

Sree Chitra Tirunal Institute for Medical Sciences and Technology

Achutha Menon Centre for Health Science Studies

ENTRANCE EXAMINATION FOR PH D IN PUBLIC HEALTH, November 2016

Answer all questions. There is only one correct option for each question

- 1) All the following were recommendations of the Bhore Committee report EXCEPT _____
 - A. Integration of Preventive, Promotive and Curative services at all administrative levels
 - B. 3 months training in Community health
 - C. Leadership of national movement in health
 - D. 3 million plan

- 2) Single disease control programmes are also called
 - A. Horizontal health programmes
 - B. Integrated health programmes
 - C. Interventional programmes
 - D. Vertical health programmes

- 3) A Health sub center in India can provide the following services
 - A. IUD (Intra Uterine device) insertion and Tubectomy
 - B. Management of diarrhea and other minor ailments
 - C. Antibiotic Injections in case of emergencies
 - D. Minor surgical procedures

- 4) When the utilization of eye care facilities are more
 - A. Prevalence of blindness will be more
 - B. Incidence of blindness will be more
 - C. Prevalence of blindness will be less
 - D. None of the above is true

This question paper has twenty one pages

- 5) Despite the increase in cataract surgery in India over the last 15 years, the prevalence of cataract blindness is still increasing because
- A. Cataract is not the major cause for blindness in India
 - B. Majority of cataract surgeries do not give positive results
 - C. Population increase in India is very large
 - D. Number of surgeries is low compared to incidence of cataract
- 6) Sex ratio in India as per the 1991 Census
- A. 927 females for 1000 males
 - B. 1036 females for 1000 males
 - C. 1010 females for 1000 males
 - D. 900 females for 1000 males
- 7) If 34 is the first quartile of a distribution, approximately what percent of the observations will be larger than 34?
- A. 34
 - B. 25
 - C. 66
 - D. 75
- 8) Coefficient of variation is based on _____.
- A. Mean and median
 - B. Mean and mode
 - C. Median and Standard deviation
 - D. Mean and Standard deviation
- 9) _____ is a non-parametric statistical test.
- A. Student's t-test
 - B. Mann-Whitney test
 - C. F-test
 - D. Paired t test

10) Dummy variables are _____ variables.

- A. Continuous
- B. Censored
- C. Categorical
- D. Count

11) Which of the following is a post hoc multiple comparison method?

- A. Wilcoxon
- B. Bonferroni
- C. Hotelling
- D. Levene's

12) Which of the following is a survival curve?

- A. Cox
- B. Kaplan-Meier
- C. Friedman
- D. Gaussian

13) In logistic regression analysis, the regression coefficients are _____.

- A. $\exp(B)$
- B. $\ln(\text{Odds Ratio})$
- C. Odds Ratio
- D. $\ln(\text{Odds})$

14) Count data are best modeled using _____ distribution.

- A. Normal
- B. Exponential
- C. Poisson
- D. Binomial

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15) For a normal distribution $N(7,5)$, variance is _____.

- A. 7
- B. 5
- C. 25
- D. 49

16) How would you describe a method of coding data that uses predetermined codes to label chunks of the data?

- A. Inductive coding
- B. Deductive coding
- C. Intrinsic coding
- D. Reflexive coding

17) What would you call the specific perspective within a discourse that is entirely based on the studied communities' belief systems?

- A. ethics perspective
- B. etic perspective
- C. emic perspective
- D. eclectic perspective

18) What was the name of the seminal work of MN Srinivas that was entirely based on his recollections of his field work?

- A. Social Change in Modern India
- B. Village, Caste, Gender and Method
- C. The remembered village
- D. India: Social Structure

- 19) Which of the following texts would you say represents an urban ethnography?
- A. The Remembered Village
 - B. Street Corner Society: The Social Structure of an Italian Slum
 - C. Siva and her Sisters: Gender, Class and Caste in Rural South India
 - D. Weapons of the Weak: Everyday forms of Peasant Resistance
- 20) What would you call a research method that used indepth interviews in the community to identify the ways of categorizing illnesses and then subsequently used a survey to understand the extent to which that illness categories prevail in the community?
- A. Qualitative approach
 - B. Quantitative approach
 - C. Qual-Quan appraoch
 - D. Mixed methods approach
- 21) What is the technical term used to describe the summarizing and notes writing that accompany the process of coding in qualitative research?
- A. Re-coding
 - B. Memoing
 - C. Summarizing
 - D. Transcribing
- 22) Which was the seminal work that formed the basis for the grounded theory approach by Barney Glaser and Anselm Strauss?
- A. The Handbook of Grounded Theory
 - B. Awareness of Dying
 - C. Death without weeping: The violence of everyday life in Brazil
 - D. Just and Unjust Wars

23) Grounded theory approach evolved from which form of analysis suggested by Glaser and Strauss?

- A. The method of constant comparison
- B. The method of systematic comparison
- C. The method of evolved comparison
- D. The method of standardized comparison

24) The experiences of a divergence from a healthy state as described in the language of the person experiencing it, is called:

- A. Suffering
- B. Illness
- C. Disease
- D. Unhealthy

25) The three broad areas assessed by Situational analysis are:

- A. Health needs, Policy and Political Environment
- B. Health needs, Service and Resources, and Policy and Political Environment
- C. Demographic situation, Health needs and Service and resources
- D. Mapping resources, human resource planning and financial planning

26) Net Present Value for a project is calculated by

- A. The rate of discount of a project is equal to zero
- B. The effect of change in value of one variable on the overall result of the appraisal
- C. Rate of return for a project
- D. Summing the present values of all the costs and benefits

27) Planning is

- A. Project management
- B. Concern about making decision relating to future
- C. first step in programme management
- D. Programme management

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28) Internal Rate of return is

- A. Net Present Value
- B. Present value of the project
- C. the rate of discount which makes the NPV of the project zero
- D. a tool used for performing cost effectiveness analysis

29) "Walking a mile in another person's moccasins(shoes)" is about

- A. listening
- B. empathy
- C. sympathy
- D. physical activity

30) Glass Ceiling is

- A. "artificial barriers based on attitudinal or organizational bias that prevent qualified individuals from advancing upward in their organization into management-level positions."
- B. "natural barriers based on attitudinal or organizational bias that prevent individuals from advancing"
- C. "artificial barriers based on attitudinal or organizational bias that prevent individuals from qualifying management-qualifications."
- D. "artificial barriers based on attitudinal or organizational bias that prevent individuals from advancing upward in their organization into management-level positions."

31) Cost effectiveness is

- A. output/input
- B. outcome/output
- C. Efficiency X Impact
- D. Outcome/output

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32) The steps in team building are:

- A. Forming, Storming, Informing and Performing
- B. Forming, Norming, Informing and Performing
- C. Informing, Storming, Norming and Performing
- D. Forming, Storming, Norming and performing

33) Something that can cause injury, disease, economic loss, or environmental damage is referred to as

- A. Risk
- B. Hazard
- C. Maleficent
- D. Vicious agent

34) The safe noise level recommended for a city by the World Health Organisation

- A. 80dB
- B. 45 dB
- C. 120 dB
- D. 60 dB

35) Which of the following is not a direct contributor to the greenhouse effect?

- A. Carbon dioxide
- B. Carbon monoxide
- C. Methane gas
- D. Nitrous oxide

36) The "3R"s of waste management is

- A. Reduce, Reuse, Recycle
- B. Reduce, Recycle, Regain
- C. Reduce, Reform, Reuse
- D. Reduce, Recycle, Reproduce

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37) Which among the following is responsible for the health hazards associated with paints/varnish?

- A. Formaldehyde
- B. Lead
- C. Cadmium
- D. Chromium

38) The gas leak that led to the 'Bhopal tragedy' was used in the manufacture of

- A. Plastic
- B. Formaldehyde
- C. Pesticides
- D. Textiles

39) Which of the following is not characteristic of the 'Green Revolution' in India?

- A. Mechanized agriculture
- B. Hybrid seeds
- C. Organic farming practices
- D. Monoculture

40) What is the prevalence of diabetes among the adult population in India?

- A. 3.5%
- B. 7.1%
- C. 16.2%
- D. 22.3%

- 41) What is the sex ratio in India as per the 2011 census?
- A. 618 females per 1000 males
 - B. 775 females per 1000 males
 - C. 893 females per 1000 males
 - D. 940 females per 1000 males
- 42) Which is the state with highest population density as per the 2011 census?
- A. Bihar
 - B. West Bangal
 - C. Kerala
 - D. Uttar Pradesh
- 43) What proportion of global population live below the World Bank's poverty line of \$1.90 per day?
- A. 8.1%
 - B. 12.8%
 - C. 15.4%
 - D. 18.1%
- 44) Which country has the highest infant mortality rate in the world?
- A. Sierra Leone
 - B. Chad
 - C. Angola
 - D. Guatemala
- 45) "The presumptive identification of unrecognized disease or defect by the application of tests, examinations, or other procedures which can be applied rapidly" is called
- A. Sensitivity
 - B. Screening
 - C. Specificity
 - D. Detection

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46) The first cancer registry covering a national population was founded in

- A. Denmark
- B. Norway
- C. Finland
- D. Iceland

47) Currently, the most common female cancer in India is

- A. Cervix
- B. Colorectal
- C. Breast
- D. Oral

48) The ability to induce dental caries is highest for

- A. Sugar
- B. Parboiled rice
- C. Apples
- D. Carrots

49) Name of protocol signed to reduce production of chlorofluorocarbons (CFC) is

- A. UVC protocol
- B. Montreal protocol
- C. UVA protocol
- D. Paris protocol

50) Acid rains are caused when the atmosphere is polluted with high levels of

- A. CO, CO₂
- B. Sulphuric acid
- C. Ozone
- D. SO₂ and NO₂

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51) Earth day is observed on:

- A. September 13
- B. June 4
- C. April 22
- D. September 17

52) Chemical, ionizing agent or virus that can cause birth defects

- A. Teratogenic
- B. Mutagenic
- C. Carcinogenic
- D. Embryogenic

53) Which one of the chemicals is responsible for the reduction of ozone content of the atmosphere?

- A. SO₂
- B. Chlorofluoro carbon
- C. HCl
- D. Photochemical smog

54) What is the minimum legal age for drinking alcohol in India?

- A. 18 years of age
- B. 21 years of age
- C. 24 years of age
- D. varies from state to state

55) The five "A's in Tobacco Cessation are the following

- A. Ask, Attempt, Advise, Avoid, Assist
- B. Assess, Advise, Avoid, Achieve, Adapt
- C. Ask, Advise, Assess, Assist, Arrange
- D. Appointment, Assess, Advise, Assist, Arrange

This question paper has twenty one pages

56) The state with highest proportion of elderly people (those above the age of sixty years) in India according to 2011 census is:

- A. Tamil Nadu
- B. Maharashtra
- C. Kerala
- D. Punjab

57) The acronym NFHS used in the surveys for information on maternal and child health in India stand for:

- A. National Fertility and Health Survey
- B. National Family and Household Study
- C. National Family Health Survey
- D. National Farm and Household Survey

58) The Hathi commission report (1975) was on:

- A. Pharmaceutical industry in India
- B. Hospitals in India
- C. Doctors in India
- D. Nursing in India

59) ESI (Employees State Insurance) is a health scheme covering:

- A. All government employees
- B. Organized workers
- C. Casual labourers
- D. Public sector employees

60) The ICDS scheme includes the following components, except

- A. Supplementary nutrition for mothers and children
- B. Growth monitoring
- C. Ante-natal clinics
- D. Immunization

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61) Kasturirangan committee report is on _____.

- A. improving economic status of BPL families
- B. conserving environment of Western Ghats of India
- C. improving health services in the north east region of India
- D. allowing foreign direct investment in India

62) In public health service delivery system, PHC stands for _____.

- A. Public Health Centre
- B. Primary Health Care
- C. Primary Health Centre
- D. Public Health Care

63) Public Health and Sanitation under the Indian Constitution fall in list.

- A. State list
- B. Central list
- C. Regional list
- D. concurrent list

64) In which decade was the first antibiotic discovered?

- A. 1960-1969
- B. 1910-1919
- C. 1940-1949
- D. 1890-1899

65) Which of the following is an airborne disease?

- A. Rabies
- B. chicken pox
- C. HIV
- D. Malaria

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66) Which of these is not a main organization of the United Nations?

- A. World Health Organization
- B. International Monetary Fund
- C. International Court of Justice
- D. Economic and Social Council

67) Sustainable Development Goals are to be achieved by the year

- A. 2020
- B. 2025
- C. 2030
- D. 2040

68) The most common natural hazard in India is

- A. Road accidents
- B. Floods
- C. Earthquake
- D. Tsunami

69) Which of the following is a probability value?

- A. 2.513
- B. -0.765
- C. 0.765
- D. -20513

70) The NREGA is implemented by the ministry of

- A. Health and Family Welfare
- B. Labour
- C. Rural Development
- D. Science and technology

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71) What is the meaning of expectation of life at birth?

- A. Average number of years that a newborn is expected to live if current mortality rates continue to apply.
- B. Average number of years that a newborn is expected to live if the current rates of fertility continue to apply
- C. Median years that a cohort is expected to live if the current rates of mortality continue to apply
- D. Median years that a cohort is expected to live if the current rates of fertility continue to apply

72) There are 20 students with an average height of 105 cms in a class. Then 10 students with an average height of 120 cms join the class. What will be the average height of students in the class now?

- A. 100
- B. 110
- C. 120
- D. 90

73) Globally at birth

- A. More girls are born than boys
- B. More boys are born than girls
- C. Roughly equal numbers of boys and girls are born
- D. More boys than girls were born earlier but now the reverse is true

74) Gradual changes in the frequency of a disease over a long time period is referred to as:

- A. Secular time trends
- B. Cyclic fluctuations
- C. Latency period
- D. Temporal clustering.

75) Age adjusted rates are used to:

- A. make corrections in the incidence rates for errors in the statement of age
- B. make corrections in the incidence rates for missing age information
- C. make comparisons of deaths in persons belonging to the same age group
- D. eliminate effects of differences in the age distributions of populations while comparing incidence rates.

76) When studying diet and risk of chronic diseases, a cohort study generally has the following advantage compared to a case-control study:

- A. Potential confounders can be taken into account
- B. Selection bias does not occur
- C. Various dietary exposures can be studied at the same time
- D. It has higher internal validity

77) Which of the following is not a component of the Multidimensional Poverty Index?

- A. Health
- B. Education
- C. Standard of living
- D. Occupation

78) The total fertility rate for India during 1991-2011

- A. has increased
- B. has decreased
- C. has increased during the first decade and decreased thereafter
- D. has remained unchanged

79) All of the following are true of the relationship between health and education, except

- A. Children with uneducated parents are likely to be just as healthy as children with educated parents
- B. Good health encourages the enrollment of students in school
- C. Infant mortality is lower among babies of educated mothers as compared to mothers with no schooling
- D. Women with more years of schooling are more likely to adopt modern methods of contraception

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80) Which of the following statements is false

- A. The higher a country's GDP per person, the more money it is likely to spend on health
- B. The lower a country's GDP per person, the less money it is likely to spend on health
- C. Countries who spend the most on health always have the highest life expectancies
- D. Countries who spend the least on health are more likely to have poor health outcomes

81) Health expenditure by a government agency is considered

- A. Private expenditure on health
- B. Public expenditure on health
- C. For-profit expenditure on health
- D. Bilateral expenditure on health

82) Acute diarrhea is a common disease of under five children. Children with diarrhea die because of the following complication

- A. Toxins produced by the infective agent
- B. Dehydration
- C. Nutritional loss
- D. Blood loss

83) Among the Indian States per capital health expenditure is maximum in the following state

- A. Punjab
- B. Haryana
- C. Kerala
- D. Uttar Pradesh

84) Proportion of inpatient care in the public sector in Kerala is

- A. 25%
- B. 50%
- C. 75%
- D. 10%

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- 85) Number of modern medicine doctors produced every year in India is around
- A. 80000
 - B. 50000
 - C. 15000
 - D. 5000
- 86) Proportion of persons reporting acute illness (illness lasting for not more than 30 days) in India at any point of time
- A. 20%
 - B. 15%
 - C. 8%
 - D. 4%
- 87) Cost-effectiveness analysis of a health investment can be used for all of the following except:
- A. To set priorities among different ways of achieving the same health goal
 - B. To compare the costs and gains of different health interventions
 - C. To guide resource allocation
 - D. To be the sole means for determining choices among investments
- 88) Which intervention would be the most cost-effective in averting DALYs in South Asia?
- A. Coronary by-pass graft
 - B. Childhood vaccination
 - C. Prevention of maternal deaths
 - D. TB treatment
- 89) Which of the following is true about women's health?
- A. Women and girls suffer from more DALYs lost than men and boys
 - B. Men disproportionately suffer a greater burden of disease than women
 - C. the world over, maternal deaths are the single most important cause of death in women
 - D. women have a shorter life expectancy than men

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90) All the following are principles of primary health care **EXCEPT**

- A. Community participation
- B. Appropriate technology
- C. Intersectoral coordination
- D. Complete insurance coverage

91) Pick the **CORRECT** pairing from among the following with respect to India

- A. Leprosy: Public health problem
- B. Guinea worm: Eradicated
- C. Polio: Controlled
- D. Tuberculosis: Eliminated

92) The following statements about the 'evidence pyramid' are true, **EXCEPT**:

- A. Meta-analysis is considered the highest possible level of evidence
- B. Results from a meta-analysis are usually represented as a forest plot
- C. Observational designs such as cohort and case-control are not considered evidence
- D. We can do meta-analysis of cohort studies and case-control studies

93) Cronbach's alpha is a test for:

- A. Internal consistency
- B. Criterion validity
- C. Construct validity
- D. Sensitivity

94) For setting up surveillance for a disease, we need

- A. A representative sample
- B. Good quality reporting
- C. Specialist investigators
- D. A good computer program

95) A confounding variable has the following characteristic:

- A. It is associated with exposure only
- B. It is a hidden variable
- C. It is associated with outcome only
- D. It is associated with outcome as well as exposure independently

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96) The following statements about measurement tools are correct, except:

- A. Reliability is a prerequisite for assessing validity
- B. Validity is a concept related to accuracy of measurement
- C. Reliability is related to precision in measurement
- D. Factor analysis is a technique that helps to assess reliability

97) 'Effect modification' is another term for

- A. Confounding
- B. Mediation
- C. Interaction
- D. Bias

98) Stratified analysis helps in:

- A. Adjusting for confounding
- B. decreasing the variance
- C. Avoiding bias
- D. Improving clarity

99) In testing an association between an exposure variable and outcome variable, causality is strongly suggested by all the following, except:

- A. Evidence from cross sectional studies
- B. A large odds ratio
- C. Consistent association in many studies
- D. Presence of a dose response relationship

100) The positive predictive value (PPV) of a screening test is dependent on:

- A. The cost of the screening test
- B. Prevalence of the condition being screened for in the population
- C. The skill of the person doing the test
- D. Willingness of the subject to be screened

PhD questions Key

1. C
2. D
3. B
4. C
5. D
6. A
7. D
8. D
9. B
10. C
11. B
12. B
13. B
14. C
15. B
16. B
17. C
18. C
19. B
20. D
21. B
22. B
23. A
24. B
25. B
26. D
27. B
28. C
29. B
30. A
31. C
32. D
33. B
34. B
35. B
36. A
37. B
38. C
39. C



80. C
81. B
82. B
83. C
84. B
85. C
86. D
87. D
88. B
89. A
90. D
91. B
92. B
93. A
94. B
95. D
96. D
97. C
98. A
99. A
100. B

A handwritten signature in cursive script, possibly reading "J. Wilson", is located in the lower-left quadrant of the page.