

M. Phil./Ph. D. Entrance Test – 2015**Subject: Zoology****Paper – I**

Important: Please consult your Admit Card/Roll No. slip before filling your Roll Number on the Test Booklet and Answer Sheet.

Roll No.

*In Figure**In Words*

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O.M.R. Answer Sheet Serial No.

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Signature of Candidate: _____

Signature of Invigilator: _____

Time: 60 Minutes**Number of Questions: 50****Maximum Marks: 50****DO NOT OPEN THE SEAL ON THE BOOKLET UNTIL ASKED TO DO SO.****INSTRUCTIONS:**

- Write your Roll No. on the Questions Booklet and also on the OMR Answer Sheet in the space provided and nowhere else.
- Enter the Question Booklet Serial No. on the OMR Answer Sheet. Darken the corresponding bubbles with **Black Ball Point/Black Gel Pen**.
- Do not make any identification mark on the Answer Sheet or Question Booklet.
- Please check that this Question Booklet contains **50** Questions. In case of any discrepancy, inform the Assistant Superintendent within 10 minutes of the start of Test.
- Each question has four alternative answer (A,B,C,D) of which only one is correct. For each question, darken only one bubble (A or B or C or D), whichever you think is the correct answer, on the Answer Sheet with **Black Ball Point/Black Gel Pen**. **There shall be no negative marking for wrong answers.**
- If you do not want to answer a question, leave all the bubbles corresponding to that question blank in the Answer Booklet. No marks will be deducted in such cases.
- Darken the bubbles in the OMR Answer Sheet according to the Serial No. of the question given in the Question Booklet.
- If you want to change an already marked answer, erase the shade in the darkened bubble completely.
- For rough work only the blank sheet at the end of the Question Booklet be used.
- The Answer Sheet is designed for computer evaluation. Therefore, if you do not follow the instructions given on the Answer Sheet, it may make evaluation by the computer difficult. **Any resultant loss to the candidate on the above account, i.e. not following the instructions completely, shall be of the candidate only.**
- After the test, hand over the Question Booklet and the Answer Sheet to the Assistant Superintendent on duty.
- In no case the Answer Sheet, the Question Booklet, or its part or any material copied/noted from this Booklet is to be taken out of the examination hall. Any candidate found doing so would be expelled from the examination.
- A candidate who creates disturbance of any kind or changes his/her seat or is found in possession of any paper possibly of any assistant or found giving or receiving assistant or found using any other unfair means during the examination will be expelled from the examination by the Centre Superintendent/Observer whose decision shall be final.
- Communication equipment such as mobile phones, pager, wireless set, scanner, camera or any electronic/digital gadget etc., is not permitted inside the examination hall. Use of calculators is not allowed.**
- The candidates will not be allowed to leave the Examination Hall/Room before the expiry of the allotted time.

1. Pernicious anemia is seen in
 - A. Diphyllorhynchiasis
 - B. Malaria
 - C. Hook worm disease
 - D. Filariasis
2. The nematode which lays unsegmented eggs
 - A. *Necator americanus*
 - B. *Trichuris trichura*
 - C. *Strongyloides stercoralis*
 - D. *Trichinella spiralis*
3. All of the following are common causes of diarrheal diseases with AIDS except
 - A. *Isospora belli*
 - B. *Cyclospora caytanensis*
 - C. *Cryptosporidium parvum*
 - D. *Toxoplasma gondi*
4. Antibody dependant cell mediated cytotoxicity
 - A. is carried out by B cells
 - B. is the main mechanism for killing intracellular microbes
 - C. involves Fc receptors on the effector cells
 - D. is primarily mediated by IgE antibody
5. The chemical nature of slow reacting substance of anaphylaxis which constricts airways and arteries is
 - A. Histamine
 - B. Prostaglandin D2
 - C. Leukotrienes
 - D. Chondroitin sulphate
6. The gene which exhibit multiple effects is called
 - A. Complementary
 - B. Pseudogene
 - C. Pleiotropic
 - D. Supplementary
7. Fisher and Krebs received Nobel Prize in 1992 for their discovery of
 - A. Organ and cell transplantation
 - B. Single ion channels
 - C. Reversible protein phosphorylation as biological regulatory mechanism
 - D. Gene battery model
8. A deleterious allele decreases more rapidly in frequency if it is
 - A. Dominant
 - B. More recently mutated
 - C. Rare
 - D. Recessive
9. Restriction site for EcoR1 is
 - A. CCGGGC
 - B. GAATTC
 - C. AAGCTT
 - D. CTGCAC
10. The habitat of *Entamoeba histolytica* is
 - A. Small intestine
 - B. Blood
 - C. Skin
 - D. Large intestine

11. The receptors for non-steroid peptide hormones are on the
 - A. Plasma membrane
 - B. Nuclear envelope
 - C. DNA receptor complex
 - D. Peptide chain
12. The posterior pituitary stores and secretes
 - A. Growth hormone and gonadotropin-releasing hormone
 - B. ADH and oxytocin
 - C. Estrogen and testosterone
 - D. Aldosterone and cortisone
13. Glucagon hormone is secreted by
 - A. β cells of islet of Langerhans
 - B. α cells of islet of Langerhans
 - C. δ cells of islet of Langerhans
 - D. c cells of islet of Langerhans
14. The mechanism of intake of DNA fragment from the surroundings medium by a cell is called
 - A. Transformation
 - B. Transduction
 - C. Conjugation
 - D. Both B and C
15. Which one is NOT a thermostable polymerase
 - A. Taq polymerase
 - B. Vent polymerase
 - C. DNA polymerase III
 - D. pfu polymerase
16. PCR technique was developed by
 - A. Kary Mullis
 - B. Kohler
 - C. Altman
 - D. Milstein
17. Western Blotting is the technique for the detection of
 - A. Specific DNA in a sample
 - B. Specific Protein in a sample
 - C. Specific RNA in a sample
 - D. Specific glycolipid in a sample
18. Basic unit of muscle contraction is
 - A. Actin
 - B. Myosin
 - C. Sarcomere
 - D. Tropomyosin
19. Nissl's granules occurs in
 - A. Bone cells
 - B. Mast cells
 - C. Nerve cells
 - D. Chondrocytes
20. HCL secreting cells of the gastric glands are called
 - A. Zymogen cells
 - B. Goblet cells
 - C. Enterochromaffin cells
 - D. Oxyntic cells
21. A Turner's syndrome women has
 - A. One barr body
 - B. No Barr body
 - C. One Y chromosome
 - D. Two sex chromosomes

22. Second baby will be born dead if
- male and female both are Rh-
 - male is Rh⁺ and female is Rh-
 - male is Rh⁺ and female is Rh⁺
 - male is Rh- and female is Rh⁺
23. Children of parents with blood groups O and AB will have children with blood groups
- O and A
 - A and B
 - B and O
 - A, B and O
24. Family has five girls and no son. Probability of son in the 6th child is
- 1/2
 - 1/5
 - 1/10
 - No chance
25. Which of following is not a reducing sugar?
- Sucrose
 - Maltose
 - Lactose
 - Arabinose
26. Which of following has beta glycosidic linkage between its residues?
- Glycogen
 - Starch
 - Heparin
 - Cellulose
27. Which of following is not a glycosaminoglycan?
- Hyaluronate
 - Heparin
 - Keratan sulphate
 - Chitin
28. Proteins which bind carbohydrates are called?
- Lectins
 - Selectins
 - proteoglycans
 - peptidoglycans
29. Name unsaturated fatty acid
- Lauric acid
 - Oleic acid
 - Stearic acid
 - Behenic acid
30. Which coagulative fixative is employed to permeate the tissues and cells and fix their major biochemical constituents in place?
- Chromic acid
 - Formaldehyde
 - Glutaraldehyde
 - Acrofein
31. Which of the following statements is most correct about Atomic Force Microscopy (AFM)?
- AFM can visualize protein bound to DNA molecules.
 - AFM can visualize unfixed specimens in water or buffer.
 - AFM moves a very sharp tip over the surface of the specimen to "feel" its shape.
 - All the statements above are true.
32. What is the term used to describe which are planktonic only in the larval stage?
- Holoplankton
 - Meroplankton
 - Femtoplankton
 - Picoplankton

33. Chi square test X^2
- Measure the degree of deviation of the experimental result from the expected result
 - To test the closeness of observed and expected frequency
 - To test the population variance and sample variance
 - All of these
34. When using the high power objective, you should not adjust the
- Coarse focus
 - Fine focus
 - Diaphragm
 - Stage clips
35. The most primitive actinopterygian fish (historically and today) have the following type of scales
- Ctenoid
 - Cycloid
 - Placoid
 - Ganoid
36. A mice male develops female type of breasts. This is due to
- Secretion of progesterone by the male testes
 - Secretion of estrogen by the male testes
 - Lack of secretion of follicle stimulating hormone
 - Normal secretion of testosterone but lack of functional testosterone receptors
37. Exogenous agents capable of causing disruptions during development are called as
- Evocators
 - Teratogens
 - Cadherins
 - Hormones
38. Insect ovarioles in which nutritive cells are lacking are called as
- Meroistic
 - Panoistic
 - Polytrophic
 - Acrotrophic
39. The Berlese filter chamber is present in the mid gut of the insects that are
- Carnivorous
 - Pollen eaters
 - Fluid feeders
 - Sanguivorous
40. In cryptonephridial condition, the malpighian tubules
- Open at one end in the gut and at the other end into the haemocoel
 - Open at one end and closed at the other end
 - Open at both ends into the gut
 - Closed at both ends
41. Which of the following is a Lepidopteron pest of cruciferous crops
- Pieris brassicae*
 - Coccinella septempunctata*
 - Green vegetable bug
 - Coreya*
42. Which of the following is a vector of Leishmaniasis?
- Tsetse fly
 - Phlebotomous*
 - Bot fly
 - Flea
43. The haltere is a modification of
- Leg in honey bee
 - Forewing in honey bee
 - Hind wing in house fly
 - Leg in grass hopper

44. PET is a nuclear medical imaging technique. Its full form is:
A. Positron emission tomography
B. Positron enhanced tomography
C. Positron electron tomography
D. Positioned electron tomography
45. Which of the following is a tumor suppressor gene
A. Ras
B. Rb
C. Src
D. Raf
46. Which of the following cells form blood-brain barrier
A. Ependymal Cells
B. Astrocytes
C. Microglia
D. Oligodendrocytes
47. Which one of the following base change represents a transition mutation
A. Adenine → Thymine
B. Thymine → Adenine
C. Adenine → Guanine
D. Cytosine → Adenine
48. *Giardia* belongs to class
A. Sporozoa
B. Microsporoea
C. Zoomastigophorea
D. Lobosea
49. The principle of polyculture is based on the concept of
A. Habitat
B. Ecological niche
C. Ecological succession
D. Climax community
50. Integrated fish culture is
A. Culture of different fish species
B. Culture of both male and female of a fish species
C. Culture of fish with other culturable organisms
D. Culture of a single species

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