

Entrance Test for Ph.D. Programme-2018

Time: 120 Minutes

Max Marks:100

Discipline: Pharmacy

Set : A

Test ID: 89

Name:

Father Name:

Roll Number: **Date:**/...../.....

Roll Number in words:

Signature of Candidate:

Signature of Invigilator:

INSTRUCTIONS FOR CANDIDATES

1. Do not open seal before start of Exam.
2. Carefully fill all your details in top portion of this question paper. Don't leave any column blank.
3. Use blue/black ball point pen to fill details on question paper. Write only in capital letters.
4. Carefully fill all your details in top portion of OMR answer sheet. Also put your signatures at bottom portion of OMR.
5. Use only black ball point pen to fill details & darken circles on OMR sheet. Using pencil is strictly prohibited.
6. Carefully fill your Roll No, Test ID, Category, Paper Set and other required details on the OMR sheet.
7. Question paper consists of two sections. Section-I is of Research Methodology and Section-II is Subject specific. Each section contains 50 multiple choice questions. Total 100 questions of one mark each.
8. Maximum marks are 100.
9. Time allowed is 120 minutes.
10. Qualifying marks shall be 50% for General Category and 45% for Reserved Categories.
11. All questions are compulsory. No negative marking for wrong answers.
12. There are four alternative answers for each question out of which only one is correct.
13. You have to darken the circle of right answer on OMR answer sheet.
14. Questions left blank or attempted with two or more options/answers will not be evaluated.
15. Also read carefully the instructions on OMR answer sheet before attempting the questions.
16. Use of calculator is not allowed.
17. Log tables may be provided for calculation work, if required.
18. OMR sheet should not be folded or crushed. Don't put any stray marks on the sheet.
19. Circles on OMR sheet should be darkened completely. Incomplete/half filled circles will not be evaluated.
20. Do not use marker or white fluid on the OMR sheet.
21. The medium of the examination is English only.
22. No extra sheet will be provided for the rough work. Use the space inside the question paper pages for rough work.
23. Carrying mobile phones, electronic gadgets, notes or extra papers in examination hall is strictly prohibited.
24. Indulging in any form of unfair means, canvassing, impersonation or misbehaviour with examination staff will result in disqualification of your candidature.

Section-I

Research Methodology

- Q. 1. Who authored the book "methods in Social Research"?
- A) Wilkinson
 - B) C R Kothari
 - C) Kerlinger
 - D) Goode and Halt
- Q. 2. Social Science deals with
- A) Objects
 - B) Human beings
 - C) Living things
 - D) Non living things
- Q. 3. "The Romance of Research" is authored by
- A) Redmen and Mory
 - B) P. V. Young
 - C) Robert C. Meir
 - D) Harold Dazier
- Q. 4. Which of the following is an example of primary data?
- A) Book
 - B) Journal
 - C) Newspaper
 - D) Census Report
- Q. 5. ICSSR stands for
- A) Indian Council for Survey and Research
 - B) Indian Council for Strategic Research
 - C) Indian Council for Social Science Research
 - D) Inter National Council for Social Science Research
- Q. 6. JRF stands for

- A) Junior Research Functions
- B) Junior Research Fellowship
- C) Junior Fellowship
- D) None of the above

Q. 7. In the formulation of problem, which of the following we need to give?

- A) Title
- B) Index
- C) Bibliography
- D) Concepts

Q. 8. Analogies are sources of

- A) Data
- B) Concept
- C) Research
- D) Hypothesis

Q. 9. When a hypothesis is stated negatively, it is called

- A) Relational Hypothesis
- B) Situational Hypothesis
- C) Null Hypothesis
- D) Casual Hypothesis

Q. 10. In a survey, there is an enumerator and

- A) Guide
- B) Respondent
- C) Supervisor
- D) Messenger

Q. 11. A short summary of Technical Paper is called

- A) Article

- B) Research Abstract
- C) Publication
- D) Guide

Q. 12. Ph.D. stands for

- A) Doctor of Philosophy
- B) Degree in Philosophy
- C) Doctor of Psychology
- D) None of the above

Q. 13. Failure to acknowledge the borrowed material; is called (Take and use of others as one's own)

- A) Acknowledgement
- B) Foot Notes
- C) Index
- D) Plagiarism

Q. 14. Data related to the Human beings are called

- A) Territorial data
- B) Organisational data
- C) Peripheral data
- D) Demographic data

Q. 15. Schedule is filled by which of the following?

- A) Respondent
- B) Enumerator
- C) Everybody
- D) None of the above

Q. 16. Questions in which only two alternatives are possible are called

- A) Multiple choice questions
- B) Dichotomous Questions

C) Open ended questions

D) Structured questions

Q. 17. Assigning numerals or other symbols to the categories or response is called

A) Editing

B) Coding

C) Transcription

D) Tabulation

Q. 18. Tippet table refers to

A) Table of random digits

B) Table used in sampling methods

C) Table used in statistical investigations

D) All of the above

Q. 19. Research and development become the index of development of country. Which of the following reasons are true with regards to the statement?

A) Because R&D reflect the true economic and social conditions prevailing in country.

B) Because R&D targets the human development.

C) Because R&D can improve the standard of living of the people in a country.

D) All of the above.

Q. 20. The word "Anusandhan" implies

A) Attaining an aim

B) Goal orientation

C) Following an aim

D) Praying to achieve an aim

Q. 21. A Researcher wants to study the relationship of family size to income. He classifies his population into different income slabs and then takes a random sample from each slab in order. Which technique of sampling is he working with?

- A) Cluster sampling
- B) Random sampling
- C) Stratified Random sampling
- D) Systematic sampling

Q. 22. The following table gives the sales of batteries manufactured by a company over the years.

Number of different batteries sold (in thousands)

Year	Types of Batteries					Total
	4AH	7AH	32AH	35AH	55AH	
1992	75	144	114	102	108	543
1993	90	126	102	84	126	528
1994	96	114	75	105	135	525
1995	105	90	150	90	75	510
1996	90	75	135	75	90	465
1997	105	60	165	45	120	495
1998	115	85	160	100	145	605

What was the approximate percentage increase in the sales of 55AH batteries in 1998 compared to that in 1992?

- A) 28%
- B) 31%
- C) 33%
- D) 34%

Q. 23. The following table gives the sales of batteries manufactured by a company over the years.

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1996	90	75	135	75	90	465
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1998	115	85	160	100	145	605

The percentage of 4AH batteries sold to the total number of batteries sold was maximum in the year?

- A) 1994
- B) 1995
- C) 1996
- D) 1997

Q. 24. Look the series: 22, 21, 23, 22, 24, 23,

- A) 22
- B) 24
- C) 25
- D) 26

Q. 25. Which word does not belong to others?

- A) Dodge
- B) Flee
- C) Duck
- D) Avoid

Q. 26. Which of the following is not an essential element of report writing?

- A) Research Methodology
- B) Reference
- C) Conclusion

D) None of the above

Q. 27. Which of the following is non-probability sampling?

A) Snowball

B) Random

C) Cluster

D) Stratified

Q. 28. In group interview, there are

A) One interviewer and one interviewee

B) More than one interviewer and one interviewee

C) One interviewer and more than one interviewee

D) More than one interviewer and more than one interviewee

Q. 29. Uniting various qualitative methods with quantitative methods can be called as

A) Coalesce

B) Triangulation

C) Bipartite

D) Impassive

Q. 30. Books and records are the primary sources of data in:

A) clinical research

B) historical research

C) laboratory research

D) participatory research

Q. 31. The important pre-requisites of a researcher in sciences, social sciences and humanities are

A) laboratory skills, records, supervisor, topic

B) Supervisor, topic, critical analysis, patience

- C) archives, supervisor, topic, flexibility in thinking
 - D) topic, supervisor, good temperament, pre-conceived notions
- Q. 32. A college wants to give training in use of Statistical Package for Social Sciences (SPSS) to researchers. For this the college should organize
- A) Lecture
 - B) Seminar
 - C) Workshop
 - D) Conference
- Q. 33. Which One of the following is not a quality of researcher:
- A) Keenness in enquiry
 - B) He must be of alert mind
 - C) His assertion to outstrip the evidence
 - D) Unison with that of which he is in search
- Q. 34. Null Means?
- A) One
 - B) Two
 - C) Zero
 - D) None of the above
- Q. 35. The depth of any research can be judged by:
- A) title of the research
 - B) duration of the research
 - C) objectives of the research
 - D) total expenditure on the research
- Q. 36. Fundamental research reflects the ability to:
- A) Expound new principles

- B) Synthesize new ideals
- C) Evaluate the existing material concerning research
- D) Study the existing literature regarding various topics

Q. 37. A ratio represents the relation between

- A) Part and Part
- B) Part and Whole
- C) Whole and Whole
- D) All of the above

Q. 38. Circle graphs are used to show:

- A) How one part is related to other parts?
- B) How various sections share in the whole?
- C) How one whole is related to other whole?
- D) How various parts are related to the whole?

Q. 39. Field-work based research is classified as:

- A) Historical
- B) Empirical
- C) Biographical
- D) Experimental

Q. 40. Statistical measure based upon the entire population is called parameter while measure based upon a sample is known as:

- A) Inference
- B) Statistics
- C) Sample parameter
- D) None of these

- Q. 41. The importance of the correlation co-efficient lies in the fact that:
- A) It is one of the most valid measure of statistics.
 - B) It is a non-parametric method of statistical analysis.
 - C) There is a linear relationship between the correlated variables.
 - D) It allows one to determine the degree or strength of the association between two variables.
- Q. 42. Which one of the following is the most comprehensive source of population data?
- A) Census
 - B) National Sample Surveys
 - C) Demographic Health Surveys
 - D) National Family Health Surveys
- Q. 43. Which correlation co-efficient best explains the relationship between creativity and intelligence?
- A) 0.3
 - B) 0.5
 - C) 0.6
 - D) 1.0
- Q. 44. Normal Probability Curve should be
- A) Zero skewed
 - B) Positively skewed
 - C) Negatively skewed
 - D) Leptokurtic skewed
- Q. 45. A doctor studies the relative effectiveness of two drugs of dengue fever. His research would be classified as
- A) Case Study

- B) Ethnography
- C) Descriptive Survey
- D) Experimental Research

Q. 46. Newton gave three basic laws of motion. This research is categorized as

- A) Sample Survey
- B) Applied Research
- C) Descriptive Research
- D) Fundamental Research

Q. 47. When two or more successive footnotes refer to the same work which one of the following expressions is used ?

- A) et.al
- B) op.cit
- C) loc.cit
- D) ibid

Q. 48. Nine year olds are taller than seven year olds. This is an example of a reference drawn from

- A) Vertical study
- B) Time series study
- C) Experimental study
- D) Cross-sectional study

Q. 49. Which one of the following belongs to the category of good 'research ethics'?

- A) Publishing the same paper in two research journals without telling the editors
- B) Trimming outliers from a data set without discussing your reasons in a research paper
- C) Conducting a review of the literature that acknowledges the contributions of other people in the relevant field or relevant prior work

D) Including a colleague as an author on a research paper in return for a favor even though the colleague did not make a serious contribution to the paper

Q. 50. Which of the following are the basic rules of APA style of referencing format?

- A) Alphabetically index reference list
- B) Invert authors' names (last name first)
- C) Italicize titles of longer works such as books and journals
- D) All of the above

Section-II Pharmacy

- Q. 51. A patient reported positive and negative symptoms. He is suffering from
- A) Alzheimer's disease
 - B) Schizophrenia
 - C) Parkinson's disease
 - D) Huntington's disease
- Q. 52. Which one of the following indicator is used in complexometric titration?
- A) Crystal Violet
 - B) Eosin
 - C) Murexide
 - D) Methyl Orange
- Q. 53. Bioavailability is defined as
- A) Rate and extent of absorption
 - B) Rate and extent of elimination
 - C) Rate and extent of biotransformation
 - D) Rate and extent of distribution
- Q. 54. The chemical name of Tween 20 is
- A) Polyoxyethylene (20) sorbitanmonolaurate
 - B) Polyoxymethylene (20) sorbitanmonolaurate
 - C) Polyoxyethylene (20) sorbitanmonopalmitate
 - D) Polyoxymethylene (20) sorbitanmonopalmitate
- Q. 55. Ehrlich's reagent is
- A) Bismuth iodide solution
 - B) p-Diethyl aniline solution in alcohol
 - C) p-Dimethyl amino benzaldehyde solution
 - D) p-Dimethyl aniline solution in alcohol
- Q. 56. Atorvastatin is included under
- A) Bile acid sequestering agent
 - B) Fibrates

- C) HMG-CoA reductase inhibitor
- D) None of the above

Q. 57. Mass spectrometer separates ions on the basis of which of the following:

- A) Mass
- B) Charge
- C) Molecular Weight
- D) Mass to charge ratio

Q. 58. The example of a non-steroidal oral contraceptive is

- A) Mestranol
- B) Centchroman
- C) Diethylstilbestrol
- D) Estradiol

Q. 59. Which extraction method gives highest yield?

- A) Maceration
- B) Percolation
- C) Infusion
- D) Microwave assisted extraction

Q. 60. Femitidine contains

- A) Furan
- B) Imidazole ring
- C) Thiazole ring
- D) Pyrrole ring

Q. 61. 25-30 degrees as angle of repose is an indicator of _____ flow of powder.

- A) Excellent
- B) Good
- C) Poor
- D) Passable

Q. 62. Probiotics are used for the treatment of

- A) Rotavirus-induced diarrhoea in infants and children

- B) Antibiotic-associated diarrhoea
- C) Inflammatory bowel disease
- D) All of the above

Q. 63. Alcoholic solution of sudan III is used for the phytochemical screening of

- A) Tannins
- B) Fixed oils
- C) Flavonoids
- D) Terpenoids

Q. 64. The full form of HVAC technology is

- A) Highly ventilated air conditioning
- B) Heating ventilation and air conditioning
- C) Humidity ventilation and air conditioning
- D) Highly ventilated air borne control

Q. 65. Aspirin is contraindicated in asthma because aspirin

- A) Blocks both COX & LOX pathway
- B) Blocks both COX-I & COX-2
- C) Selective COX-1 blocker
- D) Selective COX-2 blocker

Q. 66. What do you expect to observe in the ^1H NMR spectrum of chloroethane $\text{CH}_3\text{CH}_2\text{Cl}$?

- A) Two doublets
- B) A doublet and a triplet
- C) A triplet and a quartet
- D) A doublet and a quartet

Q. 67. Maximum concentration limits (particles/ m^3 of air) for particles equal to and larger than 0.5 micrometer for ISO class 2 room.

- A) 4
- B) 100
- C) 2
- D) 237

- Q. 68. **Vivoxx® (Rofecoxib) was withdrawn from the market because of**
- A) Cardiac toxicity
 - B) Hepatotoxicity
 - C) Genotoxicity
 - D) Nephrotoxicity
- Q. 69. **In the supercritical fluid extraction (SFE), the ideal supercritical fluid is**
- A) Ethanol
 - B) Liquid CO₂
 - C) PEG
 - D) Liquid NO₂
- Q. 70. **Phase 1 clinical trial are done in**
- A) Normal healthy volunteers to establish the dose and safety of new drug
 - B) Small number of patients to assess the efficacy of new drug
 - C) Large number of patients to assess safety and efficacy of the new drug
 - D) Monkeys to assess the relative effect of a new drug
- Q. 71. **The new full form of ICH guidelines is**
- A) International conference for harmonization
 - B) International council for harmonization
 - C) Indian conference for harmonization
 - D) Indian council for harmonization
- Q. 72. **A high ceiling diuretic having furan ring system is**
- A) Ethacrynic acid
 - B) Furosemide
 - C) Bumetanide
 - D) Acetazolamide
- Q. 73. **Which herbal drug is NOT used as a hair dye?**
- A) Eclipta
 - B) Hibiscus
 - C) Sage

D) Arnica

Q. 74. Which of the following is classified as aseptic area

- A) Class 0
- B) Class 10
- C) Class 100
- D) Class 1000

Q. 75. Clopidogrel is a

- A) Anti-epileptic
- B) Anti-platelet
- C) Anti-asthmatic
- D) Anti-coagulant

Q. 76. Adverse drug reactions are commonly detected by

- A) The patients themselves
- B) Hospital management
- C) Nursing staff
- D) Spontaneous reporting by physician

Q. 77. Which one is most reactive towards the nucleophilic substitution reactions:

- A) Ester
- B) Amide
- C) Acid chloride
- D) Acid anhydride

Q. 78. Hixson-Crowell cube root law is applicable for understanding

- A) Dissolution of powders
- B) Flow property of powders
- C) Particle size distribution
- D) Sedimentation rate of solid particles in suspension

Q. 79. Which assay is used to evaluate the immunomodulatory activity of plant extracts?

- A) DTH assay
- B) Edema assay

- C) Silver nitrate model
- D) Carageenan assay

Q. 80. DOTS expands as

- A) Direct observation and treatment schedule
- B) Directly observed treatment shortcourse
- C) Direct observation therapeutic system
- D) Disease observation and therapeutic shortcourse

Q. 81. Anticoagulants used in blood analysis is:

- A) Sodium fluoride
- B) Iodoacetate
- C) Heparin
- D) EDTA

Q. 82. Grey baby syndrome is associated with

- A) Tetracyclin
- B) Niclosamide
- C) Chloramphenicol
- D) Ethambutol

Q. 83. Scatchard plot is related to

- A) Analysis of protein binding affinity
- B) Analysis of entrapment efficiency
- C) Analysis of bioavailability
- D) Analysis of minimum inhibitory concentration of bioactive

Q. 84. Exubera® (Inhalational Insulin) was withdrawn from the market because of

- A) Pulmonary edema
- B) Lung cancer
- C) Oral cancer
- D) Asthma

Q. 85. Sitagliptin is

- A) GLP-1 agonist

- B) GSK-3 antagonist
- C) DPP-IV inhibitor
- D) α -Glucosidase inhibitor

Q. 86. **Stas-otta process is used for extraction of**

- A) Glycosides
- B) Alkaloids
- C) Terpenoids
- D) Resins

Q. 87. **Botulinum toxin injection therapy (also known as "BOTOX® therapy") is used to treat**

- A) Dystonia
- B) Hypertension
- C) Epilepsy
- D) Malaria

Q. 88. **BCS class II represents**

- A) High solubility and low permeability
- B) Low solubility and high permeability
- C) High solubility and high permeability
- D) Low solubility and low permeability

Q. 89. **Diosgenin is**

- A) an alkaloid obtained from dioscorea
- B) a carbohydrate obtained from dioscorea
- C) a glycosidase obtained from dioscorea
- D) none of the above

Q. 90. **DNA amplification by the polymerase chain reaction uses**

- A) *Thermusaquaticus* DNA polymerase
- B) DNA topoisomerase
- C) RNA polymerase
- D) DNA helicase

- Q. 91. The techniques of derivatisation in HPLC is intended to enhance**
- A) Molecular weight
 - B) Detectability
 - C) Reversibility
 - D) Reproducibility
- Q. 92. BCS class III represents**
- A) High solubility and high permeability
 - B) Low solubility and low permeability
 - C) Low solubility and high permeability
 - D) High solubility and low permeability
- Q. 93. Probiotics are**
- A) Plants
 - B) Safe antibiotics
 - C) Live microbial food supplements
 - D) Food supplements
- Q. 94. Which of the following force is not involved in TLC**
- A) Vander waals force
 - B) Hydrogen bonding
 - C) Dipole-dipole interaction
 - D) Hydrophobic bonding reagent
- Q. 95. Which of the chemicals are used for calibration of conductance cell**
- A) Sodium chloride
 - B) Potassium chloride
 - C) Sodium sulphate
 - D) Mercuric chloride
- Q. 96. A vegetable drug is considered as one of pharmacopoeial quality, when**
- A) It meets both the general requirements of the pharmacopoeia and the requirements of the corresponding paragraph in the pharmacopoeia
 - B) It meets the requirements of the corresponding paragraph in the pharmacopoeia
 - C) It meets the requirements of the national Standard I guidelines
 - D) It meets the general requirements of the pharmacopoeia.

Q. 97. The ultraviolet region of the spectrometer used in drug analysis

- A) 50-200 nm
- B) 200-400 nm
- C) 200-750 nm
- D) 400-800 nm

Q. 98. Which of the following is most effective in inhibiting gastric acid secretion?

- A) Ranitidine
- B) Famotidine
- C) Omeprazole
- D) Pirenzepine

Q. 99. Hybridoma technology is widely used for producing

- A) Callus cultures
- B) Organ cultures
- C) Monoclonal antibodies
- D) Attenuated micro organism

Q. 100. One of the following is not a first-line drug for the treatment of tuberculosis

- A) Isoniazid
- B) Rifampin
- C) Cycloserine
- D) Pyrazinamide

