ENTRANCE EXAMINATION FOR ADMISSION, MAY 2013.

Ph.D. (TOXICOLOGY)

COURSE CODE : 165

Register Number :

Signature of the Invigilator
(with date)

COURSE CODE : 165

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 of the 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. The method(s) for detecting association in genetic diseases

   (A) Case – control studies   (B) Family based controls

   (C) Transmission disequilibrium test   (D) All of the above

2. LOD score is

   (A) Log_{10} of likelihood ratio   (B) Increase of likelihood ratio

   (C) Score for calculating mortality rates   (D) Score for calculating relative

3. Most common approach for allele sharing is

   (A) Affected sibling pair (ASP)   (B) Calculating likelihood ratio

   (C) Calculating odds ratio   (D) Calculating relative risk

4. A condition or characteristic that can take on different values or categories is called

   (A) A constant   (B) A variable

   (C) A cause-and-effect relationship   (D) A descriptive relationship

5. A positive correlation is present when

   (A) Two variables move in opposite directions

   (B) Two variables move in the same direction

   (C) One variable goes up and one goes down

   (D) Several variables never change

6. The strongest evidence for causality comes from which of the following research methods?

   (A) Experimental   (B) Causal-comparative

   (C) Correlational   (D) Ethnography

7. Which correlation is the strongest?

   (A) +.10   (B) -.95

   (C) +.90   (D) -1.00

8. The research participants are described in detail in which section of the research plan?

(A) Introduction

(B) Method

(C) Data analysis

(D) Discussion

9. If a test measures a single construct then:

(A) The items should correlate with the total score

(B) The items should not correlate with the total score.

(C) The test should not correlate with other measures of the same construct

(D) There must be a reliable alternative form

10. Which scale is the simplest form of measurement?

(A) Nominal

(B) Ordinal

(C) Interval

(D) Ratio

11. An extraneous variable that systematically varies with the independent variable and also influences the dependent variable is known as a

(A) Confounding variable

(B) Third variable

(C) Second variable

(D) Both (A) and (B) are correct

12. Attrition generally occurs in research where

(A) You do demographic research

(B) The study fails

(C) Some participants do not complete the study

(D) The study is very brief

13. Analysis of covariance is:

(A) A statistical technique that can be used to help equate groups on specific variables

(B) A statistical technique that can be used to control sequencing effects

(C) A statistical technique that substitutes for random assignment to groups

(D) Adjusts scores on the independent variable to control for extraneous variables.

14. The group that does not receive the experimental treatment condition is the

(A) Experimental group   (B) Control group

(C) Participant group   (D) Independent group

15. A sequencing effect that occurs when performance in one treatment condition is influenced by participation in a prior treatment condition is known as

(A) Counterbalancing effect   (B) Carryover effect

(C) Treatment effect   (D) Order effect

16. The variable the researcher matches to eliminate it as an alternative explanation is called a(n)_____ variable.

(A) Matching   (B) Independent

(C) Dependent   (D) Partial

17. When a researcher starts with the dependent variable and moves backwards, it is called:

(A) Predictive research   (B) Retrospective research

(C) Exploratory research   (D) Descriptive research

18. The Pearson product moment correlation measures the degree of _____ relationship present between two variables

(A) Curvilinear   (B) Nonlinear

(C) Linear and quadratic   (D) Linear

19. What is the median of the following set of scores? 18,6,12,10,14?

(A) 10   (B) 14

(C) 18   (D) 12

20. A graph that uses vertical bars to represent data is called

(A) Line graph   (B) Bar graph

(C) Scatterplot   (D) Vertical graph

21. Phocomelia is associated with

(A) Arsenic   (B) Mercury

(C) Thalidomide   (D) Cocaine

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22. Minamata disease is associated with

(A) Magnesium   (B) Mercury

(C) Manganese   (D) Molybdenum

23. The poison linked to Bhopal gas tragedy is

(A) Ethylene dioxide   (B) Diflurocarbon

(C) Methoxy ethane   (D) Methyl isocyanate

24. Epidemic ergotism was due to Ingestion of rye contaminated with ----------------

(A) Candida albicans   (B) Claviceps purpurea

(C) Pseudomonas   (D) Salmonella typhi

25. Tincture of laudanum contains

(A) Cocaine   (B) Opium

(C) Cyanide   (D) Ether

26. Gas chambers of occupation camps used by Hitler contained

(A) Chlorine   (B) Halothane.

(C) Ether   (D) Cyanide

27. Consumption of contaminated L-tryptophan was incriminated in

(A) Eosinophilia myalgia Syndrome   (B) Chronic fatigue Syndrome

(C) Gasping baby Syndrome   (D) Pierre Robin Syndrome

28. Naloxone is an antidote for

(A) Opiates   (B) Barbiturates

(C) Atropine   (D) Digoxin

29. Which of the following is used in the treatment of organophosphorus poisoning?

(A) Flumazenil   (B) Sodium bicarbonate

(C) Pralidoxime   (D) Desferrioxamine

30. Which of the following is useful in Acetaminophen poisoning?

   (A) Ethyl alcohol   (B) British antilewisite

   (C) Methylene blue   (D) n-acetyl cysteine

31. High anion gap metabolic acidosis is seen in the following poisonings **except**

   (A) Ethylene glycol   (B) Iron

   (C) Organophosphorus   (D) Salicylates

32. All the following are relevant blood tests in an IV drug abuser **except**

   (A) Serum Sodium   (B) HIV Elisa

   (C) HBsAg   (D) Blood culture

33. What is the physiological antidote for scorpion sting in children?

   (A) Promethazine   (B) Prazosin

   (C) Praziquantel   (D) Primaquine

34. Which of the following is **NOT** useful in kerosene aspiration in children?

   (A) Gastric lavage   (B) Oxygen

   (C) Chest x-ray   (D) Mechanical ventilation

35. Which adsorbent is specifically used for thallium poisoning?

   (A) Activated charcoal   (B) Prussian blue

   (C) Starch   (D) Sodium phosphorsulfonate

36. Gastrointestinal decontamination includes all the following **except**

   (A) Gastric evacuation   (B) Absorbent administration

   (C) Catharsis   (D) Gastric irrigation

37. Which of the following is an emetic?

   (A) Syrup of ipecac   (B) Domperidone

   (C) Metaclopramide   (D) Cetirizine

38. Surgical laparotomy for decontamination is employed for all the following **Except**

    (A) Button battery ingestion

    (B) Organophosphorus poisoning

    (C) Cocaine drug packets ingestion

    (D) Bezoars of Iron

39. All the following are poorly absorbed by charcoal **except**

    (A) Lithium

    (B) Sodium

    (C) Potassium

    (D) Thallium

40. Fulminant hepatic failure may be managed by

    (A) Molecular adsorbents recirculating system

    (B) Hemodialysis

    (C) Peritoneal dialysis

    (D) Chemotherapy

41. All the following are measures of variation **except**

    (A) Range

    (B) Mode

    (C) Mean deviation

    (D) Standard deviation

42. All the following are sampling methods **except**

    (A) Stratified random sample

    (B) Simple random sample

    (C) Systematic random sample

    (D) Scrutinized random sample

43. Which is the most frequently used blinding technique in research methodology?

    (A) Single blinding

    (B) Double blinding

    (C) Triple blinding

    (D) Quadraple blinding

44. Experimental epidemiology is often equated with

    (A) Case control study

    (B) Descriptive study

    (C) Randomized controlled trial

    (D) Cohort study

45. The ratio of incidence of disease in exposed and incidence among nonexposed is called

    (A) Relative risk

    (B) Attributable risk

    (C) Concealed risk

    (D) Associate risk

46. Incidence can be obtained from

   (A) Longitudinal study (B) Cross sectional study

   (C) Case control study (D) Randomized control study

47. Toxicity resulting from chemicals disrupting lipid bilayer of membranes is called

   (A) Narcosis (B) Hallucination

   (C) Biomodulation (D) Ionic modulation

48. Which of the following is an important feature of malignant neoplasm?

   (A) Slow growth (B) Well differentiated mass

   (C) Metastasis (D) Few mitotic figures in histology

49. Vinyl chloride is associated with

   (A) Bladder cancer (B) Hepatic cancer

   (C) Brain cancer (D) Blood cancer

50. Diethylstilbesterol is associated with

   (A) Hepatic cancer (B) Clear cell Carcinoma of vagina

   (C) Breast cancer (D) Cervical cancer

51. A Screening test should have

   (A) High sensitivity and high specificity (B) Low sensitivity and Low specificity

   (C) High sensitivity and Low specificity (D) Low sensitivity and high specificity

52. In a statistically sound study Type II error should be

   (A) $\leq 5\%$ (B) $\leq 10\%$

   (C) $\leq 15\%$ (D) $\leq 20\%$

53. _____ results if you fail to reject the null hypothesis when the null hypothesis is actually false.

   (A) Type I error (B) Type II error

   (C) Type III error (D) Type IV error

54. The formula for sample size calculation when proportion is the parameter of study

(A) $Z^2 \times S^2 / d^2$

(B) $Z^2 \times p \times q / d^2$

(C) $(Z\alpha + Z\beta)^2 \, p \times q \times 2 / d^2$

(D) $(Z\alpha + Zb)^2 \times S^2 \times 2 / d^2$

55. 1% level of significance indicates

(A) M±SD

(B) M±2SD

(C) M±3SD

(D) M±4SD

56. Normally distributed data is

(A) Symmetrical and all values are close to each other

(B) Mean, median and mode are different

(C) Asymmetrical about its mean

(D) Total area is one square unit

57. Cohort study includes

(A) Comparision of individuals with and without disease

(B) Comparision of individuals exposed and not exposed to a risk factor

(C) Manipulation of a situation followed by measurement of the effects of manipulation

(D) Systematic collection and presentation of data to give a clear picture of a particular situation.

58. The method commonly used for reducing experimental bias

(A) Sampling

(B) Intervention

(C) Randomization

(D) Estimation of mean

59. Standard deviation is an example of

(A) Central tendency

(B) Significance testing

(C) Normally distributed data

(D) Dispersion of data

60. Which of the following is NOT a statistical computing software?

(A) Epi Info

(B) Graphpad

(C) SPSS

(D) SCORE

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61. All nerve agents are organic ester derivatives of ------------

   (A) Sulphuric acid   (B) Phosphoric acid

   (C) Nitric acid   (D) Acetic acid

62. Which neurotransmitter is affected in nerve agent poisoning?

   (A) Glycine   (B) PABA

   (C) Acetylcholine   (D) GABA

63. Which of the following is **NOT** a nerve agent?

   (A) Soman   (B) Tabun

   (C) Sarin   (D) Cyclobutane

64. Which of the following is **NOT** a feature of nerve agent poisoning?

   (A) Miosis   (B) Mydriasis

   (C) Wheezing   (D) Fasciculations

65. Which of the following is **NOT** an organophosphate?

   (A) Parathion   (B) Malathion

   (C) Ivermectin   (D) Disulfoton

66. Which of the following is **NOT** a muscarinic effect of organophosphates?

   (A) Sweating   (B) Lacrimation

   (C) Urinary incontinence   (D) Paralysis

67. DEET is a type of

   (A) Mosquito repellant   (B) Fungicide

   (C) Antibiotic   (D) Cosmetic

68. According to NFPA hazard signal system 704, red colour indicates

   (A) Flammability   (B) Health hazard

   (C) Reactivity   (D) Specific hazard

69. Which of the following is **NOT** a method for drug screening?

   (A) Radio Immunoassay   (B) Enzyme Immunoassay

   (C) Fluorescent Immunoassay   (D) Carbon Immunoassay

70. Which of the following is **NOT** an "average" in statistics?

(A) Mean

(B) Median

(C) Standard deviation

(D) Mode

71. Which of the following is the correct order of Stevens' four levels of measurement?

(A) Ordinal, nominal, ratio, interval

(B) Nominal, ordinal, interval, ratio

(C) Interval, nominal, ordinal, ratio

(D) Ratio, interval, nominal, ordinal

72. Which of these is not a method of data collection?

(A) Questionnaires

(B) Interviews

(C) Experiments

(D) Observations

73. Which of the following terms best describes data that were originally collected at an earlier time by a different person for a different purpose?

(A) Primary data

(B) Secondary data

(C) Experimental data

(D) Field notes

74. Another name for a Likert Scale is a(n):

(A) Interview protocol

(B) Event sampling

(C) Summated rating scale

(D) Ranking

75. When each member of a population has an equally likely chance of being selected, this is called:

(A) A non-random sampling method

(B) A quota sample

(C) A snowball sample

(D) An Equal probability selection method

76. People who are available, volunteer, or can be easily recruited are used in the sampling method, called

(A) Simple random sampling

(B) Cluster sampling

(C) Systematic sampling

(D) Convenience sampling

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77. If we took the 500 patients attending JIPMER Hospital, divided them by gender, and then took a random sample of the males and a random sampling of the females, the variable on which we would divide the population is called the

(A) Independent variable

(B) Dependent variable

(C) Stratification variable

(D) Sampling variable

78. A number calculated with complete population data and quantifies a characteristic of the population is called which of the following?

(A) A datum

(B) A statistic

(C) A parameter

(D) A population

79. The process of drawing a sample from a population is know as:

(A) Sampling

(B) Census

(C) Survey research

(D) None of the above

80. Which of the following statements is true?

(A) A statistical relationship is sufficient evidence to infer causality

(B) Temporal order of the cause and effect is not important in inferring causality

(C) A statistical relation of X and Y is insufficient evidence for inferring causality

(D) Temporal order of cause and effect variables and statistical relation are only needed to infer causality

81. A Victim of snakebite is **NOT** breathing. What is the first thing to be done?

(A) Anti snake venom (ASV) administration

(B) Endotracheal Intubation

(C) Cardiac compression

(D) Intravenous normal saline bolus administration

82. Which of the following is **NOT** useful in hyperkalemia management?

(A) Calcium chloride IV

(B) Nebulised salbutamol

(C) Insulin dextrose Infusion

(D) Total parenteral nutrition

83. Pinpoint pupils are seen in poisoning due to

(A) Paracetamol

(B) Phosphatidyl choline

(C) Organophosphorus

(D) Atropine

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84. Hyperthermia is seen in the following poisonings **except**

(A) Salicylate

(B) Anticholinergic

(C) Barbiturates

(D) Phencyclidine

85. Hypertension is a feature of the following poisonings **except**

(A) Prazosin

(B) Cocaine

(C) Amphetamine

(D) Phencyclidine

86. Skin bullae may be **NOT**ed in all the following poisoning **except**

(A) Carbon monoxide

(B) Boric acid

(C) Barbiturate

(D) Rattlesnake envenomation

87. A fruity odor can be **NOT**ed in the breath of patient with

(A) Diabetic ketoacidosis

(B) Arsenic poisoning

(C) Camphor poisoning

(D) Organophosphorus poisoning

88. Holiday heart syndrome is associated with

(A) Alcohol

(B) Cocaine

(C) Opium

(D) Morphine

89. Which of the following is a characteristic feature of black widow spider bite?

(A) Seizures

(B) Ptosis

(C) Board like abdomen

(D) Foot drop

90. Nystagmus is seen in the following poisonings **except**

(A) Phenytoin

(B) Phencyclidine

(C) Carbamazepine

(D) Paracetamol

91. The most frequently occurring number in a set of values is called the

(A) Mean

(B) Median

(C) Mode

(D) Range

92. Which of the following is used to explain or predict the values of a dependent variable based on the values of one or more independent variables?

(A) Regression analysis

(B) Regression coefficient

(C) Regression equation

(D) Regression line

93. The _____ is often the preferred measure of central tendency if the data are severely skewed.

   (A) Mean   (B) Median

   (C) Mode   (D) Range

94. If a distribution is skewed to the left, then it is

   (A) Negatively skewed   (B) Positively skewed

   (C) Symmetrically skewed   (D) Symmetrical

95. What would happen (other things equal) to a confidence interval if you calculated a 99 percent confidence interval rather than 95 percent confidence interval?

   (A) It will be narrower   (B) It will not change

   (C) The sample size will increase   (D) It will become wider

96. What is the standard deviation of a sampling distribution called?

   (A) Sampling error   (B) Sample error

   (C) Standard error   (D) Simple error

97. A _____ is a range of numbers inferred from the sample that has a certain probability of including the population parameter over the long run.

   (A) Hypothesis   (B) Lower limit

   (C) Confidence interval   (D) Probability limit

98. The use of the laws of probability to make inferences and draw statistical conclusions about populations based on sample data is referred to as

   (A) Descriptive statistics   (B) Inferential statistics

   (C) Sample statistics   (D) Population statistics

99. A statistical test used to compare 2 or more group means is know as

   (A) One-way analysis of variance   (B) Post hoc test

   (C) T-test for correlation coefficients   (D) Simple regression

100. A Type II error is also known as a

   (A) False positive   (B) False negative

   (C) Double negative   (D) Positive negative