR....Bombil
- d) Duodenum.....OR.... Paplet
88. Panereas is a gland.
- a) Heterocrine
- b) Endocrine
- c) Exocrine
- d) Hormone
89. Which among the following is structural and functional unit of a kidney?OR... is a gelatin like material obtained from th swim bladder or the air bladder of certain fishes.
- a) NephronOR....Isinglass
- b) Neuron.....OR....Fish glue
- c) Urethra.....OR....Fish sausage
- d) Henle's loop.....OR....Fish guano

90. Cultivation of fishes in artificially prepared ponds or water bodies is called:
- a. Aquaculture
 - b. Pisciculture
 - c. Vermiculture
 - d. Agriculture
91. Spawning of fishes is induced by injecting females with:
- a. Progesterone
 - b. Prostaglandin
 - c. FSH and LH
 - d. Oestrogen
92. Polyculture is also known as..... OR..... instrument is used to sample sediment from the water.
- a. Sericulture.....OR....Secchi disk
 - b. Composite fish culture.....OR....Grab
 - c. Monoculture.....OR.... Thermometer
 - d. Monosex culture.....OR....Water Sampller bottle
- 93 What is the name of the milk sugar found only in milk?
- a. Sucrose
 - b. Galactose
 - c. Lactose
 - d. Fructose
94. Pearl is secreted by.....
- a. Nacreous layer
 - b. Prismatic layer
 - c. Mantle layer
 - d. Both a and b

95. The motile zygote of Plasmodium is found in
- a) human liver
 - b) human RBCs
 - c) salivary glands of female Anopheles
 - d) the gut of female Anopheles
96. Kala-azar is transmitted by ...OR....To estimate the degree of transparency of water sample, simple & standard instrument used is
- A) Dragon fly.....OR....Grab
 - B) HouseflyOR.... Reversing Thermometer
 - C) Tse-tse fly.....OR.... Water sampling bottle
 - D) Sand fly.....OR....Secchi disk
97. Sporozoites of the malarial parasites are found in
- a) the saliva of female Anopheles mosquito, which is freshly moulted
 - b) the saliva of infected female Anopheles mosquito
 - c) RBCs of an infected human
 - d) the spleen of an infected human
98. The pointy teeth beside your incisors are called OR.... The standard Secchi disk isin shape.
- a) Molars.....OR....Oval
 - b) Premolars OR....Rectangular
 - e) bicuspid.....OR....Triangular
 - d) Canine.....OR.... Circular

99. These cells of "Crypts of Lieberkuhn secrete lysozyme

- a) Argentaffin cells b) Kupffer cells
- c) Zymogen cells d) Paneth cells

100. Recurring chills and fever in malaria is due to.....

- a) destruction of micro and macrogametocytes by the WBCs.
- b) rupturing of RBCs by rapid multiplication and release of haemozoin
- c) toxins released from trophozoites
- d) sporozoites released from RBCs and are rapidly being killed in the spleen



- Rough Work -

ENT - 45

- Rough Work -

ENT - 45