

UNIVERSITY OF SWAZILAND
FACULTY OF HEALTH SCIENCES
FINAL EXAMINATION DECEMBER 2017

COURSE TITLE: HEALTH SYSTEMS RESERCH

COURSE CODE HSC 403

THERE ARE NINE (9) PAGES INCLUDING THE COVER PAGE.

TIME ALLOWED: 2 HOURS

TOTAL MARKS: 75

INSTRUCTIONS:

- 1. THERE ARE THREE (3) QUESTIONS IN THIS PAPER**
- 2. ANSWER ALL THREE (3) QUESTIONS**
- 3. EACH QUESTION IS ALLOCATED 25 MARKS**
- 4. WRITE LEGIBLE**

DO NOT OPEN THIS QUESTION PAPER UNTIL YOU ARE TOLD TO DO SO BY THE INVIGILATOR

QUESTION 1

INSTRUCTIONS: For each of the following questions / statements choose and write **CLEARLY** the letter that corresponds with the most appropriate response in your answer sheet e.g. 1. B

1. A research team measured ambient noise levels in patient rooms. They also observed patient stress levels and the duration of visits by family and friends. The team found that high ambient noise was associated with high patient stress and short family visits. This is an example of which type of study?
 - A. Correlational
 - B. Retrospective
 - C. Experimental
 - D. Ethnographic

2. In addition to research design, what factor **MOST** impacts the choice of data analysis tools?
 - A. Research methodology.
 - B. Amount of funds available.
 - C. Preferences of the researcher.
 - D. Ability to do a pilot study.

3. During a key stakeholder meeting, an experienced nurse shared an article from a peer-reviewed journal that indicated that the efficiency of care provided by the nursing staff is influenced by the layout of patient rooms. The nurse argued that the bulk of their evidence-based design budget be spent on the layout of the patient rooms. What should the team do **FIRST**?
 - A. Allocate the bulk of the budget to patient room redesign based on this evidence.
 - B. Conduct an additional literature search to validate the research report's findings.
 - C. Benchmark hospitals that have demonstrated an increase in staff efficiency based upon the layout of patient rooms.
 - D. Complete a business case in order to determine the operational savings from this change in layout.

4. A researcher on the project team wants to make sure that a new observation tool they developed has a high degree of reliability. How should the researcher ensure the observation tool is reliable?
- A. Submit the tool to the Institutional Review Board (IRB).
 - B. Test the tool in a variety of settings both within and outside the hospital.
 - C. Ask a team of expert researchers to validate that the tool is measuring what it's supposed to measure.
 - D. Have several researchers use the tool within a specified time frame and place, with the same subjects and see if similar results are achieved.
5. A research team wants to make sure that a patient satisfaction tool they developed has a high degree of external validity. What does external validity mean?
- A. The tool is transferable to a variety of healthcare settings.
 - B. The tool generates results that are significant to $p < .05$.
 - C. The tool measures what it is supposed to measure.
 - D. The tool generalizes information to theoretical constructs.
6. When developing the preliminary research plan during conceptual design, what is the **PRIMARY** purpose for creating a hypothesis?
- A. To determine the appropriate research methodology.
 - B. To identify the baseline data that needs to be collected.
 - C. To evaluate the outcomes for the various design options.
 - D. To predict the outcome of the study.
7. As soon as the research problem is defined, which of the following should kick-off the research process?
- A. Identify research questions.
 - B. Conduct a literature review.
 - C. Document a hypothesis.
 - D. Establish performance metrics.

8. After reviewing reliable research studies indicating that soothing music can reduce the need for anesthesia during medical procedures, the team wants to incorporate this feature in their operating rooms. What baseline data is **MOST** important to gather during the design phase to be able to evaluate the success of this feature after occupancy?
- A. Average length of the procedure.
 - B. Average number of procedures.
 - C. Average patient recovery time.
 - D. Average patient satisfaction scores.
9. When measuring or evaluating results, various methodologies can be used. Independently they may have limitations. Which of the following describes the use of multiple methods to strengthen the validity and reliability of the research project?
- A. Triangulation
 - B. Correlation
 - C. Qualitative research
 - D. Applied research
10. After proposal development, the research team formulated hypotheses. What **MUST** the team include in the hypotheses to properly evaluate the study findings?
- A. Research design and methodology.
 - B. Baseline data.
 - C. Prediction of expected relationships.
 - D. Primary focus of the research.
11. How should you classify data from the following research question: “what are the names of schools you have attended?”
- A. Quantitative – continuous
 - B. Quantitative – discrete
 - C. Qualitative
 - D. B & C

12. How should you classify data from the following research question: “what is the number of times during summer that you go to work in the fields?”
- A. Quantitative – continuous
 - B. Quantitative – discrete
 - C. Qualitative
 - D. B & C
13. Which of the following is not a form of probability sampling?
- A. Quota
 - B. Cluster
 - C. Stratified
 - D. Systematic
14. Which of the following is an example of a primary source in a research study?
- A. A published research on findings
 - B. A doctoral dissertation that critiques all research in the area of attention deficit disorder
 - C. A textbook of medical – surgical nursing
 - D. A journal article about a study that used large, previously published data
15. Which chronological research process steps may be noted in an article’s abstract?
- A. Background, purpose, methodology, recommendations and results
 - B. Results, methodology, purpose, recommendations and background
 - C. Purpose, background, recommendations, methodology and results
 - D. Background, purpose, methodology, results and recommendations
16. Which statement best describes qualitative research?
- A. Studies are conducted in natural settings.
 - B. Data are collected from a large number of subjects.
 - C. Data collected tend to be numeric
 - D. The research design is systematic and objective

17. For which of the following research questions would qualitative methods be most appropriate?
- A. Which pain medications decrease the need for sleep medication in elderly patients?
 - B. What is the meaning of health for migrant farm-worker women?
 - C. Under what conditions does a decubitus ulcer heal most quickly?
 - D. How does frequency of medication administration impact the degree of pain experienced following knee replacement surgery?
18. Which of the following phrases would be found in a report of a quantitative study?
- A. A systematic sample was chosen
 - B. The phenomenon studied was
 - C. Data were analysed and interpreted
 - D. Researchers sought to explore the meaning of the hospital experience
19. Which criteria are used to determine testability of a hypothesis?
- A. In a qualitative study design
 - B. The use of value-laden words in a hypothesis
 - C. A hypothesis stated in such a way that it can be clearly supported or not supported
 - D. Data-collection efforts that prove the validity of the hypothesis
20. What is the purpose of grounded theory?
- A. To support theoretical frameworks
 - B. To generate theory from data
 - C. To develop explanatory models
 - D. To find significant differences among groups of people
21. Data collection about everyone or everything in group or population and has the advantage of accuracy and detail:
- A. Census
 - B. Survey
 - C. Probability sampling
 - D. Cluster sampling

22. The stages of sampling process comprises all EXCEPT;
- A. Specifying data analysis techniques
 - B. Defining the population
 - C. Specifying sampling frame
 - D. Specifying sampling method
23. Which of the following is the strength of experimental studies?
- A. Can be complicated in a short space of time
 - B. Less expensive
 - C. Useful for predictive purposes
 - D. Easier to gain cooperation of participants
24. Longitudinal design studies are -----
- A. Prospective
 - B. Retrospective
 - C. Cross-sectional
 - D. Retrograde
25. Physiological measures (tools) are more accurate if properly calibrated
- A. True
 - B. False

TOTAL 25 MARKS

QUESTION 2

Below are general topics that could be researched:

- A. Drug addiction among teenagers
- B. Family caregiver stress
- C. Nurse-patient interaction

As an investigator, choose one topic from above:

1. (i) Develop a problem statement (one paragraph). (5)
(ii) What you understand by “purpose of the study” (2)
(iii) State the purpose of your study based on the problem developed in (i) (3)
(iv) How do research objectives differ from research questions? (3)
(v) Develop two (2) research questions OR two (2) research objectives for your purpose in (iii) (3)
2. Research objective: Describe the knowledge of adolescents on family planning.
State the level of the above research objective. (1)
3. Compare and contrast phenomenological and anthropological / ethnographic research approach. (4)
4. You are developing a research questionnaire, the first step is to identify content, identify two (2) steps you need to consider when developing content. (2)
5. Describe the advantages of combining data collection techniques in research. (2)

TOTAL 25 MARKS

QUESTION 3

A. Differentiate:

(i) Quota from cluster sampling (4)

(ii) Independent from dependent variable (2)

(iii) Variable from a confounder (give examples) (3)

B. Describe five (5) characteristics of a feasible study. (10)

C. You are conducting a study and intend to collect data by observing the participants, what will be the challenges in collecting data through observation? (6)

TOTAL 25 MARKS