



**AMREF INTERNATIONAL UNIVERSITY
UNIVERSITY EXAMINATIONS: 2023/2024 ACADEMIC YEAR**

FIRST YEAR TRIMESTER ONE

HIGHER DIPLOMA IN CRITICAL CARE NURSING

SCHOOL OF MEDICAL SCIENCES

DEPARTMENT OF NURSING & MIDWIFERY SCIENCES

**COURSE CODE AND TITLE: ACN 119 FOUNDATIONS OF CRITICAL CARE
NURSING**

DATE: 2nd AUGUST 2023

TIME: 2 HOURS

START: 11:15 A.M

END: 1:15 P.M.

Instructions:

1. This paper has 2 sections: I and II
2. Answer ALL questions
3. Use the University examination booklets provided
4. Do not write on the question paper

SECTION I: MULTIPLE CHOICE QUESTIONS

1. Read the following hypothesis and answer questions 1 & 2; “There is no relationship between the food prices and the health status of children under-five years in Kenya”
Statistically, this statement will be represented as;
 - a. $H_0: \mu_1 \neq \mu_2$
 - b. $H_1: \mu_1 \neq \mu_2$
 - c. $H_0: \mu_1 > \mu_2$
 - d. $H_1: \mu_1 = \mu_2$
2. Identify the dependent variable;
 - a. Food price
 - b. Health status of children under five years
 - c. The under five years old
 - d. Malnutrition
3. Sampling error is;
 - a. When there are differences between variables
 - b. Discrepancy between sample and population characteristics
 - c. When many subjects in a study drop out
 - d. When the accessible population is highly heterogeneous
4. The following is a measure of central tendency
 - a. Histogram
 - b. Standard deviation
 - c. Mode
 - d. Bar graph
5. The following are the characteristics of **intext referencing** using APA (American Psychological Association) format;
 - a. According to Lincon, I. (2021)
 - b. According to Lincon. (2021)
 - c. According to Lincon I. (2021)
 - d. According to Lincon (2021)

6. Hawthorne effect in research is as a result of;
 - a. The researcher participating in own research
 - b. Participants being unaware that they are participating in research
 - c. Participants being aware that their behaviour is being observed
 - d. Failure to randomly select study participants
7. Plagiarism in research means;
 - a. Researcher refers to another person's work as theirs without acknowledgement
 - b. Mishandling of the information given to a researcher by subjects
 - c. A situation where a researcher takes data that has not actually been collected
 - d. Where a researcher forces client to give information without prior consent
8. While collecting data from obese patients attending the cardiac clinic, the researcher hand picks only clients who have a BMI of 30 and above. This type of sampling is classified as;
 - a. Convenience
 - b. Purposive
 - c. Random
 - d. Systematic
9. The following scale is an example of nominal scales;
 - a. Temperature
 - b. Calendar
 - c. Gender
 - d. Weighing machine
10. If a researcher does not control extraneous variables, the following may be affected;
 - a. External validity
 - b. Reliability
 - c. Generalizability
 - d. Internal validity
11. Probability sampling design has the advantages of:-
 - a. Small sample size being used
 - b. Being representative of the population
 - c. Allowing recruitment of the entire population
 - d. Allowing the researcher to use convenience sampling

12. Pretesting the questionnaire is done in order to:
- Sensitize the sample population on the study
 - Allow the researcher to predict the resources needed for the study
 - Enhance the reliability of the study tool
 - Enable the researcher to predict the findings of the study
13. One of the following statements distinguish true experimental study from quasi experimental study;
- Size of sample
 - Random assignment of subjects to the groups
 - Use of non-probability sample
 - The introduction of an experimental treatment
14. The following statement is true;
- In Quantitative research, data may be collected from a smaller number of subjective allowing in-depth study of a phenomenon
 - Ethnographic studies describe patterns of behaviour of people within a culture
 - An experimental design is an example of a qualitative research
 - Correlation method of research is a qualitative research design.
15. Literature review is conducted in order to;
- Test hypothesis in a study
 - Determine the area of study for a particular research
 - Synthesize what is known about a research topic
 - Determine and compare relative cost of study
16. You plan to conduct a research on knowledge level of staff regarding presentation of Deep Venous Thrombosis. During the study; a campaign is launched to educate nurses on this concept. This campaign presents a variable in your research known as;
- Antecedent
 - Confiding
 - Intervening
 - Dependent
17. The ethical principle of non-maleficence requires the researcher to;
- Obtain informed consent from the participant
 - Ensure that the participants are protected from any injuries
 - Conduct research that will benefit the participant
 - Refrain from research for personal gains

18. Research design where the researcher collects data at one point in time is referred to as;
- Cross sectional
 - Exploratory research
 - Longitudinal
 - Ex-post facto
19. Examples of quantitative research include;
- Correlational, phenomenological
 - Experimental, grounded theory
 - Descriptive, Quasi-experimental
 - Ethnographic, historical
20. Essential information given to a respondent before obtaining consent include;
- Description of risks and discomfort
 - Promise to share research outcome
 - The research time plan
 - The cost implications of the research
21. What is the nurse's role in prevention of ventilator-associated pneumonia?
- Adherence to VAP prevention hospital protocols
 - Being knowledgeable about evidenced based practices
 - Compliance to hospital infection control and hand washing guidelines
 - All of the above
22. The following antibiotics causes "red man syndrome" after rapid IV infusion: -
- Azithromycin
 - Doxycycline
 - Cephalexin
 - Vancomycin
23. Critically ill patients have muscle wasting due to: -
- High caloric demand
 - High oxygen demand
 - Increased metabolism
 - Nutritional imbalance
24. The purpose of nursing process is to: -
- Assist family members in making important healthcare decisions
 - Provide nurses with a framework to aid them in delivering comprehensive care.
 - Help other healthcare professionals know what is going on with the client
 - Organize information so the doctor knows what is wrong with the client

25. The step of the nursing process includes the systematic collection of all subjective and objective data about the client in which the nurse focuses holistically on the client-physical, psychological, emotional, sociocultural, and spiritual. Name this step.
- Assesment
 - Planning
 - Implementation
 - Diagnosis
26. During nursing report, you learn that the patient you will be caring for has Guillain-Barre Syndrome. As the nurse you know that this disease tends to present with:
- signs and symptoms that are unilateral and descending that start in the lower extremities
 - signs and symptoms that are symmetrical and ascending that start in the upper extremities
 - signs and symptoms that are asymmetrical and ascending that start in the upper extremities
 - signs and symptoms that are symmetrical and ascending that start in the lower extremities
27. Myasthenia gravis occurs when antibodies attack the _____ receptors at the neuromuscular junction leading to _____.
- metabotropic; muscle weakness
 - nicotinic acetylcholine; muscle weakness
 - dopaminergic adrenergic; muscle contraction
 - nicotinic adrenergic; muscle contraction
28. A 30-year-old patient involved in motorbike accident, was brought to Emergency and patient is in Hemorrhagic shock. The Consultant orders Focused assessment with sonography for trauma (FAST) to rule out what?
- To measure the levels of troponin
 - To examine for muscular torsion
 - To rule out pericardial effusion
 - To rule out for pancreatitis
29. Once inside the nucleus of the cell, the Human Immunodeficiency Virus (HIV) needs to become part of the cell's DNA. To do this, the virus releases an enzyme called
- Kinase
 - Reverse transcriptase
 - Integrase
 - Protease
30. Humoral immunity is also known as: -
- Non-specific immune response
 - Antibody mediated immunity
 - Antigen mediated immunity
 - All of these

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35. Humoral immunity is also called as
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 - C. Antigen mediated immunity
 - D. All of these
36. Chemotaxis refers to
- A. Blood cells move away from source of infection
 - B. Blood cells move towards source of infection
 - C. Blood cells undergo apoptosis
 - D. Blood cells clump together to form a clot
37. Any substance that promotes phagocytosis of antigens by binding to them are called as
- A. macrophages
 - B. phagocytes
 - C. opsonins
 - D. Interleukins

38. The major effector molecules involved in type IV hypersensitivity reactions are
- A. Antibodies.
 - B. Complement components
 - C. Prostaglandins.
 - D. Cytokines
41. Which of the following is the site for T cell maturation?
- A. Bone marrow
 - B. Tonsils
 - C. Thymus
 - D. Spleen
42. Which of the following statements is true of blood donors?
- A. Relatives of the recipient are preferred
 - B. Males are preferred to females
 - C. Must be negative for antibodies to human immunodeficiency virus (HIV) I and II
 - D. Must be negative for antibodies to cytomegalovirus (CMV)
42. Which blood product is administered to a patient suffering from Hemophilia A?
- A. Fresh frozen plasma
 - B. Factor IX concentrate
 - C. Factor VIII concentrate
 - D. Plasma volume expanders
43. A patient is to undergo for Bone marrow transplant and a family member requests to understand the meaning of allogeneic transplant. What is the correct response?
- A. Replacing healthy stem cells with diseased cells, from one's own body
 - B. Replacing healthy stem cells from a donor to a recipient
 - C. Treatment for Von willebrand disease
 - D. Replacing platelets from a donar
44. The important role of corticosteroids in patients with Bone marrow transplant is
- A. Reduction of White blood cells
 - B. Prevent graft versus host disease
 - C. Increase production of Red blood cells
 - D. Prevent allergic reactions

45. A patient experiences thrombocytopenia. The nurse should monitor the patient for which major complication
- A. Weakness
 - B. Fatigue
 - C. Abdominal pain
 - D. Hemorrhage
46. The nurse is reviewing several lab reports. Which report is consistent with a diagnosis of thrombocytopenia?
- A. Platelets below 1000,000 per microliter
 - B. Platelets below 20,000 per microliter
 - C. Haemoglobin 16 gm/dl
 - D. Haemoglobin 13 gm/dl
47. Which lab result would the nurse expect in a patient diagnosed with DIC?
- A. A decreased prothrombin time (PT)
 - B. An increased platelet count
 - C. A low level of fibrinogen
 - D. An increased white blood cell count
48. The client with hemophilia A is experiencing hemarthrosis. Which intervention should the nurse recommend to the client?
- A. Alternate aspirin and acetaminophen to help with the pain.
 - B. Apply cold packs for 24 to 48 hours to the affected area.
 - C. Perform active range-of-motion exercise on the extremity.
 - D. Put the affected extremity in the dependent position.
49. A patient was brought to the Emergency and diagnosed as severe sepsis Identify the typical clinical manifestations of Systemic inflammatory response syndrome (SIRS)
- A. Hypertension, hypothermia and chills
 - B. Hyperthermia, Tachypnoea, Tachycardia
 - C. Hypothermia, Bradycardia, dysnoea
 - D. Kussmaul breathing, tachypnea, bradynoea
50. Which statement below BEST describes how Heparin works as an anticoagulant?
- A. "It inhibits the synthesis of vitamin K in the liver."
 - B. It binds to prothrombin and reverses the clotting process
 - C. It potentiates the inhibitory effect of factor x and thrombin
 - D. It potentiates aggregation of platelets

SECTION II: SHORT ANSWER QUESTIONS

(20 MARKS)

1. Mr. Q is admitted in the Intensive Care Unit (ICU) and has been diagnosed with acute gastrointestinal bleed.
 - a. Outline five (5) clinical presentations of acute GI bleed (5 marks)
 - b. Outline five (5) possible nursing diagnosis for this patient. (5 marks)
 - c. Describe the specific management of a patient with acute GI bleed (10Marks).

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