

Entrance Examination - 2025;

PhD: Health Sciences: Subject: Public Health

Instructions

1. All the examination rules at the University of Hyderabad must be strictly followed.
 2. This paper consists of **70** questions:
Part A – Research Methodology; 35 Multiple Choice Questions (35 marks).
Part B – Public Health; 35 Multiple Choice Questions (35 marks)
 3. Answer all the questions in the OMR ONLY following the instructions.
 4. Write your Hall Ticket Number in the given OMR answer sheet.
 5. Hand over the OMR answer sheet to the invigilator at the end of the examination.
 6. There are NO negative markings.
 7. The duration of the written test: **2 hours**
 8. Non-programmable calculators may be used as per the UoH's approved list of calculators.
 9. No additional sheets will be provided. Rough work can be done in the question paper itself/space provided at the end of the booklet.
 5. This question paper consists of 12 pages, inclusive of the cover page
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PART - A

1. In a particular company, a study stated that "as a result of the employee training program, there will be a significant decrease in employee absenteeism." The above statement is:
 - A. One-tailed hypothesis
 - B. Two-tailed hypothesis
 - C. Null hypothesis
 - D. None of the above
2. A person sees a woman making a driving error and concludes that women are terrible drivers. This is an example of:
 - A. Conclusion validity
 - B. Exception fallacy
 - C. Construct validity
 - D. Ecological fallacy
3. If you are studying individuals with drug addiction, you are not likely to be able to find good lists of drug addicts within a specific geographical area. If you go to that area, you may find that only a couple of them know about others with a drug addiction problem in their vicinity. Which one of the following sampling methods applies to the above example?
 - A. Systematic sampling
 - B. Quota sampling
 - C. Convenient sampling
 - D. Snowball sampling
4. Which of the following is not true about deductive reasoning?
 - A. Exploratory in nature
 - B. Top down approach
 - C. Tests hypothesis
 - D. Confirms hypothesis
5. A hypothesis cannot be stated in
 - A. Declarative terms
 - B. Null and question forms terms
 - C. General terms
 - D. Directional terms
6. If a researcher is studying the effect of competency based training among his new recruits to ascertain their merit and skill, he is likely conducting?
 - A. Basic research
 - B. Applied research
 - C. Experimental research
 - D. An evaluation

7. What is a research design?
- A. A way of conducting research that is not grounded in theory
 - B. The choice between using qualitative or quantitative methods
 - C. The style in which you present your research findings, e.g. a graph
 - D. A description of the collection and analysis of data at every stage of research
8. In an experimental study design, the dependent variable is:
- A. The one that is not manipulated and in which no changes are observed
 - B. The one that is manipulated in order to observe any effects on the other
 - C. A measure of the extent to which personal values affect research
 - D. An ambiguous concept whose meaning depends on how it is defined
9. When the number of deceased due to Covid-19 is expressed as a percentage of total deceased in a village, it is known as:
- A. Frequency
 - B. Rate
 - C. Ratio
 - D. Proportion
10. The number of females to thousand males is expressed as a
- A. Rate
 - B. Ratio
 - C. Frequency
 - D. Proportion
11. Quantitative Health Research is mostly:
- A. Theoretical
 - B. Empirical
 - C. Exploratory
 - D. Applied
12. Basic research is usually considered as _____
- A. A search for knowledge without a defined goal of utility or specific purpose
 - B. Is problem-oriented and is directed towards the solution of an existing problem
 - C. Is operational and action oriented
 - D. Is both A, B & C above
13. The Health Research Triangle comprises these three components except:
- A. Biomedical research
 - B. Health Services research
 - C. Behavioural research
 - D. Market research
14. Fundamental principles used in scientific inquiry include:
- A. Order and Inference
 - B. Chance and Probability
 - C. Hypothesis Generation and Testing
 - D. All of the above

15. Randomisation in a research study means resorting to:
- A. Haphazard selection
 - B. Consecutive selection
 - C. Ordered selection
 - D. Probability based selection
16. Ethical principles in human health research include all except:
- A. Benefits to the subjects (beneficence)
 - B. Suffer no harm (non-maleficence)
 - C. Financial support to participants (incentivisation)
 - D. Principle of justice (distributive justice)
17. The "FINER" criteria for a good research topic include all except:
- A. Feasibility & Interesting
 - B. Equity & Innovativeness
 - C. Ethical & Novel
 - D. Relevant
18. A case-series study design is:
- A. Numerator analysis
 - B. Proportion & Ratio analysis
 - C. Generalisable to the population
 - D. Requires a comparative group
19. The design effect in choosing a sample is to:
- A. Adjust for probability and non-probability sampling strategy
 - B. Adjust for simple random and stratified random sampling
 - C. Adjust for simple and cluster random sampling
 - D. Adjust for multi-stage and multi-phase sampling
20. The basic sequence in doing statistical analysis in a research study excludes:
- A. Descriptive analysis
 - B. Estimation
 - C. Modelling and forecasting
 - D. Inferential analysis
21. If the average of a series of values is 20 and their variance is 4, then the coefficient of variation is:
- A. 40%
 - B. 20%
 - C. 10%
 - D. 80%

22. The scatter plot is used to display
- A. Causality
 - B. Power
 - C. Type II error
 - D. Correlation
23. For a positively skewed curve, which measure of central tendency is largest?
- A. Median
 - B. Mean
 - C. Mode
 - D. All are equal
24. In a small sample survey on 11 male and 13 female students, the mean cholesterol levels were found to be 250 mg percent and 260 mg percent, respectively. Which of the following statistical tests is appropriate to find the significance of the difference in this Case?
- A. Chi-square test
 - B. ANOVA
 - C. Paired 't' test
 - D. Unpaired 't' test
25. A researcher has to represent the data regarding trends of malaria cases reported during 1965- 1980 throughout the world. Which of the following is applicable to represent his data?
- A. Line graph
 - B. Frequency polygon
 - C. Pie chart
 - D. Bar graph
26. What scale is the temperature usually measured on?
- A. Ratio scale
 - B. Nominal scale
 - C. Ordinal scale
 - D. Interval scale
27. What is the role of the moderator in a focus group?
- A. To ask leading questions and dominate the discussion
 - B. To stimulate discussion and keep the conversation on track
 - C. To sit away from the group and observe their behavior
 - D. To evaluate the group's performance on a particular task
28. All of the following are systematic techniques except:
- A. Free Listing
 - B. Social Mapping
 - C. Pile sorting
 - D. Rating scales

29. What is meant by the term "theoretical saturation"?
- Deciding on a theory and then testing it repeatedly
 - The problem of having used too many theories in one's data analysis
 - The point at which a concept is so well developed that no further data collection is necessary
 - A state of frustration caused by using every possible statistical test without finding any significant result.
30. A perspective of research that involves studying a phenomenon as an insider is termed as?
- An objective perspective
 - An emic perspective
 - A subjective perspective
 - An etic perspective
31. A researcher conducted a small-scale study on 30 IT professionals and manipulated the data to claim that over 3 lakh individuals in the industry are at high risk of glaucoma based on a single intraocular pressure reading. The media picked it up, leading to mass panic, mental distress, and even people quitting their jobs.
- Which core principle of research ethics has been MOST seriously violated in this scenario?
- Beneficence – because the study failed to provide any benefit to participants
 - Confidentiality – because the identity of participants was exposed
 - Scientific Integrity – because the data was exaggerated and misrepresented
 - Respect for Persons – because informed consent wasn't taken
32. Which foundational principle is the absolute FIRST requirement of the Nuremberg Code?
- Institutional approval
 - Voluntary informed consent of the human subject
 - Confidentiality maintenance
 - Minimization of financial costs
33. Raju, a researcher, invented a new optical vision device for coo. However, he was unable to register his idea or invention in time. Soon after, a multinational company (MNC) launched a similar instrument. During a conference, Raju approached the MNC to discuss his innovation, but after gathering information, the company neither collaborated nor acknowledged him.

Case

scenario:

Given this situation, what would have been Raju's strongest first step to protect his optical vision invention *before* discussing it publicly at the conference?

- Publish a paper immediately in an open-access journal
- File a provisional patent application
- Approach a conference organiser for help
- File a case against an MNC company

34. Which rule states that DNA from any cell of all organisms should have a 1:1 ratio of pyrimidine and purine bases, and, more specifically, the amount of guanine is equal to cytosine, and the amount of adenine is equal to thymine.
- A. Mendel's
 - B. Chargaff's
 - C. Shapiro-Wilk's
 - D. Miescher's
35. A researcher wants to study the relationship between near-work exposure during childhood and the later development of myopia in young adults. The data will be collected retrospectively through medical records and participant recall, without manipulating any variables. Which type of research design is most appropriate for this study?
- A. Experimental research
 - B. Descriptive cross-sectional study
 - C. Post facto (ex post facto) design
 - D. Prospective longitudinal study

-----END OF PART A-----

PART B

36. Public Health is about improving and protecting the health of _____ rather than about treating _____.
- A. Individuals and Populations
 - B. Populations and Individuals
 - C. Humans and Animals
 - D. Livestock and Humans
37. Diabetes is an:
- A. Musculoskeletal Disorder
 - B. Regulatory Disorder
 - C. Endocrinological Disorder
 - D. Motor disorder
38. Hypertension can increase the risk of:
- A. Allergies
 - B. Stroke
 - C. Malnutrition
 - D. Bone fractures
39. Lungs also play a role in performing
- A. Excretory function
 - B. Sensory function
 - C. Motor function
 - D. Neuronal function
40. A person's health and well-being are dependent on a good start, good future, good care, and support. These influences, social, economic, physical, and environmental factors, are known as:
- A. Health care
 - B. Health promotion
 - C. Public health
 - D. Determinants of health
41. Essential Public Health Services include all except:
- A. Assessment
 - B. Policy development
 - C. Assurance
 - D. Resourcing

42. Two children are rescued from a fire outbreak, and a villager brought them to the hospital with mental confusion, loss of memory, labored breathing, eventually leading to coma. The most probable environmental hazard is:
- A. Carbon monoxide poisoning
 - B. Carbon dioxide poisoning
 - C. Sulphur dioxide poisoning
 - D. Nitrogen dioxide poisoning
43. A sensitive indicator to judge iron deficiency as a public health problem is?
- A. Hemoglobin estimation
 - B. Conjunctival paleness on clinical examination
 - C. Serum Iron estimation
 - D. Serum ferritin
44. The trend in mortality from COVID-19 showed a steady fall in the years 2020 – 2024, but thereafter, a gradual decrease in the incidence of this disease was reported. This type of time trend or fluctuation in disease occurrence is termed as:
- A. Epidemic trend
 - B. Cyclical trend
 - C. Seasonal trend
 - D. Secular trend
45. An epidemiologist suggested that *Clostridium Perfringens* in food from a restaurant caused vomiting and diarrhea. This type of association gives:
- A. Specificity
 - B. Temporal sequence
 - C. Biological plausibility
 - D. Gradient
46. UNCRPD is an abbreviation for:
- A. United Nations Council on the Rights of Persons with Disabilities
 - B. United Nations Convention on the Rights of Persons with Disabilities
 - C. United Nations Committee on the Rights of Persons with Disabilities
 - D. United Nations Court for the Rights of Persons with Disabilities
47. The International Classification of Functioning, Disability and Health (ICF) components are all except:
- A. Bodily functions & structure
 - B. Activity Limitation
 - C. Economic & Financial stability
 - D. Social Participation
48. Community Based Rehabilitation matrix domains include all except:
- A. Health & Wellbeing
 - B. Equity and Equality
 - C. Empowerment & Education
 - D. Social & Livelihoods

49. If both inputs & consequences are valued in monetary terms, the economic evaluation is:
- A. Cost benefit analysis
 - B. Cost effectiveness analysis
 - C. Cost utility analysis
 - D. Cost minimisation analysis
50. The whole field of health economics is based on the principle of:
- A. Equity & social justice
 - B. Equality and affirmative action
 - C. Productivity and operational efficiency
 - D. Allocative efficiency and opportunity cost
51. The “theory of change” method in project management is based on:
- A. Logical Framework Analysis
 - B. Critical path method
 - C. Outcomes framework
 - D. Project Evaluation & Review Technique
52. Implementation science & research includes:
- A. Bridging the knowledge to practice gap
 - B. Real life application research
 - C. Research to study complex health problems
 - D. All of the above
53. The main difference between Monitoring and Evaluation is with regard to:
- A. Its timing
 - B. Level of Detail
 - C. The focus
 - D. All of the above
54. “Voucher” scheme is predominantly a form of:
- A. Supply side financing
 - B. Demand side financing
 - C. Agnostic of demand and supply
 - D. Hybrid financing modality
55. Health Financing functions include all except:
- A. Resource Collection
 - B. Pooling of Resources
 - C. Strategic purchasing or distribution
 - D. Auditing and cost accounting

56. Which measure is to be used while making comparisons using analytical techniques, between those who suffered and those who did not suffer, though being a part of the same source population, for testing the hypothesis in the investigation of an epidemic?
- A. Attributable Risk Percent
 - B. Relative risk
 - C. Population Attributable Risk
 - D. Odds ratio
57. The extent to which a specific health care treatment, service, procedure, program, or other intervention produces a beneficial result under ideal controlled conditions is its:
- A. Effectiveness
 - B. Efficacy
 - C. Effect modification
 - D. Efficiency
58. Which one of the following is not a major criterion for diagnosing Rheumatic fever:
- A. Polyarthrititis
 - B. Carditis
 - C. Subcutaneous nodules
 - D. Fever
59. A subject weighing 50 kg exercises by running at a speed of 10 km/h. He ran 5 km in 30 min (MET level 8). Calculate the amount of energy in Kcal expended by the person.
- A. 200
 - B. 150
 - C. 400
 - D. 250
60. As per the American Diabetic association (ADA), a person is said to be diabetic when the HbA1c is more than or equal to (in %)
- A. 7.5
 - B. 5.7
 - C. 6.0
 - D. 6.5
61. The situation when an observed association between two variables is explained away by a third variable, due to indirect associations, is known as:
- A. Chance
 - B. Confounding
 - C. Bias
 - D. Lack of generalisability
62. The most likely reason for failure to establish a cause-and-effect relationship with small sample sizes is:
- A. Beta error or Type II error
 - B. Alpha error or Type I error
 - C. Measurement error
 - D. Observer error

63. In a twin study, what does a higher concordance rate in monozygotic (identical) twins compared to dizygotic (fraternal) twins suggest?
- A. Genetic factors have a larger influence on the trait or disease
 - B. Environmental factors are the sole cause of the disease
 - C. Both genetic and environmental factors have no effect on the disease
 - D. The trait or disease is not inherited
64. Syndromic surveillance under IDSP is done by:
- A. Medical Officers
 - B. Paramedical Personnel
 - C. Lab technician
 - D. Pharmacist
65. Which one of the following statements indicates a Type-II error?
- A. Accepting a false null hypothesis
 - B. Rejecting the true null hypothesis
 - C. Rejecting a false null hypothesis
 - D. Accepting the true null hypothesis
66. Which metric is used to compare health systems' efficiency across countries?
- A. GDP per capita
 - B. Disability-Adjusted Life Years (DALYs)
 - C. Infant mortality rate
 - D. Healthcare expenditure per capita
67. What is the primary purpose of a "time-series analysis" in public health surveillance?
- A. To compare health outcomes across countries
 - B. To track disease trends over time
 - C. To conduct a series of cost-benefit analyses
 - D. To recruit clinical trial participants in different time periods
68. Which of the following is a key component of the "Health Belief Model"?
- A. Perceived susceptibility to disease
 - B. Perceived Socioeconomic Status
 - C. Specialised health care access
 - D. Self-care measures
69. What is the primary objective of the "DOTS" strategy in tuberculosis control?
- A. Directly Observed Treatment, Short-course
 - B. Development of a new TB vaccine
 - C. Diagnostic testing Study only for Tuberculosis
 - D. Directly observe and treat specific for TB patients
70. Which global initiative aims to achieve universal health coverage (UHC) by 2030?
- A. The Alma-Ata Declaration
 - B. Sustainable Development Goal (SDG) 3.8
 - C. The Ottawa Charter
 - D. The Doha Declaration

University of Hyderabad
Entrance Examinations - 2024
Ph.D. Admissions – July 2025 session

School/Department/Centre : Medical Sciences

Course : Ph.D.

Subject

: Public Health

Q.No.	Answer	Q.No.	Answer	Q.No.	Answer
1	A	26	D	51	C
2	B	27	B	52	D
3	D	28	B	53	A
4	A	29	C	54	B
5	C	30	B	55	D
6	D	31	C	56	D
7	D	32	C	57	B
8	A	33	B	58	D
9	D	34	B	59	A
10	B	35	B	60	D
11	B	36	B	61	B
12	A	37	C	62	A
13	D	38	B	63	A
14	D	39	A	64	B
15	D	40	D	65	A
16	C	41	D	66	B
17	B	42	A	67	B
18	A	43	D	68	A
19	C	44	D	69	A
20	C	45	C	70	B
21	C	46	B		
22	D	47	C		
23	B	48	B		
24	D	49	A		
25	A	50	D		

Note/Remarks:

Signature
School/Department/Centre