MAHARAJA RANJIT SINGH PUNJAB TECHNICAL UNIVERSITY
BATHINDA

Ph.D. Entrance Examination
Research Methodology/Quantitative & Logical Aptitude/Language Skills

Q1 The first step in the research process is:
a) Data analysis
b) Problem identification
c) Hypothesis formulation
d) Literature review

Q2 When Null hypothesis is False, but we accept it, it is known as
a) Type – I error
b) Type – II error
c) Type – III error
d) None of The Above

Q3. A hypothesis is:
a) A proven fact
b) A conclusion
c) A research design
d) A tentative assumption to be tested

Q4. The main purpose of a literature review is to:
a) Avoid plagiarism
b) Summarize past studies
c) Identify research gaps
d) Present final results

Q5. In qualitative research, data is mostly:
a) Textual or descriptive
b) Numerical
c) Experimental
d) Secondary

Q 6. The reliability of a research instrument means:
a) It measures what it is supposed to measure
b) It produces consistent results
c) It measures accurately once
d) It is cost-effective

Q 7 A research design that studies the same subjects over time is called:
a) Cross-sectional
b) Experimental
c) Comparative
d) Longitudinal

Q8 The validity of a test refers to:
a) Accuracy
b) Consistency
c) Relevance
d) Simplicity

Q9 Standard deviation measures:
a) Dispersion
b) Central tendency
c) Relationship
d) Frequency

Q10. Correlation coefficient ranges between:
   a) 0 to 1
   b) -∞ to +∞
   c) -1 to +1
   d) 1 to 100

Q11 In a normal distribution, the mean, median, and mode are:
   a) Mean is highest
   b) Median is highest
   c) Mode is lowest
   d) All are Equal

Q12 Regression analysis helps in:
   a) Classification
   b) Ranking
   c) Prediction
   d) Tabulation

Q13. A large standard deviation indicates:
   a) Data are close to mean
   b) Data are widely spread
   c) Data are equal
   d) None

Q 14. ANOVA is used to compare:
   a) Two means
   b) More than two means
   c) Two proportions
   d) Variances only

Q 15. Choose the correctly spelled word:
   a) Occurance
   b) Ocurance
   c) Ocurrence
   d) Occurrence

Q 16. Find the write one:
   FAG, GAF, HAI, IAH, ____
   a) JAK   b) HAL
   c) JAI   d) HAK

Q 17. What number should come next? 53,53,40,40,27,27,____
   a) 12   b) 13
   c) 14   d) 15

Q 18. Choose the antonym of *Transparent*:
   a) Clear
   b) Opaque
   c) Bright
   d) Translucent

Q 19. Choose the synonym of Canny:
   a) Stout
   b) Handsome
   c) Hardworking
   d) Clever

Q 20. In hypothesis testing, the significance level (α) indicates:
   a) Probability of rejecting null hypothesis when it is true
   b) Probability of accepting null when it is false
   c) Both
   d) None

Q21. When correlation = 0, it means:
   a) Perfect correlation
   b) No correlation
   c) Strong negative correlation
   d) Strong positive correlation

Q22. The term "population" in research refers to:
   a) The total number of people in a country
   b) A sample drawn for the study
   c) The entire group relevant to the study
   d) None of these

Q 23. A variable that is manipulated by the researcher is called:
   a) Dependent variable
   b) Independent variable
   c) Intervening variable
   d) Moderator variable

Q 24. The relationship in multiple linear regression is
   a) One to One
   b) One to Many
   c) Many to One
   d) Many to Many

Q 25. Choose the correct synonym of *Ambiguous*:
   a) Confusing
   b) Clear
   c) Certain
   d) Accurate

Q 26. He is very good _____ mathematics.
   a) In
   b) On
   c) At
   d) for

Q 27. Find the correctly punctuated sentence:
   a) She said "I will come tomorrow."
   b) She said, "I will come tomorrow."
   c) She said "I will come tomorrow".
   d) She said; "I will come tomorrow."

Q 28. He insisted _____ going there.
   a) in
   b) on
   c) to
   d) with

Q 29. Identify the sentence with correct grammar:
   a) Each of the boys have a pen.
   b) Each of the boys having a pen.
   c) Each boys has pen.
   d) Each of the boys has a pen.

Q 30 Choose the correct one-word substitution:
   One who cannot make a mistake.
   a) Infallible
   b) Invincible
   c) Inimitable
   d) Incredible

Q 31. Please wait _____ I come
   a) Until
   b) Unless
   c) When
   d) While

Q 32. The ratio of the present ages of C and D is 5: 6. After 10 years, this ratio will become 6: 7. Find the present ages of C and D.
   a) 25, 35
   b) 30, 40
   c) 50, 60
   d) 45, 55

Q 33. GEEKS" is coded as 35542, and GAME is coded as 3895, then what would be the code for SKEEG.
   a) 24533   b) 25443
   c) 23455   d) 23544

Q 34. The average of 4 consecutive even numbers is 27. The largest number is:
   a) 24   b) 26
   c) 28   d) 30

Q 35. A and B together can complete a work in 10 days. If A alone can do it in 15 days, then B alone can do it in:
   a) 20 days
   b) 25 days
   c) 30 days
   d) 40 days

Q36. The population of a town increases by 10% in the first year and decreases by 10% in the second year. What is the net change after two years?
   a) 0%
   b) 1% decrease
   c) 1% increase
   d) 2% decrease

Q37. A train covers a distance of 420 km at a uniform speed. If the speed had been 10 km/h more, it would have taken 1 hour less. Find the speed of the train.
   a) 50 km/h
   b) 70 km/h
   c) 80 km/h
   d) 60 km/h

Q38. A man walks at 6 km/h instead of 4 km/h and reaches his destination 30 minutes early. Find the distance.
   a) 4 km
   b) 6 km
   c) 8 km
   d) 10 km

Q39. A man walks 4 km toward north, then turns right and walks 3 km. Again, he turns right and walks 4 km. How far and in which direction is he from the starting point?
   a) 3 km East
   b) 3 km West
   c) 4 km East
   d) 7 km West

Q40. A merchant allows 10% discount on marked price and still makes 8% profit. If the article costs him ₹2,300, find the marked price.
   a) 2700   b) 2750
   c) 2760   d) 2800

RM

Answer Keys of December 2025 PhD Entrance Exam

Question	Answers	Questions	Answers
1	B	21	B
2	B	22	C
3	D	23	B
4	C	24	C
5	A	25	A
6	B	26	C
7	D	27	B
8	A	28	B
9	A	29	D
10	C	30	A
11	D	31	A
12	C	32	C
13	B	33	A
14	B	34	D
15	D	35	C
16	A	36	B
17	C	37	D
18	B	38	B
19	D	39	A
20	A	40	C