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Paper ID: SAR03

Course Code: SARM-3

Examination (January - 2024)

Diploma/Certificate Course in Statistical Analysis And Research Methodology

Semester-1

RESEARCH METHODOLOGY

Time Allowed: 2 Hours

Max.Marks: 70

Instructions for the Students

1. The question paper shall consist of 70 Multiple Choice questions.
2. All questions are compulsory. Each question carries 1 mark.
3. There will be no negative marking.

<p>Q1. What are the main characteristics of research?</p> <p>a) Unsystematic approach, subjectivity, and bias b) Systematic approach, objectivity, and logical reasoning c) Random sampling, intuition, and ethics d) Hypothetical reasoning, personal beliefs, and convenience</p>	<p>Q2. What is the primary objective of research?</p> <p>a) To confirm existing beliefs b) To promote personal opinions c) To discover new knowledge d) To create fictional stories</p>
<p>Q3. Which type of research design involves observing and describing a phenomenon without manipulating variables?</p> <p>a) Experimental research b) Descriptive research c) Correlational research d) Explanatory research</p>	<p>Q4. What is the purpose of a literature review in research?</p> <p>a) To summarize research findings b) To identify research problems c) To promote one's own research d) To prove a hypothesis</p>
<p>Q5. What is a research problem?</p> <p>a) A well-defined question or issue that a researcher aims to address b) Any topic of interest to the researcher c) A problem encountered during data collection d) An irrelevant aspect of research</p>	<p>Q6. Which of the following is an example of a nominal scale measurement?</p> <p>a) Temperature in degrees Fahrenheit b) Height in centimetres c) Blood pressure in mmHg d) Gender (Male/Female)</p>
<p>Q7. What is ethics in research concerned with?</p> <p>a) Maximizing profit from research b) Respecting moral values and principles in research c) Achieving personal goals through research d) Avoiding all risks in research</p>	<p>Q8. Which branch of philosophy deals with the nature of moral judgments?</p> <p>a) Epistemology b) Aesthetics c) Ethics d) Metaphysics</p>

<p>Q9. What is intellectual honesty in research?</p> <ul style="list-style-type: none"> <li>a) Being transparent and truthful in presenting research findings</li> <li>b) Concealing data that don't support your hypothesis</li> <li>c) Manipulating data to fit your expectations</li> <li>d) Plagiarizing others' work</li> </ul>	<p>Q10. What is the act of intentionally making up or altering data in research called?</p> <ul style="list-style-type: none"> <li>a) Misinterpretation</li> <li>b) Falsification</li> <li>c) Validation</li> <li>d) Verification</li> </ul>
<p>Q11. What is the unethical act of copying someone else's work and presenting it as your own?</p> <ul style="list-style-type: none"> <li>a) Collaboration</li> <li>b) Paraphrasing</li> <li>c) Plagiarism</li> <li>d) Attribution</li> </ul>	<p>Q12. Which type of scientific misconduct involves breaking a single study into multiple smaller publications to inflate the author's publication count?</p> <ul style="list-style-type: none"> <li>a) Duplicate publication</li> <li>b) Overlapping publication</li> <li>c) Salami slicing</li> <li>d) Selective reporting</li> </ul>
<p>Q13. What is the primary purpose of conducting a literature review in research?</p> <ul style="list-style-type: none"> <li>a) To showcase the author's knowledge on the topic</li> <li>b) To highlight gaps in the existing research</li> <li>c) To promote the author's own research findings</li> <li>d) To summarize research articles for publication</li> </ul>	<p>Q14. Which section of a research paper typically contains the literature review?</p> <ul style="list-style-type: none"> <li>a) Introduction</li> <li>b) Methodology</li> <li>c) Discussion</li> <li>d) Conclusion</li> </ul>
<p>Q15. In a literature review, what does it mean to "synthesize" the literature?</p> <ul style="list-style-type: none"> <li>a) Summarize the key points of each article</li> <li>b) Criticize and devalue existing research</li> <li>c) Combine and analyze findings from multiple sources</li> <li>d) Ignore conflicting research to maintain consistency</li> </ul>	<p>Q16. What is the first step in defining a research problem?</p> <ul style="list-style-type: none"> <li>a) Collecting data</li> <li>b) Identifying the research questions</li> <li>c) Writing a research proposal</li> <li>d) Conducting a literature review</li> </ul>
<p>Q17. Which of the following is NOT a characteristic of a well-defined research problem?</p> <ul style="list-style-type: none"> <li>a) It is clear and concise</li> <li>b) It can be answered with a simple "yes" or "no."</li> <li>c) It is relevant and significant</li> <li>d) It is overly broad and vague</li> </ul>	<p>Q18. When a research problem is considered "feasible," what does that mean?</p> <ul style="list-style-type: none"> <li>a) It can be solved easily and quickly</li> <li>b) It can be addressed with the available resources and time</li> <li>c) It is not worth investigating</li> <li>d) It is too complex to be studied</li> </ul>

<p>Q19. Which type of scale allows respondents to indicate their preferences by ranking items in order of importance?</p> <p>a) Nominal scale b) Ordinal scale c) Interval scale d) Ratio scale</p>	<p>Q20. What does "validity" refer to in the context of measurement in research?</p> <p>a) The consistency of measurement results b) The ability of a measurement tool to accurately measure what it is intended to measure c) The precision of a measurement tool d) The ease of administering the measurement tool</p>
<p>Q21. Which of the following is an example of a ratio scale measurement?</p> <p>a) Temperature in Celsius b) Blood type (A, B, AB, O) c) Level of agreement (Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree) d) Height in centimetres</p>	<p>Q22. What is the primary objective of exploratory research?</p> <p>a) To test hypotheses and establish causation b) To describe and gain a better understanding of a research topic c) To generate quantitative data d) To replicate previous research studies</p>
<p>Q23. Which type of research aims to investigate cause-and-effect relationships between variables?</p> <p>a) Descriptive research b) Exploratory research c) Experimental research d) Correlational research</p>	<p>Q24. What is the key objective of applied research?</p> <p>a) To develop theories and expand knowledge b) To explore new phenomena and gain a better understanding of them c) To solve practical problems and generate solutions d) To conduct research for academic purposes only</p>
<p>Q25. What is the purpose of a cross-sectional research design?</p> <p>a) To study a group of participants over an extended period b) To collect data from different groups at a single point in time c) To examine changes within the same group over time d) To gather in-depth qualitative data</p>	<p>Q26. In a true experimental design, what is the defining features?</p> <p>a) Random assignment of participants to groups b) Non-random allocation of participants c) Lack of a control group d) Use of qualitative data</p>
<p>Q27. Which research design is characterized by the collection of data at multiple points in time and is often used to study changes or developments over time?</p> <p>a) Cross-sectional design b) Longitudinal design c) Case study design d) Descriptive design</p>	<p>Q28. What is the purpose of a case study research design?</p> <p>a) To collect data from a large, representative sample b) To generalize findings to a broader population c) To provide an in-depth analysis of a single case or a small number of cases d) To conduct experiments with strict control over variables</p>

<p>Q29. What is ethics?</p> <ul style="list-style-type: none"> <li>a) A branch of mathematics</li> <li>b) A set of rules for winning arguments</li> <li>c) The study of moral values and principles</li> <li>d) A type of physical exercise</li> </ul>	<p>Q30. Which of the following is a famous Greek philosopher known for his contributions to moral philosophy?</p> <ul style="list-style-type: none"> <li>a) Socrates</li> <li>b) Isaac Newton</li> <li>c) Albert Einstein</li> <li>d) Marie Curie</li> </ul>
<p>Q31. Moral philosophy deals with questions related to:</p> <ul style="list-style-type: none"> <li>a) The laws of physics</li> <li>b) The nature of beauty</li> <li>c) Right and wrong, good and bad</li> <li>d) The origins of the universe</li> </ul>	<p>Q32. When someone makes a moral judgment, what are they doing?</p> <ul style="list-style-type: none"> <li>a) Calculating the price of an item</li> <li>b) Evaluating whether an action is right or wrong</li> <li>c) Solving a mathematical equation</li> <li>d) Predicting the weather</li> </ul>
<p>Q33 Which term describes the belief that morality is based on the consequences of actions?</p> <ul style="list-style-type: none"> <li>a) Deontology</li> <li>b) Utilitarianism</li> <li>c) Existentialism</li> <li>d) Relativism</li> </ul>	<p>Q34. When faced with a moral dilemma, what does moral relativism suggest?</p> <ul style="list-style-type: none"> <li>a) There is a universal moral truth that must be followed</li> <li>b) Morality is subjective and varies by culture and individual belief</li> <li>c) It is easy to make moral decisions</li> <li>d) Ethical principles are absolute and unchanging</li> </ul>
<p>Q35. What is a common emotional reaction to a moral dilemma that involves making a difficult choice?</p> <ul style="list-style-type: none"> <li>a) Joy and excitement</li> <li>b) Indifference</li> <li>c) Guilt or moral distress</li> <li>d) Fear of judgment</li> </ul>	<p>Q36 What is the primary goal of publication ethics in academic and scientific research?</p> <ul style="list-style-type: none"> <li>a) To maximize profits for researchers</li> <li>b) To ensure research findings are kept secret</li> <li>c) To maintain integrity, honesty, and trustworthiness in publishing research</li> <li>d) To promote sensationalized and false research claims</li> </ul>
<p>Q37 Why is publication ethics important in research?</p> <ul style="list-style-type: none"> <li>a) To hide research findings from the public</li> <li>b) To promote conflict of interest among researchers</li> <li>c) To maintain the credibility and integrity of scientific research</li> <li>d) To discourage collaboration among researchers</li> </ul>	<p>Q38. What does COPE stand for in the context of publication ethics?</p> <ul style="list-style-type: none"> <li>a) Committee of Publication Ethics</li> <li>b) Council of Publishing Editors</li> <li>c) Coalition of Publication Ethics</li> <li>d) Consortium of Professional Editors</li> </ul>
<p>Q39. Which organization provides guidelines and standards for medical journal editors and authors?</p> <ul style="list-style-type: none"> <li>a) COPE</li> <li>b) WAME</li> <li>c) IEEE</li> <li>d) NASA</li> </ul>	<p>Q40. What is a conflict of interest in research?</p> <ul style="list-style-type: none"> <li>a) A situation in which researchers agree on all issues</li> <li>b) A situation where researchers have no financial interests</li> <li>c) A situation where personal interests may compromise the objectivity of research</li> <li>d) A situation where researchers have no personal beliefs or values</li> </ul>

<p>Q41. What does SPPU refer to in the context of predatory publication identification software?</p> <p>a) Software for Preventing Plagiarism and Unethical behavior  b) Scientific Publication Predatory Unit  c) Software Publishing and Publications for Universities  d) Savitribai Phule Pune University</p>	<p>Q42. What is the primary purpose of software developed by SPPU to identify predatory publications?</p> <p>a) To promote predatory publishing  b) To facilitate unethical research practices  c) To help researchers identify and avoid predatory journals and publishers  d) To increase the number of predatory publications</p>
<p>Q43. What is publication misconduct in research?</p> <p>a) A legitimate way to enhance research findings  b) Ethical behavior in publishing research  c) Unethical actions that violate publication ethics  d) A synonym for quality research</p>	<p>Q44. Which of the following is NOT a problem that can lead to unethical behavior in publishing?</p> <p>a) Pressure to publish quickly and frequently  b) Lack of knowledge about publication ethics  c) Strong ethical guidelines and supervision  d) Desire for academic recognition and career advancement</p>
<p>Q45. What is "gift authorship" in the context of publication ethics?</p> <p>a) A practice of genuinely contributing to a research paper  b) Unethical practice of giving Co-authorship to someone as a favour  c) A software tool for checking plagiarism  d) A form of publication misconduct</p>	<p>Q46. What is an example of publication misconduct?</p> <p>a) Submitting a manuscript to a reputable journal  b) Citing sources properly in a research paper  c) Falsifying data in a research study  d) Collaborating with other researchers</p>
<p>Q47. If a researcher suspects publication misconduct, what should they do?</p> <p>a) Ignore it and continue their work  b) File a complaint with the appropriate authorities or journals  c) Keep the suspicion to themselves  d) Publish their concerns on social media</p>	<p>Q48. What are predatory journals?</p> <p>a) Journals with high ethical standards  b) Journals that charge exorbitant publication fees  c) Journals that follow strict peer review processes  d) Journals that publish quality research</p>
<p>Q49. Which of the following is a commonly used plagiarism detection software?</p> <p>a) Ethical Check  b) Veracity Verifier  c) Turnitin  d) Unbiased Evaluator</p>	<p>Q50. The act of presenting someone else's work or idea as own is considered as</p> <p>a) Plagiarism  b) Academic dishonesty  c) Wrongful appropriation  d) All of these</p>

<p>Q51. There has been a steep rise in plagiarism due to</p> <ul style="list-style-type: none"> <li>a) Increase in publication growth</li> <li>b) Increase in enrollment for research work</li> <li>c) Availability of digital documents</li> <li>d) Use of computers in research</li> </ul>	<p>Q52. Which plagiarism software among the following is a commercial software</p> <ul style="list-style-type: none"> <li>a) Viper</li> <li>b) PlagTrack</li> <li>c) Turnitin</li> <li>d) Copyleaks</li> </ul>
<p>Q53. A statement about a population developed for the purpose of testing is called:</p> <ul style="list-style-type: none"> <li>(a) Hypothesis</li> <li>(b) Hypothesis testing</li> <li>(c) Level of significance</li> <li>(d) Test-statistic</li> </ul>	<p>Q54. Any hypothesis which is tested for the purpose of rejection under the assumption that it is true is called:</p> <ul style="list-style-type: none"> <li>(a) Null hypothesis</li> <li>(b) Alternative hypothesis</li> <li>(c) Statistical hypothesis</li> <li>(d) Composite hypothesis</li> </ul>
<p>Q55. The probability of rejecting the null hypothesis when it is true is called:</p> <ul style="list-style-type: none"> <li>(a) Level of confidence</li> <li>(b) Level of significance</li> <li>(c) Power of the test</li> <li>(d) Difficult to tell</li> </ul>	<p>Q56. If the critical region is located equally in both sides of the sampling distribution of test-statistic, the test is called:</p> <ul style="list-style-type: none"> <li>(a) One tailed</li> <li>(b) Two tailed</li> <li>(c) Right tailed</li> <li>(d) Left tailed</li> </ul>
<p>Q57. The choice of one-tailed test and two-tailed test depends upon:</p> <ul style="list-style-type: none"> <li>(a) Null hypothesis</li> <li>(b) Alternative hypothesis</li> <li>(c) None of these</li> <li>(d) Composite hypotheses</li> </ul>	<p>Q58. A failing student is passed by an examiner, it is an example of:</p> <ul style="list-style-type: none"> <li>(a) Type-I error</li> <li>(b) Type-II error</li> <li>(c) Unbiased decision</li> <li>(d) Difficult to tell</li> </ul>
<p>Q59. Critical region is also called:</p> <ul style="list-style-type: none"> <li>(a) Acceptance region</li> <li>(b) Rejection region</li> <li>(c) Confidence region</li> <li>(d) Statistical region</li> </ul>	<p>Q60. The chance of rejecting a true hypothesis decreases when sample size is:</p> <ul style="list-style-type: none"> <li>(a) Increased</li> <li>(b) Decreased</li> <li>(c) Constant</li> <li>(d) Both (a) and (b)</li> </ul>
<p>Q61. Which of the following assumptions is typically associated with parametric tests?</p> <ul style="list-style-type: none"> <li>a) Normal distribution of data</li> <li>b) Small sample size</li> <li>c) No need for a control group</li> <li>d) Categorical data</li> </ul>	<p>Q62. Which parametric test is used to compare the means of two independent groups?</p> <ul style="list-style-type: none"> <li>a) Paired t-test</li> <li>b) One-sample t-test</li> <li>c) Independent samples t-test</li> <li>d) Mann-Whitney U test</li> </ul>

<p>Q63. When should a parametric test be chosen over a non-parametric test?</p> <ul style="list-style-type: none"> <li>a) when the mean more accurately represents the center of the distribution of data, and sample size is large enough</li> <li>b) When the sample size is small</li> <li>c) When the data is ordinal</li> <li>d) When the data is categorical</li> </ul>	<p>Q64. When should you choose a non-parametric test instead of a parametric test?</p> <ul style="list-style-type: none"> <li>a) When the data is normally distributed</li> <li>b) When you have a large sample size</li> <li>c) When the median more accurately represents the center of the distribution of data, even if you have a large sample sized</li> <li>d) When you want to work with interval data</li> </ul>
<p>Q65. Which of the following nonparametric methods can be considered an extension of the Mann-Whitney U Test?</p> <ul style="list-style-type: none"> <li>a) Wilcoxon Signed Rank Test</li> <li>b) Kruskal -Wallis Test</li> <li>c) One-way ANOVA</li> <li>d) Chi-square Test</li> </ul>	<p>Q66. What is salami slicing in the context of scientific research?</p> <ul style="list-style-type: none"> <li>a) A technique for cutting vegetables</li> <li>b) splitting of data derived from a single research idea into multiple smaller “publishable” units or “slices.</li> <li>c) A method for increasing the sample size in research studies</li> <li>d) The use of fraudulent data in research</li> </ul>
<p>Q67. Why is salami slicing considered unethical in research?</p> <ul style="list-style-type: none"> <li>a) It makes research findings more accessible to a wider audience</li> <li>b) It helps researchers get more publications on their resume</li> <li>c) It can lead to a fragmented and incomplete understanding of a research topic</li> <li>d) It ensures that research is easily replicable</li> </ul>	<p>Q68. What is selective reporting in research?</p> <ul style="list-style-type: none"> <li>a) Reporting all research findings, whether they are relevant or not</li> <li>b) Reporting only the results that support a particular hypothesis while omitting conflicting data</li> <li>c) Reporting findings from all studies, regardless of their quality</li> <li>d) Reporting research findings in a random order</li> </ul>
<p>Q69. Misrepresenting data in research involves:</p> <ul style="list-style-type: none"> <li>a) Clearly and accurately presenting research findings</li> <li>b) Falsifying or altering data to fit a preferred narrative</li> <li>c) Disclosing all limitations and flaws in the research design</li> <li>d) Using multiple statistical tests to ensure accurate representation</li> </ul>	<p>Q70. What is the potential consequence of selective reporting and misrepresentation of data in research?</p> <ul style="list-style-type: none"> <li>a) Enhanced research transparency</li> <li>b) Increased credibility of the research</li> <li>c) Compromised scientific integrity and trust in research</li> <li>d) Accelerated publication of research findings</li> </ul>