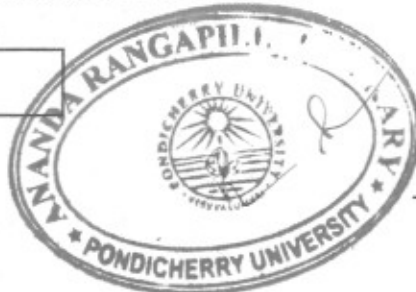


ENTRANCE EXAMINATION FOR ADMISSION, MAY 2010.

Ph.D. (ZOOLOGY)

COURSE CODE : 129

Register Number :



*Signature of the Invigilator
(with date)*

COURSE CODE : 129

Time : 2 Hours

Max : 400 Marks

Instructions to Candidates :

1. Write your Register Number within the box provided on the top of this page and fill in the page 1 of the answer sheet using pen.
2. Do not write your name anywhere in this booklet or answer sheet. Violation of this entails disqualification.
3. Read each question carefully and shade the relevant answer (A) or (B) or (C) or (D) in the relevant box of the ANSWER SHEET using HB pencil.
4. Avoid blind guessing. A wrong answer will fetch you -1 mark and the correct answer will fetch 4 marks.
5. Do not write anything in the question paper. Use the white sheets attached at the end for rough works.
6. Do not open the question paper until the start signal is given.
7. Do not attempt to answer after stop signal is given. Any such attempt will disqualify your candidature.
8. On stop signal, keep the question paper and the answer sheet on your table and wait for the invigilator to collect them.
9. Use of Calculators, Tables, etc. are prohibited.

1. Which of the following about Prostaglandins is correct?
 - (A) They are not synthesized in all tissues
 - (B) They are derivatives of arachidonic acid
 - (C) They are stored in the liver
 - (D) They are not synthesized in higher amounts following trauma.

2. Characteristics of T lymphocyte included which of the following?
 - (A) they are produced by the spleen
 - (B) they produce antibodies
 - (C) they have a long life
 - (D) they are phagocytic.

3. Heparin is a
 - (A) mucopolysaccharide
 - (B) lipid
 - (C) protein
 - (D) vitamin

4. Gall bladder contraction is stimulated by
 - (A) parasympathetic stimulation
 - (B) gastric
 - (C) glucagons
 - (D) cholecystokinin

5. Which of the following changes occurs during isotonic contraction of a skeletal muscle?
 - (A) A bands shorten
 - (B) I bands shorten
 - (C) Z lines shorten
 - (D) Actin filaments shorten.

6. Cerebrospinal fluid is produced in the ventricles by
 - (A) choroids plexus
 - (B) duramater
 - (C) myenteric plexus
 - (D) arachnoid villi

7. The concept of innate Releasing mechanism (IRM) was proposed by
 - (A) Watson
 - (B) Lorenz
 - (C) Wilson
 - (D) Wilkinsen

8. Build-up of motivation for particular patterns is used to describe
 - (A) fixed action pattern
 - (B) action-specific energy
 - (C) instinct
 - (D) learned behaviour

9. Who reviewed the concept of instinct in depth?
(A) William James (B) Beach
(C) Andrew (D) Hinde
10. Who used the cross-cultural method to study the expression of emotions in humans?
(A) Hinde (B) Eibel-Eiberfeldst
(C) Heinroth (D) Mcfarland
11. In which animal the tip of the tongue wriggles like that of a worm?
(A) Snapping turtle (B) Lark
(C) Cobra (D) Frog
12. In which organism the first pair of wing is horny?
(A) moth (B) beetles (C) fleas (D) bug
13. Which of the following attack timbre?
(A) Sitophilus (B) Tribolium (C) Anobium (D) Stegobium
14. RBC 's are destroyed by the
(A) Kidney (B) Reticuloendothelial system
(C) Heart (D) Brain
15. A soil bacteria *Bacillus thuringiensis* produces
(A) hirudin (B) crystal (cry) protein
(C) streptokinase (D) insulin
16. Carcinoma of the breast is more common in the
(A) right breast (B) left breast
(C) lower outer quadrant (D) upper inner quadrant.
17. Thiamine deficiency can cause
(A) diarrhea (B) dysentery
(C) dermatitis (D) polyneuropathy

18. The effector innervated in smooth motor pathway is
(A) skeletal muscle (B) stomach
(C) heart (D) sweat glands
19. The neurotransmitter in the preganglionic neuron for both sympathetic and parasympathic neurons is
(A) Norepinephrine (B) Acetylcholine
(C) GABA (D) Dopamine
20. How many sympathetic chain ganglia on each side of the vertebral column?
(A) 20 (B) 22 (C) 26 (D) 31
21. Amniocentesis is performed at which of the following period?
(A) first week of pregnancy (B) eight week of pregnancy
(C) fifteenth week of pregnancy (D) all of the above
22. The gene controlling spermatogenesis is located in
(A) X chromosome (B) Y chromosome
(C) autosome (D) all of the above
23. Which is not a feature of Klinefelter's syndrome?
(A) Motile sperm (B) Testicular atrophy
(C) Malignant transformation (D) Ambiguous genitalia
24. Oviparous snake is
(A) viper (B) sea snake (C) boas (D) cobra
25. The incubation period for chicken is
(A) 28 days (B) 21 days (C) 30 days (D) 15 days
26. The Asiatic class of chicken is
(A) Plymouth rock (B) Brahma
(C) Sussex (D) Leghorn

27. Meat type breeds of duck is
(A) Muscory (B) Crested white
(C) Indian nunnies (D) Comphell
28. Vector for Trypanosoma gambiense is
(A) Mosquito (B) Sandfly (C) Tsetse fly (D) Housefly
29. BCG vaccine is normally used for
(A) tuberculosis (B) cancer (C) rabies (D) tetanus
30. Blood cancer is known as
(A) polycythemia (B) anaemia (C) leukemia (D) leucopenia
31. The deficiency of Vitamin D causes
(A) beri beri (B) sterility (C) rickets (D) scurvy
32. The effective antibiotic in the treatment of tuberculosis
(A) streptomycin (B) ampicillin
(C) tetracycline (D) aureomycin
33. Which one of the following is a communicable disease?
(A) Diabetes (B) Measles (C) Asthma (D) Anaemia
34. Quinine is extracted from
(A) teak (B) eucalyptes (C) cinchona (D) fungus
35. Which one of the following diseases is not caused by bacteria?
(A) Tetanus (B) Diphtheria (C) Pneumonia (D) Influenza
36. Which one of the following is an ectoparasite?
(A) Liverfluke (B) Ascaris
(C) Mosquito (D) Taenia solium

37. Iodised salt is used to prevent
(A) Diabetes (B) Heart attack
(C) Goiter (D) Pituitary swelling
38. EEG records the activity of
(A) lungs (B) heart (C) eyes (D) brain
39. Oral rehydration fluid is given to patients affected by
(A) Jaundice (B) Diarrhoea
(C) Common colds (D) Abdominal colic
40. In small intestine glucose is absorbed
(A) by osmosis (B) by diffusion
(C) against concentration gradient (D) by selective absorption.
41. The Pons varoli connects
(A) Cerebellar hemispheres (B) Cerebral hemispheres
(C) Cerebrum and medulla oblongata (D) Medulla oblongata and spinal cord
42. The principal organ that excretes cholesterol is
(A) Skin (B) Kidney (C) Lung (D) Liver
43. Reflex action is concerned with
(A) cerebrum (B) cerebellum
(C) spinal cord (D) medulla oblongata
44. Acetyl choline is released by
(A) ophthalmus (B) olfactory nerve
(C) vagus nerve (D) sympathetic nerve.
45. Humans are preferred host of
(A) Pulex irritans (B) Steyobium paniceau
(C) Sitophilus granaries (D) Tribolium confusum

46. The milkborne disease is
 (A) Q fever (B) Tuberculosis
 (C) Brucellosis (D) All of the above
47. Anaphylaxis is a type of reaction
 (A) I (B) II (C) III (D) IV
48. Tiger mosquito is
 (A) Tick (B) Culex (C) Anopheles (D) Aedes
49. First virus studied is
 (A) Pox virus (B) Rabies Virus
 (C) Hepatic virus (D) Tobacco mosaic virus
50. Ig G has
 (A) 1 heavy + 2 light chains (B) 2 heavy+ 2 light chains
 (C) 2 heavy + 1 light chains (D) 2 heavy + no light chain
51. DTP is stored at
 (A) -4C (B) 0 C (C) +4 C (D) +10C
52. Which one will be detected when mortality is plotted against population?
 (A) Density dependent (B) Mortality survival ratio
 (C) Irreplaceable mortality (D) Real mortality
53. Which one is appropriate for r-shaped species?
 (A) low reproductive rate and type I survivorship curves
 (B) high reproductive rate and type III survivorship curves
 (C) high reproductive rate and type I survivorship curves
 (D) all of the above.
54. Who proposed trophic level concept?
 (A) Hinde (B) Heindroth (C) Lindeman (D) Wilson

55. Which name is assigned to a individual which reproduces once only and then dies?
 (A) iteroparity (B) semelparity (C) cohort (D) polygyny
56. Who published Psychohydraulic model of motivation?
 (A) Lorenz (B) Tinbergen (C) Heinroth (D) Thorpe
57. In which insect, the auditory organ of female response to the pitch male song?
 (A) mosquito (B) beetles
 (C) common cricket (D) thrips
58. Reservoir of urban rabies is
 (A) cats (B) monkeys (C) dogs (D) horses
59. Disposable syringes are best sterilized by
 (A) boiling (B) autoclaving
 (C) chemical (D) gamma radiation
60. Blackwater fever is caused by
 (A) Plasmodium vivax (B) Plasmodium falciparum
 (C) Plasmodium malariae (D) All of the above
61. Vagabond disease is caused by
 (A) tick (B) louse (C) moth (D) flea
62. The recommended diagnostic test for HIV infection is
 (A) ELISA test (B) Western blot test
 (C) Virus isolation (D) Karper's test
63. Filaria is most spread by
 (A) Aedes (B) Anopheles (C) Culex (D) Mansoides.
64. Ants belong to order
 (A) Hymenoptera (B) Lepidoptera
 (C) Rhizopoda (D) Arthropoda

65. The diagnostic feature of insects is
- (A) segmented body (B) presence of chitin
(C) three pairs of legs (D) a pair of compound eyes
66. How many larval stages are there in mosquito?
- (A) four (B) five (C) two (D) three
67. Medically useful DNA recombinant produced for the infertility is
- (A) calcitonin (B) chronic gonadotrophin
(C) erythropoietin (D) interferon
68. Cloning of sheep Dolly's is based on
- (A) udder cells (B) skin cells (C) muscle cell (D) nerve cell
69. Transgenic organism for organ transplantation without risk of rejection
- (A) pig (B) dolly (C) cow (D) sheep
70. Antiviral products from macrophages lysosomes include
- (A) interferon (B) lysosome (C) both (D) neither
71. Schizophrenic behaviour is seen with which drug
- (A) Opium (B) Amphetamine
(C) Fortwin (D) Marijuana
72. Which one of the following causes filariasis?
- (A) Plasmodium falciparum (B) Wuchereria bancrofti
(C) Itch mite (D) Taenia solium
73. All arteries in the body contain oxygen-rich blood with the exception of
- (A) the aorta (B) the pulmonary artery
(C) the renal artery (D) the coronary arteries

74. The greatest resistance to blood flow occurs in the
- (A) large arterioles (B) medium sized arteries
(C) arterioles (D) capillaries
75. Which of the following organs is able to tolerate the greatest restriction in blood flow?
- (A) brain (B) heart
(C) skin (D) skeletal muscle
76. Erythropoietin is produced of the
- (A) kidney (B) liver
(C) lungs (D) bone marrow
77. Which of the following cells aids the activation of lymphocytes by antigen?
- (A) macrophages (B) neutrophils
(C) mast cells (D) natural kill cells
78. Most indigestion occurs in the
- (A) mouth (B) stomach
(C) small intestine (D) large intestine
79. Glucose is a
- (A) disaccharide (B) monosaccharide
(C) phosphorylase (D) polysaccharide
80. Which of the following statements about RNA is true?
- (A) it is made in the nucleus (B) it contains the base uracil
(C) both (A) and (B) are true (D) both (B) and (C) are true
81. Which of the secretory a single species of immunoglobulin molecule?
- (A) B-lymphocytes (B) Myeloma cells
(C) T-lymphocytes (D) Natural killer cells

82. Plasmid are
(A) double stranded linear DNA
(B) double stranded circular DNA
(C) single stranded and double stranded linear DNA
(D) single stranded circular DNA
83. Contagious disease spreads by
(A) inhalation (B) indigestion (C) inoculation (D) contact
84. Which of the following is a differential media?
(A) blood agar (B) nutrient agar
(C) serum agar (D) glucose agar
85. Which of the following is a cryopreservative agent?
(A) alcohol (B) distilled water
(C) acid (D) glycerol
86. Which of the following is a selective medium?
(A) MacConkey agar (B) Nutrient broth
(C) Blood agar (D) Egg medium
87. Mycobacterium leprae is grown in the
(A) foot pad of rabbit (B) foot pad of guinea pigs
(C) footpad of mice (D) foot pad of rats.
88. The following cells act as a phagocytic cells except
(A) Kupffer cells (B) Histocytes
(C) PMNL (D) Lymphocytes
89. The outermost covering of the brain is
(A) Piameter (B) Durameter
(C) Arechdnoidea (D) Pericardium
90. Which of the following is purely a sensory neuron?
(A) Trigeminal (B) Acoustic
(C) Vagus (D) Hypoglossal

91. Foramen of Magendie is the aperture between
 (A) fourth ventricle and posterior choroid plexus
 (B) arachnoid space and optic plexus
 (C) diocoel and optocoel
 (D) anterior chamber plexus and third ventricle.
92. Thermoregulatory centre in the human body is
 (A) medulla (B) spinal cord
 (C) cerebellum (D) hypothalamus
93. The classical example of conditioned reflex is the
 (A) Salivary reflex of rats (B) Gastric reflex of dogs
 (C) Salivary reflex of dogs (D) Salivary reflex of monkeys.
94. Which one of the following animals is without central nervous system?
 (A) earthworm (B) hydra (C) bird (D) frog
95. Enzymes in TCA cycle are located?
 (A) golgi apparatus (B) cytoplasm
 (C) lysosomes (D) mitochondria
96. Metabolic rate during the period of hibernation in nature
 (A) remains unchanged (B) is enhanced
 (C) is decreased during night (D) falls to a low level
97. Diaphragm is present only in
 (A) mammals (B) birds
 (C) birds and mammals (D) amphibians
98. CO₂ enters capillaries by
 (A) diffusion (B) permeation
 (C) osmosis (D) active transport
99. Lymphatic channels are abundant in
 (A) kidney (B) lungs (C) heart (D) liver
100. The supraoptic nucleus of the hypothalamus is behind to control sensation of which of the following?
 (A) antidiuretic hormone (B) oxytocin
 (C) growth hormone (D) follicle stimulating hormone