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) glucagon
   (D) cholecystokinin

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

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
    parasympathetic 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 autopsy
    (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) Tesetse 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) auromycin

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) Diptheria  (C) Pnemonia  (D) Influenza

36. Which one of the following is an ectoparasite?
   (A) Liverfluke  (B) Ascaris
   (C) Mosquito  (D) Teania 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 oblogata (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
   (C) Brucellosis
   (B) Tuberculosis
   (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
   (C) Hepatic virus
   (B) Rabies 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) 0C
   (C) +4C
   (D) +10C

52. Which one well be detected when mortality is plotted against population?
   (A) Density dependent
   (C) Irreplaceable mortality
   (B) Mortality survival ratio
   (D) Real mortality

53. Which one is appropriate forr-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 trphic level concept?
   (A) Hinde
   (B) Heindroth
   (C) Lindeman
   (D) Wilson
55. Which name is assigned to an individual which reproduces once only and then dies?
   (A) iteroparity  (B) semelparity  (C) cohort  (D) polygyny

56. Who published Psychophysical 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) Leptidoptera
   (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) Amphetatmine
   (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 restoration 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 killer 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 immunoglobin 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 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) Pia mater       (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 choroinic plexus
(B) arachnoid space and optic plexus
(C) diocoeol and optocoeel
(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 is 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