



**AMREF INTERNATIONAL UNIVERSITY
SCHOOL OF MEDICAL SCIENCES
DEPARTMENT OF NURSING & MIDWIFERY SCIENCES
END OF SEMESTER DECEMBER 2023 EXAMINATIONS
HIGHER DIPLOMA IN CRITICAL CARE NURSING**

**COURSE CODE AND TITLE: ACN 129 COMPLEMENTARY CONCEPTS IN
CRITICAL CARE NURSING**

DATE: 14TH DECEMBER 2023

Duration: 2 HOURS

Start: 11:15 AM

Finish: 1:15 PM

INSTRUCTIONS

1. This exam is out of 100 marks
2. This Examination comprises TWO Sections. SECTION I: Multiple Choice Questions (60 marks) and Section II: Short Answer Questions (40 marks)
3. Answer ALL Questions.
4. Do Not write anything on the question paper -use the back of your booklet for rough work if need be.

SECTION I: MULTIPLE CHOICE QUESTIONS**(60 MARKS)**

1. The following statements best defines status asthmaticus;
 - A. Acute allergic lung condition unresponsive to initial bronchodilator therapy
 - B. Chronic obstructive pulmonary disease
 - C. Severe airway obstruction unresponsive to treatment with bronchodilators
 - D. Acute respiratory failure characterized by wheezing and dyspnea

2. Mr. X is brought to emergency department with history of motor vehicle crash and sustained injuries to chest, on assessment, he is noted to have difficulty in breathing and paradoxical chest movement on left side of the chest. the following best describes his injury: -
 - A. Blunt chest trauma
 - B. Tension pneumothorax
 - C. Rib fractures
 - D. Flail chest

3. The type of shock associated with spinal cord injury is referred to as;
 - A. Distributive shock
 - B. Neurogenic shock
 - C. Cardiogenic shock
 - D. Hypovolemic shock

4. The following is true about HELLP syndrome;
 - A. It is manifested from 16 weeks gestation
 - B. It is characterized by high platelets
 - C. It presents with epigastric pain
 - D. It persists even after delivery

5. Mr. Y, a 25-year-old gentleman is brought to emergency department with acute respiratory distress, on assessment he has a laceration on left chest wall and decreased air entry on left lung fields with tracheal shifted to right side. The most probable diagnosis is: -
 - A. Open pneumothorax
 - B. Flail chest
 - C. Tension pneumothorax
 - D. Subcutaneous emphysema

6. When responding to evacuate burnt victims, the initial intervention is: -
 - A. Stop burning process
 - B. Assess the situation and verify scene safety
 - C. Administer intravenous fluids
 - D. Call for more responders

7. A critical care nurse is anticipating an admission of a patient with septic shock, the critical indicators most likely confirm septic shock are: -

- A. SBP < 90 mmHg, fever and PaO₂ >60mmHg
- B. Heart rate >100b/m, Paco₂ >35mmHg and Lactate level of 1.8mmol/l
- C. Temperature <35.5°C, RR >20b/m and normal neurologic status
- D. WBC >12,000/mm³, oliguria and lactate level of \geq 4mmol/l;

8. When nursing Mrs.Y, a 35-year-old female with coma, the appropriate target for cerebral perfusion pressure to optimize cerebral perfusion is: -

- A. 40-65mmHg
- B. 70-80mmHg
- C. 65-105mmHg
- D. Above 65mmHg

9. The priority intervention for a victim rescued from drowning incident includes;

- A. Wipe the victim and keep warm
- B. Support breathing and ventilation
- C. Aspirate the water to clear airway and monitor
- D. Lay victim on dry area and activate emergency response team

10. The goal of management for a 22-year old university student at 26 weeks gestation with eclampsia includes;

- A. Control hypertension and admit for close monitoring
- B. Perform obstetric scan to verify fetal viability and start dexamethasone
- C. Control hypertension, start magnesium sulphate and monitor closely
- D. Control hypertension, start magnesium sulphate and deliver the fetus immediately

11. The priority interventions in management of severe sepsis include:

- A. Antibiotics and fluid therapy
- B. Antibiotic therapy and inotropes
- C. Colloid fluids and antibiotics
- D. Crystalloid fluids and inotropes

12. Choose the correct sequence of actions when approaching a trauma victim;

- A. Airway breathing circulation, control of haemorrhage
- B. Circulation- airway-breathing- control of haemorrhage
- C. Control of haemorrhage-airway-breathing-circulation
- D. Airway-c-spine stabilization-breathing – circulation-control haemorrhage

13. The most appropriate intervention for a victim of tension pneumothorax include;
- A. Chest X-Ray
 - B. Oxygenation and ventilation
 - C. Needle decompression
 - D. Expert consultation
14. The cardinal features of disseminated intravascular coagulation include;
- A. Prolonged clotting time and normal partial thromboplastin time
 - B. Excessive bleeding and delayed clotting time
 - C. Prolonged clotting time and adequate fibrin degradation factors
 - D. Normal clotting time and depletion of fibrinogen
15. Mr. Y. a chef in a local restaurant sustained facial and neck burns following oven gas explosion, the priority in his management is: -
- A. IV/IO access and infuse fluids
 - B. Oxygenation and ventilation
 - C. Airway patency and adequate ventilation
 - D. Pain control and wound care
16. The following are components of primary assessment except;
- A. Airway status
 - B. Respiratory rate and rhythm
 - C. Pulse rate and volume
 - D. GCS
17. Mrs. G. a 45-year-old female, weighing 72kgs sustained 40% partial thickness burns, calculate fluid replacement for 1-24 hours;
- A. 10520mls
 - B. 11520l
 - C. 5760mls
 - D. 11520mls
18. The priority intervention for a victim of open pneumothorax include;
- A. Close the wound immediately at end of expiration, with sterile occlusive dressing
 - B. Insert Chest tube and under water seal drainage (UWSD)
 - C. Surgical suturing and dressing of the wound
 - D. Close the wound immediately at end of inspiration, with sterile occlusive dressing
19. Mrs. T. is brought to ED with history of fall, on assessment she is noted to have Grey-Turner sign at umbilical region, the injury most likely sustained is: -
- A. Blunt abdominal injury
 - B. Retroperitoneal haemorrhage
 - C. Rupture of diaphragm
 - D. Rupture of spleen

20. The type of shock associated with closed fractures is: -
- A. Cardiogenic shock
 - B. Hypovolemic shock
 - C. Distributive shock
 - D. Neurogenic shock
21. The intensity of pain is experienced in the component of:
- A. Affective
 - B. Behavioural
 - C. Sensory
 - D. Cognitive
22. In a counselling process, the counsellor helps the patient to determine and consider different options to solve the problem. This is an illustration counselling process stage of:
- A. Understanding
 - B. Action
 - C. Exploration
 - D. Problem solving stage
23. The following is the most reliable indicator of pain;
- A. Patients self-report
 - B. Results of physical examination
 - C. Results of functional assessment
 - D. Results of multidimensional assessment
24. The most common contributor to sleep disturbances in patient at the end of life is;
- A. Dyspnea
 - B. Uncontrolled pain
 - C. Hot flushes
 - D. Nocturnal hypoxia
25. The following is TRUE regarding anxiety at the end of life;
- A. Non-pharmacologic approaches are not essential for managing anxiety
 - B. Anxiety manifestation is not associated with depression
 - C. Pharmacologic approaches induce progression of anxiety
 - D. Persistent anxiety hinders the quality of life

26. Confusion in palliative care is managed by;
- A. Locking the patient away from people
 - B. Using physical restraints to prevent patient from falling
 - C. Avoid treating the agitation to prevent respiratory distress
 - D. Re-orientating the patient
27. In the physiology of pain, the nociceptor- C-Fibres transmit:
- a. Localized and aching pain
 - b. Dull and aching pain
 - c. Cutting and dull pain
 - d. Crushing and aching pain
28. The following is TRUE regarding the interdisciplinary healthcare team involved in palliative care;
- a. Team diversity in ideas is inconsequential
 - b. Palliative care teams can be emotionally drained and require support
 - c. The patients primary care physician is the only vital member of the team
 - d. Auditing and monitoring the team process rarely helps
29. The recommended protocol for preventing constipation in palliative patients receiving opioid is;
- a. Enemas
 - b. Increased fluids and exercises
 - c. Using bowel stimulants
 - d. Adding bulk fiber to the diet
30. The following is true about end-of-life care;
- a. It is an aspect of palliative care
 - b. It is influenced by the supportive family
 - c. It is defined by a specific time period
 - d. It does not include a focus on the family

31. A patient has a prognosis of less than 6 months to live. The family is refusing the patient to be informed about his prognosis. The most appropriate action is to;
- Recognize the ethical principle of autonomy and tell the patient his prognosis.
 - Conduct a patient and family conference to explore the patient's preferences.
 - Consult a social worker to help the family come to terms with sharing the news with the patient.
 - Encourage the nursing staff to honor the family's wishes not to tell the patient his prognosis
32. If the husband of a patient is concerned that his wife will become addicted because she requires an increased dosage of morphine, the nurse should explain that
- The increased morphine indicates death is approaching.
 - The doctor should be contacted to discuss a medication change.
 - Addiction is unavoidable, but not harmful for the terminal patient.
 - Increased dosage is related to tolerance or disease progression not addiction.
33. The following statement is true concerning breaking bad news:
- The children should be protected from bad news
 - Miscommunication is often intentional
 - Review what the family/ patient already know
 - Expression of feelings is discouraged
34. The following statement is true concerning psychosocial problems in children;
- Children often are not affected by social issues
 - Children with psychological experiences do not cause social problems
 - Children caring for their parents may end up with psychosocial problems
 - Chronic illness in the family rarely affect children psychosocial states
35. The following is true about chronic pain;
- Takes a duration of 30 days or less
 - Can happen if acute pain is poorly managed
 - Chronic pain is not offensive
 - Chronic pain not easily diagnosed

36. The following is the most appropriate measure for managing “death Rattle”;
- Positioning the patient maximizes postural drainage
 - Suctioning the patient will provide comfort
 - Death rattle is due to poor care and is unexpected
 - Use of antimuscarinic agents is dangerous
37. Mrs NMO presents with withdrawal, self-neglect and sleep disturbance in the background of HIV and AIDS. These are classical presentation of:
- Cognitive psychosocial problems
 - Social psychosocial problems
 - Behavioural psychosocial problems
 - Emotional psychosocial problems
38. The following statement describes the spiritual needs of the patients at the end of life;
- Spiritual care is well-defined for all patients
 - Spirituality is considered one and the same thing as religion
 - Spirituality has a strong protective effect against end-of-life distress
 - Spirituality is completely removed from culture
39. The following are the most frequent source of situational anxiety in a patient with a life-threatening illness;
- Phobias or panic disorders.
 - Functional decline and imminent death.
 - Concerns about pain, isolation, shortness of breath or dependence.
 - Thoughts of the future or a wasted past.
40. Peripheral neuralgia is;
- Somatic pain
 - Visceral pain
 - Neuropathic pain
 - Chronic pain
41. The patient most likely to develop Acute tubular necrosis (ATN) is:
- Patient with diabetes mellitus
 - Patient with hypertensive crisis
 - Patient who tried to overdose on acetaminophen
 - Patient with major surgery who required a blood transfusion

42. The indication that a patient with oliguria has pre-renal oliguria is:
- A. Urine testing reveals a low specific gravity.
 - B. Causative factor is malignant hypertension.
 - C. Urine testing reveals a high sodium concentration.
 - D. Reversal of oliguria occurs with fluid replacement.
43. The primary site of action of thiazide diuretics is:
- A. Proximal tubule
 - B. Ascending limb of loop of Henle
 - C. Cortical diluting segment
 - D. Collecting ducts
44. Long-term thiazide therapy can cause hyperglycaemia by:
- A. Reducing insulin release
 - B. Interfering with glucose utilization in tissues
 - C. Increasing sympathetic activity
 - D. Increasing corticosteroid secretion
45. The characteristics seen with acute transplant rejection is;
- A. Treatment is supportive
 - B. Only occurs with transplanted kidneys
 - C. Organ must be removed when it occurs
 - D. Long-term use of immunosuppressants necessary to combat the rejection
46. The patient is experiencing fibrosis and glomerulopathy a year after a kidney transplant. The type of rejection is occurring is;
- A. Acute
 - B. Delayed
 - C. Chronic
 - D. Hyperacute
47. The most common immunosuppressive agents used to prevent rejection of transplanted organs is;
- A. Cyclosporine, sirolimus, and muromonab-CD3
 - B. Prednisone, polyclonal antibodies, and cyclosporine
 - C. Azathioprine, mycophenolate mofetil, and sirolimus
 - D. Tacrolimus, prednisone, and mycophenolate mofetil
48. Peritoneal dialysis (PD) differs from hemodialysis in one of the following ways;
- A. PD requires both vascular access and abdominal access
 - B. PD cannot be done at home
 - C. PD access is by an intra-abdominal catheter
 - D. Sterile dialysate is not required for PD
49. The classical model of peritoneal dialysis is:
- A. 2 Pore model
 - B. 3 Pore model
 - C. 4 Pore model
 - D. 5 Pore model

50. A client has just been admitted to the nursing unit following thyroidectomy. Which assessment is the priority for this client?
- Hypoglycemia
 - Level of hoarseness
 - Respiratory distress and airway patency.
 - Edema at the surgical site
51. As a precaution for vocal cord paralysis from damage to the recurrent laryngeal nerve during thyroidectomy surgery, what equipment should be in the room in case it is needed for this emergency situation?
- Tracheostomy tray
 - IV calcium gluconate
 - Oxygen equipment
 - Paper and pencil for communication
52. A patient with SIADH is treated with water restriction. What does the patient experience when the nurse determines that treatment has been effective?
- Increased urine output, decreased serum sodium, and increased urine specific gravity
 - Increased urine output, increased serum sodium, and decreased urine specific gravity
 - Decreased urine output, increased serum sodium, and decreased urine specific gravity
 - Decreased urine output, decreased serum sodium, and increased urine specific gravity
53. A patient with Addison's Disease is being discharged home on Prednisone. Which of the following statements by the patient warrants you to re-educate the patient?
- will notify the doctor if I become sick or experience extra stress."
 - "I will take this medication as needed when symptoms present."
 - "I will take this medication at the same time every day."
 - "My daughter has bought me a Medic-Alert bracelet."
54. A patient is admitted to the ER. The patient is unconscious on arrival. However, the patient's family is with the patient and reports that before the patient became unconscious she was complaining of severe pain in the abdomen, legs, and back, and has been experiencing worsening confusion. In addition, they also report the patient has not been taking any medications. The patient was recently discharged from the hospital for treatment of low cortisol and aldosterone levels. On assessment, you note the patient's blood pressure is 70/45. What disorder is this patient most likely experiencing?
- Addisonian Crisis
 - Cushing Syndrome
 - Thyroid crisis
 - Hashimoto thyroiditis

55. In the scenario above in number 4, what medication do you expect the patient to be started on?
- a) IV hydrocortison
 - b) PO Prednisone
 - c) PO Declomycin
 - d) IV Insulin
56. In Diabetic ketoacidosis, the lack of insulin causes increased production of ketone bodies. Which of the following laboratory results are likely seen in diabetic ketoacidosis?
- a) Decreased arterial blood pH, increased blood glucose, decreased bicarbonate ion concentration
 - b) Decreased arterial blood pH, increased blood glucose, decreased anion gap
 - c) Increased arterial blood pH, increased blood glucose, decreased bicarbonate ion concentration
 - d) increased blood glucose, decreased bicarbonate ion concentration
57. Metformin is an oral hypoglycemic medication that is commonly used to treat type 2 diabetes mellitus. It works by;
- a) Decreases hepatic glucose production
 - b) It inhibits gluconeogenesis
 - c) Improves insulin sensitivity
 - d) Decreases intestinal glucose absorption
58. Sulphonylureas increase insulin secretion by beta cells. Sulphonylureas acts by binding sulphonylurea receptor and inhibiting.....
- a) ATP-dependent K⁺ channel
 - b) Voltage-gated calcium channel
 - c) GLUT-2
 - d) None of the above
59. True or False: Osmotic diuresis is present in HHNS and DKA due to the kidney's inability to reabsorb the excessive glucose which causes glucose to leak into the urine which in turn causes extra water and electrolytes to be excreted.
- A. True
 - B. False
60. Hemorrhage is a potential complication after thyroid surgery, which of the following will not be a sign that indicate bleeding post thyroidectomy procedure?
- a) Tachycardia and hypotension,
 - b) frequent swallowing, choking.
 - c) feelings of fullness at the incision site,
 - d) Hoarse voice and acute airway obstruction.

SECTION B: SHORT ANSWER QUESTIONS

40 MARKS

1. Outline four principles of palliative care (4Marks)
2. State five (5) ethical principles that are upheld in palliative care (5marks)
3. State 5 signs and symptoms of organophosphate poisoning (5 marks)
4. State 5 types of fractures (5 marks)
5. State six (6) ways used to minimize kidney damage while using drugs (6 marks)
6. State four (4) infection control measures you would institute in a renal unit (4 marks)
7. Outline five (5) classical clinical presentations of DKA (5 marks)
8. Briefly state the pathophysiology syndrome of inappropriate antidiuretic hormone (SIADH) (6marks)

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