



(Knowledge for Development)

KIBABII UNIVERSITY
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UNIVERSITY EXAMINATIONS
2021/2022 ACADEMIC YEAR

END OF SEMESTER EXAMINATIONS
YEAR TWO SEMESTER TWO EXAMINATIONS

FOR THE DEGREE OF
MASTER OF SCIENCE IN DIGITAL FORENSICS

COURSE CODE : MDF 814
COURSE TITLE : RESEARCH METHODS &
SCIENTIFIC WRITING IN DIGITAL
FORENSICS

DATE: 2/10/2022

TIME: 9.00 A.M – 12.00 A.M

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTIONS ONE AND ANY OTHER TWO.

QUESTION ONE (COMPULSARY) [30 MARKS]

1. A dependent variable refers to:
 - A. the variable being manipulated or varied in some way by the researcher.
 - B. a variable with a single value which remains constant in a particular context.
 - C. the variable which shows us the effect of the manipulation
 - D. the experimental condition
2. A study is carried out to compare offenders with non-offenders on their levels of coping. Which following statement is true of this study?
 - A. The independent variable is coping and the dependent variable is type of person.
 - B. Both variables are dependant as the researcher cannot manipulate them.
 - C. The independent variable is type of person and the dependant variable is their level of coping.
 - D. There are two independent variables; offender and non-offender, and one dependant variable, which is level of coping.
3. What sort of variable is manipulated by the researcher?
 - A. Dependent. B. Co-dependent. C. Independent.
 - D. All variables are manipulated by the researcher
4. Which of the following constitute discrete variables?
 - A. Number of reported crimes in one week.
 - B. Type of offender, e.g. rapist, burglar, thief.
 - C. Favourite animal. D. A student's top typing speed.
5. When planning to do social research, it is better to:
 - a) Approach the topic with an open mind
 - b) Do a pilot study before getting stuck into it
 - c) Be familiar with the literature on the topic
 - d) Forget about theory because this is a very practical undertaking
6. Which comes first, theory or research?
 - a) Theory, because otherwise you are working in the dark
 - b) Research, because that's the only way you can develop a theory
 - c) It depends on your point of view
 - d) The question is meaningless, because you can't have one without the other
7. We review the relevant literature to know:
 - a) What is already known about the topic
 - b) What concepts and theories have been applied to the topic
 - c) Who are the key contributors to the topic
 - d) All of the above
8. A deductive theory is one that:
 - a) Allows theory to emerge out of the data
 - b) Involves testing an explicitly defined hypothesis
 - c) Allows for findings to feed back into the stock of knowledge
 - d) Uses qualitative methods whenever possible
9. Which of the following is not a type of research question?
 - a) Predicting an outcome
 - b) Evaluating a phenomenon
 - c) Developing good practice
 - d) A hypothesis
10. Which of the following is not a data-collection method?
 - a) Research questions
 - b) Unstructured interviewing

- c) Postal survey questionnaires
 - d) Participant observation
11. Why is data analysis concerned with data reduction?
 - a) Because far too much data is collected than is required
 - b) Because we need to make sense of the data
 - c) Because of the repetitions in answers to questionnaires
 - d) Because the sample size has been exceeded
 12. Because of the number of things that can go wrong in research there is a need for:
 - a) Flexibility and perseverance
 - b) Sympathetic supervisors
 - c) An emergency source of finance
 - d) Wisdom to know the right time to quit
 13. What does an empiricist believe?
 - a) We should not apply natural science methods to social science research
 - b) It is the sociologist's aim to understand the meaning of social action
 - c) Knowledge, in the form of 'facts', should be gained through sensory experience
 - d) Research conducted within the British empire was biased and unreliable
 14. An inductive theory is one that:
 - a) Involves testing an explicitly defined hypothesis
 - b) Does not allow for findings to feed back into the stock of knowledge
 - c) Uses quantitative methods whenever possible
 - d) Allows theory to emerge out of the data
 15. The interpretivist view of the social sciences is that:
 - a) Their subject matter is fundamentally different to that of the natural sciences
 - b) We should aim to achieve the interpretive understanding of social action
 - c) It is important to study the way people make sense of their everyday worlds
 - d) All of the above
 16. The qualitative research strategy places a value on:
 - a) Using numbers, measurements and statistical techniques
 - b) Generating theories through inductive research about social meanings
 - c) Conducting research that is of a very high quality
 - d) All of the above
 17. 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 framework for every stage of the collection and analysis of data
 18. If a study is "reliable", this means that:
 - a) It was conducted by a reputable researcher who can be trusted
 - b) The measures devised for concepts are stable on different occasions
 - c) The findings can be generalized to other social settings
 - d) The methods are stated clearly enough for the research to be replicated
 19. "Internal validity" refers to:
 - a) Whether or not there is really a causal relationship between two variables
 - b) Whether or not the findings are relevant to the participants' everyday lives
 - c) The degree to which the researcher feels that this was a worthwhile project
 - d) How accurately the measurements represent underlying concepts
 20. In an experimental design, the dependent variable is:
 - a) The one that is not manipulated and in which any 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
21. What is a cross-sectional design?
- a) A study of one particular section of society, e.g. the middle classes
 - b) One that is devised when the researcher is in a bad mood
 - c) The collection of data from more than one case at one moment in time
 - d) A comparison of two or more variables over a long period of time
22. Survey research is cross-sectional and therefore:
- a) High in replicability but low in internal validity
 - b) High in internal validity but low in reliability
 - c) High in ecological validity but low in external validity
 - d) None of the above
23. The role of a project supervisor is to:
- a) Make sure you keep to your schedule and deadlines
 - b) Provide intellectual support, guidance and critical feedback
 - c) Negotiate access to the research setting on the student's behalf
 - d) Give you a reading list
24. How can you tell if your research questions are really good?
- a) If they guide your literature search
 - b) If they are linked together to help you construct a coherent argument
 - c) If they force you to narrow the scope of your research
 - d) All of the above
25. Why do you need to review the existing literature?
- a) To make sure you have a long list of references
 - b) Because without it, you could never reach the required word-count
 - c) To find out what is already known about your area of interest
 - d) To help in your general studying
26. To read critically means:
- a) Taking an opposing point of view to the ideas and opinions expressed
 - b) Skimming through the material because most of it is just padding
 - c) Evaluating what you read in terms of your own research questions
 - d) Being negative about something before you read it
27. What is the first stage of a systematic review?
- a) Assess the relevance of each study to the research question(s)
 - b) Define the purpose and scope of the review
 - c) Appraise the quality of studies from the previous step
 - d) Survey all of the literature contained within a single library
28. The goal of ethics in research is to _____.
- A. to ensure that no one is harmed
 - B. to protect researchers from legal liability
 - C. to identify what behavior is appropriate
 - D. to ensure research sponsors fulfill their legal obligations

QUESTION TWO [15 MARKS]

- a. Briefly explain with examples the terms independent, dependent and confounding variables [7 marks]
- b. With relevant examples, explain the four levels of measurement used in research [8 marks]

QUESTION THREE [20 MARKS]

- a. Discuss the characteristics of scientific research [15 marks]

QUESTION FOUR [15 MARKS]

- a. Discuss the importance of literature review in a research proposal. [10 marks]
- b. Discuss the ethical issues that a researcher has to consider while carrying out research. [5 marks]

QUESTION FIVE [15 MARKS]

- a. During the last two decades, there has been a dramatic change in the business environment. The trend towards complexity has increased the risk associated with business decisions, making it more important to have a sound information base. In view of the above statement, discuss the role of research in today's organizations. [15 marks]