



**AMREF INTERNATIONAL UNIVERSITY
SCHOOL OF MEDICAL SCIENCES
DEPARTMENT OF NURSING & MIDWIFERY SCIENCES
END OF SEMESTER AUGUST EXAMINATIONS**

COURSE CODE AND TITLE: ACN 129; Complementary Concepts in Critical Care Nursing

DATE: 3RD AUGUST 2026

Duration: 2 HOURS

Start: 9:00 AM

Finish: 11:00 AM

INSTRUCTIONS

1. This exam is out of 70 marks
2. This Examination comprises THREE Sections. Section I: Multiple Choice Questions (20 marks) Section II: Short Answer Questions (30 marks) and Section III: Long Answer Questions (20 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.

1. The primary stimulus for secretion of insulin is:
 - A. Low blood glucose
 - B. Elevated blood glucose
 - C. Low serum potassium
 - D. Increased cortisol levels only
2. Negative feedback regulation in the endocrine system is best illustrated by:
 - A. Increased cortisol stimulating ACTH secretion
 - B. Increased thyroxine suppressing TSH release
 - C. Increased insulin increasing glucagon secretion
 - D. Increased ADH increasing plasma osmolality
3. A patient in the ICU presents with blood glucose of 38 mmol/L, serum osmolality of 340 mOsm/kg, minimal ketones, and severe dehydration. The most likely diagnosis is:
 - A. Hypoglycaemia
 - B. Diabetic ketoacidosis
 - C. Hyperosmolar hyperglycaemic state
 - D. Addisonian crisis
4. Which of the following nursing diagnosis is most appropriate for a patient with thyroid storm?
 - A. Impaired urinary elimination related osmotic diuresis
 - B. Hyperthermia related to increased metabolic rate
 - C. Risk for constipation
 - D. Chronic low self-esteem
5. A patient with myxoedema coma is likely to have:
 - A. Increased metabolic rate
 - B. Decreased metabolic rate
 - C. Severe hyperactivity
 - D. Increased heat production
6. A patient with SIADH is most likely to present with:
 - A. Polyuria and dehydration
 - B. Weight gain and low serum sodium
 - C. Severe hyperglycaemia
 - D. Bradycardia and hypothermia only
7. The first-line treatment for mild SIADH usually includes:
 - A. Fluid administration
 - B. Fluid restriction

- C. High glucose intake
 - D. Potassium restriction only
8. A patient with adrenal insufficiency is most likely to present with:
- A. Severe tachycardia and fever
 - B. Hypotension and fatigue
 - C. Polyuria and polydipsia only
 - D. Exophthalmos
9. A patient is admitted to the ICU with severe sepsis and has a history of chronic corticosteroid use. Which assessment finding would most strongly support coexisting Cushing syndrome?
- A. Weight loss and hyperpigmentation
 - B. Hypoglycaemia and bradycardia
 - C. Truncal obesity with thin extremities
 - D. Polyuria with hypernatraemia
10. Which nursing intervention is the highest priority for a patient with severe Cushing syndrome receiving mechanical ventilation in the ICU?
- A. Restricting protein intake
 - B. Monitoring for infection
 - C. Encouraging passive physical exercise
 - D. Maintaining strict fluid restriction
11. The mechanism which best explains the glucose-lowering effect of Insulin?
- A. Inhibition of glucagon secretion only
 - B. Increased peripheral uptake of glucose into cells
 - C. Increased hepatic glucose production
 - D. Reduced glycogen synthesis
12. The pharmacologic action of propylthiouracil in a patient with thyroid storm is:
- A. Increases TSH secretion
 - B. Blocks peripheral conversion of T₄ to T₃
 - C. Stimulates catecholamine release
 - D. Enhances iodine uptake only
13. The primary pharmacologic action of desmopressin is:
- A. Increase glucose excretion
 - B. Promote water reabsorption in kidneys
 - C. Suppress cortisol secretion
 - D. Block aldosterone activity
14. A critically ill patient with severe hypoglycaemia develops generalized seizures. Which intervention should the nurse prioritize immediately after airway stabilization?
- A. Administration of IV dextrose
 - B. Initiation of fluid restriction
 - C. Administration of potassium chloride
 - D. Obtaining a 12-lead ECG first

15. The laboratory finding which strongly differentiates Hyperosmolar Hyperglycaemic state (HHS) from Diabetic Ketoacidosis (DKA)?
- Hyperglycaemia
 - Elevated serum osmolality with minimal ketosis
 - Dehydration
 - Electrolyte imbalance
16. The physiologic response during severe infection in a patient that contributes to precipitation of thyroid storm is:
- Reduced metabolic activity and decreased oxygen consumption
 - Increased catecholamine release and hypermetabolic stress
 - Decreased oxygen consumption
 - Suppression of inflammatory mediators
17. A patient with thyroid storm is admitted to the ICU with severe agitation, hyperthermia, and atrial fibrillation. What is the immediate priority in management?
- Administration of iodine solution
 - Stabilization of airway, breathing, and circulation
 - Initiation of oral antithyroid therapy only
 - Restriction of IV fluids
18. Which sequence of medication administration is most appropriate in thyroid storm?
- Iodine before antithyroid drugs
 - Antithyroid drugs before iodine therapy
 - Corticosteroids before airway stabilization
 - Beta blockers after complete recovery
19. A critically ill patient with SIADH becomes increasingly lethargic and develops seizures. Which mechanism most directly contributes to the neurological deterioration?
- Cerebral dehydration
 - Cerebral edema secondary to hyponatraemia
 - Hypercalcaemic neuronal dysfunction
 - Reduced catecholamine release
20. Which statement best explains the high neurologic risk associated with acute SIADH?
- Acute hyponatraemia causes rapid water movement into brain cells
 - ADH directly destroys neurons
 - Hypernatraemia causes neuronal shrinkage
 - Sodium retention causes cerebral vasoconstriction
21. The most common precipitating factor of adrenal crisis in hospitalized patients is:
- Abrupt corticosteroid withdrawal
 - Hypercalcaemia
 - Excess iodine intake
 - Hyperventilation
22. Why is isotonic saline a critical component of adrenal crisis management?
- To stimulate cortisol synthesis
 - To correct hypovolaemia and sodium depletion
 - To induce osmotic diuresis
 - To suppress ACTH secretion
23. **The most important initial treatment in the management of a patient with Diabetic ketoacidosis is:**

- A. Insulin therapy
 - B. IV fluids
 - C. Potassium supplementation
 - D. Sodium bicarbonate
24. A patient with Diabetic Ketoacidosis has deep rapid respirations. These respirations are primarily a compensatory response to:
- A. Metabolic alkalosis
 - B. Respiratory acidosis
 - C. Metabolic acidosis
 - D. Hyperosmolality
25. Which finding is more characteristic of Hyperosmolar Hyperglycaemic State than DKA?
- A. Severe dehydration with minimal ketosis
 - B. Kussmaul respirations
 - C. Fruity acetone breath
 - D. Severe metabolic acidosis
26. A patient with thyroid storm is receiving cooling measures. Which physiologic abnormality is being primarily addressed?
- A. Reduced basal metabolic rate
 - B. Hypermetabolism
 - C. Impaired vasoconstriction only
 - D. Decreased oxygen demand
27. A patient with Myxedema Coma is most likely to demonstrate which respiratory abnormality?
- A. Hyperventilation
 - B. Respiratory alkalosis
 - C. Hypoventilation with CO₂ retention
 - D. Bronchospasm only
28. The clinical feature which most strongly suggests adrenal crisis rather than septic shock alone is:
- A. Fever and hypotension
 - B. Persistent hypoglycaemia and hyperkalaemia
 - C. Tachycardia and dehydration
 - D. Elevated white blood cell count
29. Which electrolyte imbalance is most commonly associated with adrenal crisis?
- A. Hypernatraemia
 - B. Hypocalcaemia
 - C. Hyperkalaemia
 - D. Hypermagnesaemia
30. A patient with thyroid storm remains tachycardic despite antithyroid therapy. Which medication is most appropriate for rapid symptom control?
- A. Levothyroxine
 - B. Propranolol
 - C. Desmopressin
 - D. Hydrocortisone
31. The assessment finding which most strongly differentiates myxedema coma from thyroid storm is:
- A. Altered mental status
 - B. Cardiovascular instability

- C. Hypothermia with bradycardia
 - D. Gastrointestinal symptoms
32. A patient with SIADH develops worsening confusion. Which mechanism is primarily responsible?
- A. Neuronal dehydration
 - B. Cerebral edema from dilutional hyponatraemia
 - C. Hyperglycaemia-induced osmotic shifts
 - D. Reduced cerebral blood flow only
33. Which finding is most expected in severe Cushing syndrome?
- A. Weight loss and hyperpigmentation
 - B. Hypotension and bradycardia
 - C. Central obesity and moon face
 - D. Severe dehydration and polyuria
34. A patient in adrenal crisis is receiving IV hydrocortisone. Which physiologic effect is expected?
- A. Reduced vascular responsiveness
 - B. Improved glucose regulation
 - C. Increased sodium excretion
 - D. Suppression of gluconeogenesis
35. The acid–base imbalance which is most characteristic of DKA is:
- A. Respiratory alkalosis
 - B. Metabolic alkalosis
 - C. Metabolic acidosis with increased anion gap
 - D. Respiratory acidosis only
36. The common complication in thyroid storm is:
- A. Severe hypothermia
 - B. Cardiovascular collapse
 - C. Hypercalcaemia
 - D. Reduced metabolic activity
37. A patient with myxedema coma receives rapid active external warming and develops hypotension. The mechanism which best explains this deterioration is:
- A. Excess catecholamine release
 - B. Peripheral vasodilation causing cardiovascular collapse
 - C. Increased thyroid hormone release
 - D. Acute adrenal hyperfunction
38. Which finding most strongly supports diagnosis of SIADH rather than diabetes insipidus?
- A. Hyponatraemia
 - B. Polyuria
 - C. Concentrated urine with low serum osmolality
 - D. Excessive thirst with dilute urine
39. A patient with DKA and severe vomiting has serum potassium of 5.8 mmol/L before treatment. Which interpretation is most accurate?
- A. Total body potassium stores are increased
 - B. Potassium replacement is permanently contraindicated
 - C. Total body potassium may still be depleted despite elevated serum potassium
 - D. Hyperkalaemia excludes DKA diagnosis
40. Which laboratory finding is most suggestive of SIADH?
- A. Serum sodium 118 mmol/L with concentrated urine

- B. Serum sodium 155 mmol/L with dilute urine
 - C. Elevated serum osmolality with dehydration
 - D. Hyperglycaemia with ketonuria
41. A patient with adrenal crisis remains hypotensive despite aggressive fluid replacement. Which medication is most urgently required?
- A. Hydrocortisone
 - B. Methimazole
 - C. Desmopressin
 - D. Insulin
42. Which factor contributes most to the high mortality of HHS?
- A. Severe ketoacidosis
 - B. Delayed diagnosis and profound dehydration
 - C. Excess insulin production
 - D. Reduced serum osmolality
43. A diabetic ICU patient becomes suddenly confused, diaphoretic, and tachycardic during insulin infusion. What is the priority nursing action?
- A. Administer corticosteroids
 - B. Administer fluids immediately
 - C. Check bedside blood glucose immediately
 - D. Administer potassium chloride immediately
44. The part of the nephron responsible for the reabsorption of the majority of water, electrolytes, and all organic nutrients (like glucose) is:
- A. Loop of Henle
 - B. Proximal Convolute Tubule (PCT)
 - C. Distal Convolute Tubule (DCT)
 - D. Collecting Duct
45. The primary driving force that pushes water and small solutes out of the blood and into Bowman's capsule is:
- A. Oncotic pressure of the blood
 - B. Capsular hydrostatic pressure
 - C. Glomerular hydrostatic blood pressure
 - D. Renin-angiotensin-aldosterone mechanism
46. The hormone responsible for water absorption in the kidney is:
- A. Aldosterone
 - B. Antidiuretic hormone
 - C. Erythropoietin
 - D. Atrial natriuretic peptide
47. The lack of this hormone leads to extreme fatigue and pallor in patient with CKD:
- A. Calcitriol
 - B. Renin
 - C. Erythropoietin
 - D. Parathyroid hormone
48. A major goal while taking care of a client post kidney transplant is that the patient:
- A. Remain afebrile and have negative cultures
 - B. Resume normal fluid intake within 2 to 3 days
 - C. Resume the patient's normal job within 2 to 3 weeks

- D. Try to discontinue cyclosporine (Neoral) as quickly as possible
49. The symptoms of kidney rejection are:
- A. Pain in the incision, general malaise, and hypotension
 - B. Pain in the incision, general malaise, and depression
 - C. Fever, weight gain, and diminished urine output
 - D. Diminished urine output and hypotension
50. The most common early sign of kidney diseases is:
- A. Sodium retention
 - B. Elevated BUN
 - C. Development of metabolic acidosis
 - D. Inability to dilute urine
51. In the second phase of acute kidney injury:
- A. Daily doubling of urine output
 - B. Urine output less than 400ml/day
 - C. Urine output less than 100ml/day
 - D. Stabilization of urine function
52. The intervention which is effective to relieve muscle cramps for a patient during a haemodialysis session is:
- A. Increase the rate of dialysis
 - B. Infuse normal saline solution
 - C. Administer 5% dextrose solution
 - D. Encourage active range of motion exercises
53. You are in the CCU caring for a client who just underwent abdominal aneurysm repair. The signs that may indicate the patient is developing AKI is:
- A. Dysuria, frequency and urgency
 - B. Back pain, nausea and vomiting
 - C. Hypertension and oliguria
 - D. Fever and chills
54. The best way to assess the patency of arteriovenous fistula is:
- A. Pinch the fistula and note the speed of filling
 - B. Palpate the fistula for a bruit
 - C. Check the capillary refill in that limb
 - D. Palpate the fistula for a thrill
55. The main features of glomerulonephritis are:
- A. Chills and flank pains
 - B. Oliguria and generalised oedema
 - C. Haematuria and proteinuria
 - D. Dysuria and hypotension
56. The best diet for a diabetic patient in between the dialysis treatment is:
- A. Low protein diet with unlimited amounts of water
 - B. Low protein diet with a prescribed amount of water
 - C. No protein in the diet and use a salt substitute
 - D. No restrictions
57. The lab value that would be abnormal in a client with acute kidney injury following severe dehydration is:
- A. Decreased serum creatinine

- B. Increased blood urea nitrogen
 - C. Decreased potassium
 - D. Increased glomerular filtration rate
58. The dietary restriction that is recommended for a patient with chronic kidney disease is:
- A. Increased protein intake
 - B. Limited sodium intake
 - C. Increased potassium intake
 - D. Limit calcium intake
59. A patient on haemodialysis is at risk of:
- A. Hypercalcemia
 - B. Hypotension
 - C. Hyperglycaemia
 - D. Hypocalcaemia
60. A common complication of polycystic kidney disease is:
- A. Hypotension
 - B. Liver cysts
 - C. Hyperglycaemia
 - D. Hypocalcaemia
61. Patients with chronic kidney disease are at risk of anaemia because of:
- A. Increased erythropoietin production
 - B. Decreased erythropoietin production
 - C. Increased red blood cell span
 - D. Decreased red blood cell destruction
62. The parameter that must be monitored daily for a client with nephrotic syndrome is:
- A. Albumin levels
 - B. Weight
 - C. Activity tolerance
 - D. Blood urea nitrogen
63. You're caring for a client with renal disease. The potassium levels are 6.0 meq/l. the priority action is:
- A. Check the sodium level
 - B. Place the patient on a cardiac monitor
 - C. Encourage increased sodium intake
 - D. Allow an extra 500 ml of fluid
64. Antihypertensive agents for a client on haemodialysis are given:
- A. During dialysis
 - B. Just before dialysis
 - C. The day after dialysis
 - D. On return from dialysis
65. The correct flow of filtrate through the nephron is:
- A. Bowman's Capsule, glomerulus, proximal convoluted duct, loop of Henle, distal convoluted duct, collecting ducts
 - B. Glomerulus, Bowman's Capsule, distal convoluted duct, proximal convoluted duct, loop of Henle, collecting ducts
 - C. Glomerulus, Bowman's Capsule, proximal convoluted duct, loop of Henle, distal convoluted duct, collecting ducts

- D. Glomerulus, Bowman's Capsule, distal convoluted duct, loop of Henle, proximal convoluted duct, collecting ducts
66. The process where water and solutes are removed from the filtrate and enter back to the circulation via the peritubular capillaries is:
- A. Tubular reabsorption
 - B. Renal secretion
 - C. Renal reabsorption
 - D. Tubular secretion
67. The structure that takes blood flow to the glomerulus is known as:
- A. Efferent arteriole
 - B. Renal vein
 - C. Peritubular capillaries
 - D. Afferent arteriole
68. The primary function of the Bowman's capsule is:
- A. Collecting urine
 - B. Concentrating urine
 - C. Filtration
 - D. Secretion
69. The total volume of the filtrate produced by both kidneys per minute in a healthy adult is:
- A. 180ml/minute
 - B. 125ml/minute
 - C. 120ml/minute
 - D. 225 ml/minute
70. The most common complication of peritoneal dialysis is peritonitis which presents as:
- A. Clear, straw coloured return dialysate
 - B. Cloudy or opaque dialysate return
 - C. Weight loss of 2 kgs since the last dialysis
 - D. Active, audible bowel sounds
71. A critically ill client in the ICU is undergoing Continuous Renal Replacement Therapy (CRRT) for acute kidney injury. The nurse understands that the primary purpose of infusing heparin during this therapy is to:
- A. Prevent blood clots from forming inside the extracorporeal circuit.
 - B. Treat underlying systemic bleeding disorders.
 - C. Lower the client's blood pressure safely.
 - D. Enhance the filtering of waste products.
72. The correct sequence of urinary flow through the kidney towards the urinary bladder is:
- A. Renal pelvis, major calyx, minor calyx, papillary duct, ureter.
 - B. Papillary duct, minor calyx, major calyx, renal pelvis, ureter.
 - C. Minor calyx, major calyx, papillary duct, renal pelvis, ureter.
 - D. Papillary duct, major calyx, minor calyx, ureter, renal pelvis.
73. The fibrous connective tissue that surrounds each kidney is:
- A. Cortex
 - B. Medulla
 - C. Renal capsule
 - D. Renal pyramids

74. A patient with acute tubular necrosis (ATN) enters the diuretic phase of acute kidney injury. The assessment findings the nurse most concerned with monitoring is:
- A. Severe hypertension
 - B. Fluid volume deficit and electrolyte imbalances
 - C. Sudden rise in serum potassium
 - D. Sudden drop in urine output
75. An inappropriate nursing action in administering peritoneal dialysis to a patient would be:
- A. Warming the dialysate before administration.
 - B. Checking to see if the volume of dialysate return exceeds the volume infused.
 - C. Monitoring vital sign changes.
 - D. Making sure there is cross ventilation in the room.
76. When caring for a patient with acute kidney injury and a temporary subclavian hemodialysis catheter, the assessment finding does the nurse report to the provider is:
- A. Mild discomfort at the insertion site
 - B. Temperature 38.5° C
 - C. 1+ ankle edema
 - D. Anorexia
77. The expected side effect of cyclosporine for a post kidney transplant patient is:
- A. Hyperkalemia
 - B. Hypertension
 - C. Hypoglycaemia
 - D. Bradycardia
78. The most reliable method of detecting renal transplant rejection is:
- A. Ultrasonography
 - B. KUB x- ray
 - C. BUN and creatinine
 - D. Renal biopsy
79. A patient who presents with poorly treated anaphylactic reaction is likely to develop:
- A. Prerenal AKI
 - B. Post renal AKI
 - C. Intrarenal AKI
 - D. Inter-renal AKI
80. The nursing intervention that is most important in the immediate postoperative period for a renal transplant patient is:
- A. Encourage early ambulation
 - B. Monitor urinary output hourly
 - C. Restrict fluid intake
 - D. Administer potassium supplements
81. The primary purpose of immunosuppressive therapy after renal transplantation is to:
- A. Prevent infection
 - B. Prevent rejection
 - C. Promote wound healing
 - D. Increase urine output
82. The client who is most likely to benefit from continuous renal replacement therapy is:
- A. A client with end-stage renal disease (ESRD) who requires routine, long-term dialysis.
 - B. A client with acute kidney injury (AKI) and a sustained blood pressure of 70/40 mmHg.

- C. A client with chronic kidney disease (CKD) who is preparing for an upcoming kidney transplant.
 - D. A client with acute glomerulonephritis who has stable vital signs and needs aggressive fluid removal.
83. The medication that is the cornerstone treatment to prevent progression of HIV associated nephropathy and its effect on the kidney is:
- A. Glucocorticoids
 - B. Antiretroviral therapy
 - C. Broad spectrum antibiotics
 - D. Diuretics
84. The frequent cause of pulmonary embolism is
- A. Congestive heart failure
 - B. Hemorrhagic fever
 - C. Deep vein thrombosis
 - D. Pneumonia
85. Initial care of a patient in septic shock include
- A. Restoring intravascular volume
 - B. Identifying and treating infection
 - C. Maintain adequate nutrition
 - D. Preventing development of disseminated intravascular coagulopathy
86. A patient presents with a knife impaled in the right anterior chest. The priority action to take would be
- a) Immediately remove the knife and apply direct pressure to the site
 - b) Stabilize and support the knife with a bulky dressing
 - c) Prepare the patient for an open thoracotomy
 - d) Immediately prepare the patient for intubation
87. You are assessing a patient who has sustained blunt chest and abdominal trauma. While auscultating breath sounds, you can clearly hear bowel sounds in the left lung fields. You would suspect that this patient has sustained;
- A. Tension pneumothorax
 - B. Cardiac tamponade
 - C. Bowel obstruction
 - D. Ruptured diaphragm
88. Trauma to the circle of Willis would result to
- A. Sub dural haematoma
 - B. Sub arachnoid haemorrhage
 - C. Extra dural haematoma
 - D. Intracerebral haemorrhage
89. The following medication is administered to correct the metabolic acidosis associated with cardiac arrest:
- A. Dopamine
 - B. Sodium bicarbonate
 - C. Lidocaine
 - D. Epinephrine
90. Examination of a patient in a supine position reveals distended jugular veins from the base of the neck to the angle of the jaw. This finding indicates:

- A. Decreased venous return.
 - B. Increased central venous pressure.
 - C. Increased pulmonary artery capillary pressure.
 - D. Left-sided heart failure
91. When performing CPR on a child and their chest does not rise with the first breath;
- A. Perform abdominal thrusts and look in the airway.
 - B. Stop efforts to resuscitate the child.
 - C. Adjust the airway and give your second breath
 - D. Attempt a second breath without changes
92. The priority action for a patient with obstructed airway is
- A. CPR
 - B. Head tilt chin lift
 - C. Check breathing
 - D. Hemlitch maneuver
93. A victim walks in the Accident and Emergency department that has come in contact with organophosphate poison, you should:
- A. Immediately take lab samples for verification
 - B. Rinse the affected area immediately with soap and water
 - C. Immediately confirm if airway is patent
 - D. Immediately rub the affected area to provide long-term relief from the itching
94. Signs of upper airway obstruction include;
- A. Snoring, tracheal shift, wheeze, gurgling
 - B. Snoring, gurgling, Wheeze, Stridor
 - C. Trachea shift, Gurgling, Stridor, Cyanosis
 - D. Stridor, snoring, trachea shift, cyanosis
95. Snoring occurs due to
- A. Laryngeal spasm.
 - B. Laryngeal obstruction
 - C. Inadequate oxygenation
 - D. Partial occlusion of the pharynx by the tongue
96. A group of signs and symptoms that are often associated with a particular poison or type of poison is referred to as
- A. Toxidrome
 - B. Toxins
 - C. Toxicity
 - D. Intoxication
97. Near drowning victims who are apneic or have respiratory compromise are best managed with
- A. Room air
 - B. Oxygen via nasal prongs
 - C. Oxygen via mask
 - D. Intubation
98. A first year nursing student observes an elderly man collapse on the corridors of Kiambu L5 hospital. The man is unresponsive. One of the following is the most appropriate next step:
- A. Activate the emergency response system

- B. Check airway, breathing and circulation
 - C. Commence chest compressions
 - D. Take vital signs
99. One of the following sequences regarding the pediatric chain of survival is correct
- A. Recognize symptoms – perform early CPR – Defibrillate with AED – Advanced life support – post cardiac arrest care
 - B. Prevent arrest – perform early CPR – activate EMS – advanced life support - post cardiac arrest care
 - C. Recognize symptoms and activate EMS – perform early CPR – Defibrillate with AED – Advanced life support – post cardiac care
 - D. Prevent arrest – activate EMS – perform early CPR – advanced life support – post cardiac arrest care
100. One of the following is not a feature of high quality CPR
- A. Keep compression rate of at least 100 minute for all persons
 - B. Keep compression depth of between 2-2.4 inches for infants
 - C. Allow complete chest recoil after each compression.
 - D. Minimize interruptions in CPR, except to use an AED or to change rescuer positions.
101. A man falls off a ladder and is unresponsive. One of the following methods should be used to open his airway;
- A. Chin-lift
 - B. Jaw thrust
 - C. Head-tilt/ chin-lift
 - D. Head-tilt
102. CPR is initiated and the person's pulse returns, but he is not breathing. The ventilation rate should be:
- A. 6-8 breaths per minute
 - B. 10-12 breaths per minute
 - C. 18-20 breaths per minute
 - D. 14-16 breaths per minute
103. In a mass casualty disaster setting, you come across a victim who is not breathing. You open their airway, but they remain apneic (not breathing). The correct triage tag for this patient is:
- A. Red
 - B. Yellow
 - C. Black
 - D. Green
104. A nurse is triaging four clients in the emergency department. The following clients requires the most immediate attention:
- A. A 30-year-old with a closed arm deformity and bluish fingers.
 - B. A 25-year-old with a traumatic leg amputation who is actively bleeding through pressure bandages.
 - C. A 55-year-old reporting a feeling of an elephant sitting on their chest alongside anxiety.
 - D. A 4-year-old with a small cut on the lower lip who is crying.

105. Using the START triage system for adults, the following respiratory rates would result in an automatic "Red" (Immediate) tag:
- A. 18 breaths per minute
 - B. 25 breaths per minute
 - C. 32 breaths per minute
 - D. 10 breaths per minute
106. A nearby train derails, sending multiple victims to your triage area. During the primary triage process, you encounter a group of people who are ambulant. The triage color to be assigned to these "walking wounded" is:
- A. Red
 - B. Yellow
 - C. Green
 - D. Black
107. The 20-minute whole blood clotting time (20WBCT) is a crucial bedside test primarily used to detect which type of envenomation:
- A. Neurotoxic envenomation
 - B. Myotoxic envenomation
 - C. Haemotoxic (coagulopathic) envenomation
 - D. Cytotoxic envenomation without systemic effects
108. The following is the standard, globally recommended first-aid measure for an elapid snakebite victim in a field setting:
- A. Applying a tight arterial tourniquet above the bite to stop venom flow
 - B. Making incisions over the bite marks and using suction to extract venom
 - C. Washing the wound with soap, applying ice, and walking quickly to a hospital
 - D. Immobilizing the bitten limb and keeping the patient as still as possible
109. The venom of the neurotoxic nature is known for the following characteristics:
- A. Causing immediate and severe local tissue necrosis
 - B. Inducing Venom-Induced Consumptive Coagulopathy (VICC)
 - C. Producing predominantly neuromuscular blockade with minimal local swelling
 - D. High risk of causing acute renal failure due to rhabdomyolysis
110. The administration of Anti-Snake Venom (ASV) is classified as artificial passive immunity because:
- A. It introduces ready-made antibodies produced by another animal into the patient
 - B. It stimulates the patient's immune system to produce its own antibodies
 - C. It triggers a long-lasting memory response to future snake bites
 - D. It involves administering a live, attenuated form of the snake venom

111. The following sets of symptoms represents the classic muscarinic effects of organophosphate poisoning:
- A. Diaphoresis, diarrhea, miosis, and bradycardia
 - B. Mydriasis, tachycardia, dry mouth, and urinary retention
 - C. Muscle fasciculations, hypertension, and weakness
 - D. Hyperthermia, dry skin, and delirium
112. In addition to muscarinic features, patients may exhibit nicotinic effects at the neuromuscular junction. The following is a classic nicotinic sign:
- A. Pinpoint pupils
 - B. Muscle fasciculations and weakness
 - C. Excessive salivation
 - D. Wheezing
113. In the acute management of organophosphate poisoning, the primary role of Atropine is:
- A. It reactivates the inhibited acetylcholinesterase enzyme.
 - B. It promotes the renal excretion of the organophosphate.
 - C. It acts as a competitive antagonist at muscarinic receptors.
 - D. It directly binds to and neutralizes the organophosphate.
114. During Atropine therapy, the most appropriate clinical indicator that adequate atropinization has been achieved is:
- A. Complete dilation of the pupils (mydriasis)
 - B. Normalization of blood pressure and cessation of seizures
 - C. Drying of bronchial and oral secretions
 - D. Return of deep tendon reflexes
115. The primary pathophysiological event that initiates Disseminated Intravascular Coagulation (DIC) is:
- A. Massive platelet aggregation in the peripheral circulation
 - B. Systemic activation of the coagulation cascade
 - C. Primary uncontrolled activation of the fibrinolytic system
 - D. Autoimmune destruction of endothelial cells
116. A patient develops acute DIC. The set of simultaneous and opposing clinical manifestations the nurse expects to observe is:
- A. Hypertension and rapid clot formation
 - B. Microvascular thrombosis and spontaneous bleeding
 - C. Deep Vein Thrombosis (DVT) and pulmonary edema
 - D. Polycythemia and localized joint inflammation
117. The following represents the most common underlying cause of acute DIC in a critical care setting:
- A. Severe liver cirrhosis
 - B. Uncontrolled hypertension

- C. Sepsis
 - D. Iron deficiency anemia
118. The most critical and definitive step in the management of a patient with DIC is:
- A. Immediate administration of high-dose heparin
 - B. Transfusion of platelets and fresh frozen plasma (FFP)
 - C. Vigorous treatment and resolution of the underlying disorder
 - D. Strict administration of broad-spectrum antibiotics
119. The following is considered the defining clinical feature that distinguishes eclampsia from preeclampsia:
- A. Blood pressure greater than 160/100 mmHg
 - B. New-onset grand mal seizures in a woman with preeclampsia
 - C. Significant proteinuria more than 300mg/24hours
 - D. Epigastric or right upper quadrant pain
120. A 24-year-old primigravida at 34 weeks of gestation suddenly experiences a generalized tonic-clonic seizure. After ensuring a patent airway, the most appropriate next step in the emergency management of this patient is:
- A. Administer diazepam
 - B. Start an oxytocin infusion to induce labor
 - C. Administer intravenous magnesium sulfate
 - D. Perform an emergency cesarean section
121. The following electrolyte imbalances is most commonly expected in the first 24 hours following a major, severe burn injury:
- A. Hypokalemia and hypernatremia
 - B. Hyperkalemia and hyponatremia
 - C. Hyperkalemia and hypernatremia
 - D. Hypokalemia and hyponatremia
122. A patient arrives in the emergency department with a deep circumferential burn to the left upper extremity. The following clinical manifestations should immediately alert the medical team to the need for an escharotomy:
- A. Blister formation and erythema on the hand
 - B. Weak or absent distal pulses in the affected arm
 - C. Clear, weeping fluid from the wound surface
 - D. Patient report of a mild, tingling sensation
123. During the emergent phase of a severe burn injury, the primary goal of fluid resuscitation is to:
- A. Prevent hypovolemic shock and maintain vital organ perfusion
 - B. Dilute toxins in the bloodstream

- C. Reduce the risk of a wound infection
 - D. Decrease the patient's pain levels
124. The clinical finding that represents the earliest sign of shock in a 10-month-old infant:
- A. Hypotension
 - B. Bradycardia
 - C. Tachypnea
 - D. Lethargy
125. When using the Pediatric Assessment Triangle (PAT), the three components evaluated within the first few seconds of encountering a patient is:
- A. Heart rate, respiratory rate, blood pressure
 - B. Appearance, work of breathing, circulation to skin
 - C. Mental status, pupillary reaction, motor response
 - D. Airway patency, breath sounds, capillary refill time
126. A 4-year-old child presents with stridor at rest, retractions, and agitation. The respiratory state that this assessment most accurately indicate is:
- A. Mild respiratory distress
 - B. Severe respiratory distress
 - C. Respiratory failure
 - D. Cardiorespiratory arrest
127. You are assessing a critically ill 6-year-old child. One of the method provides the most reliable bedside estimate of a child's minimal acceptable systolic blood pressure:
- A. $70 + (2 \times \text{age in years})$
 - B. $80 + (2 \times \text{age in years})$
 - C. $90 + (2 \times \text{age in years})$
 - D. $50 + (2 \times \text{age in years})$
128. While assessing a 2-year-old child with severe dehydration, you note a capillary refill time of 4 seconds, mottled skin, and a heart rate of 170 bpm. These findings can be categorized as:
- A. Compensated shock
 - B. Decompensated shock
 - C. Normal physiological stress response
 - D. Early respiratory failure
129. A 10-month-old infant is brought to the emergency department with respiratory distress. The following assessment finding is the most sensitive early indicator of respiratory failure in this patient?
- A. Central cyanosis

- B. Tachypnea
 - C. Bradypnea
 - D. Decreased breath sounds
130. While performing a rapid cardiopulmonary assessment using the Pediatric Assessment Triangle (PAT), which three specific components must the nurse evaluate within the first few seconds are:
- A. Heart rate, respiratory rate, blood pressure
 - B. Appearance, work of breathing, circulation to skin
 - C. Level of consciousness, pupillary response, motor activity
 - D. Oxygen saturation, temperature, capillary refill time
131. A 4-year-old child with severe sepsis exhibits cold, mottled extremities, a capillary refill time of 5 seconds, and a normal blood pressure for age. The nurse classifies this hemodynamic state as:
- A. Decompensated shock
 - B. Cardiogenic shock
 - C. Compensated shock
 - D. Neurogenic shock
132. You are assessing a 6-year-old child with a suspected traumatic brain injury. The child opens their eyes only in response to a painful stimulus, utters inappropriate words, and withdraws from pain. The child's Glasgow Coma Scale (GCS) score is:
- A. 8
 - B. 9
 - C. 10
 - D. 11
133. An 18-month-old toddler presents with suspected upper airway obstruction. The respiratory sound most characteristic of this condition is;
- A. Wheezing
 - B. Grunting
 - C. Stridor
 - D. Fine crackles
134. When evaluating the cardiovascular status of a critically ill 8-month-old infant, the site most reliable for assessing a central pulse is:
- A. Radial pulse
 - B. Brachial pulse
 - C. Dorsalis pedis pulse
 - D. Popliteal pulse

135. A 3-year-old child in the pediatric intensive care unit (PICU) shows signs of increased work of breathing, grunting, and a decreasing level of consciousness. The arterial blood gas (ABG) reveals a pH of 7.21 and a PaCO₂ of 65 mmHg. This finding indicates:
- A. Respiratory alkalosis
 - B. Metabolic acidosis
 - C. Compensated respiratory acidosis
 - D. Respiratory failure with respiratory acidosis
136. The preferred route of nutrition support in a critically ill pediatric patient with a functioning gastrointestinal tract who is hemodynamically stable is:
- A. Total parenteral nutrition (TPN) via a central line
 - B. Peripheral parenteral nutrition (PPN)
 - C. Early enteral nutrition (EN) via a nasogastric or nasojejunal tube
 - D. Delayed nutrition until the patient is completely extubated
137. The most accurate method to determine the energy requirements of a critically ill, mechanically ventilated child is:
- A. The Schofield equation
 - B. Indirect calorimetry
 - C. The Harris-Benedict equation
 - D. A standard weight-based rule of thumb (e.g., 100 kcal/kg)
138. A 3-year-old critically ill child with severe malnutrition is started on enteral feeds. Within 48 hours, the patient develops profound hypophosphatemia, hypokalemia, and muscle weakness. The most likely diagnosis is:
- A. Refeeding syndrome
 - B. Acute respiratory distress syndrome (ARDS)
 - C. Sepsis-induced malabsorption
 - D. Dumping syndrome
139. In a critically ill child experiencing severe metabolic stress or septic shock, what happens to the protein requirement compared to a healthy child?
- A. It decreases significantly to reduce kidney workload.
 - B. It remains exactly the same.
 - C. It increases significantly to support tissue repair and immune function.
 - D. Protein should be entirely eliminated from the initial feeds.
140. The following clinical scenarios is an absolute contraindication to initiating enteral nutrition in a pediatric intensive care unit (PICU) patient:
- A. Mechanically ventilated and receiving low-dose maintenance vasopressors
 - B. Gastric residual volume of 50 mL from the previous check

- C. Uncontrolled hemodynamic instability with escalating doses of multiple vasopressors
 - D. Absence of bowel sounds following an abdominal surgery
141. The following is the most accurate physiological reason for using a cuffed endotracheal tube (ETT) instead of an uncuffed tube in a critically ill 4-year-old child:
- A. It completely eliminates the risk of post-extubation subglottic stenosis.
 - B. It allows for higher peak inspiratory pressures and more accurate tidal volume monitoring.
 - C. Children under 8 years old have a perfectly cylindrical airway that requires a cuff.
 - D. Uncuffed tubes are no longer manufactured or available in modern pediatric intensive care units.
142. A 10-month-old infant with severe respiratory syncytial virus (RSV) bronchiolitis requires intubation. When positioning the patient's head and neck, the following maneuver should be performed to optimize the laryngeal view:
- A. Place a small towel roll under the shoulders to achieve a sniffing position.
 - B. Hyper-extend the neck as much as possible without a shoulder roll.
 - C. Maintain a neutral position with a large pillow placed under the occiput.
 - D. Turn the head 45 degrees to the right to open the lateral pharyngeal space
143. During the rapid sequence intubation (RSI) of a critically ill, hemodynamically unstable pediatric patient, the following induction agent is preferred due to its favorable cardiovascular profile:
- A. Propofol
 - B. Etomidate
 - C. Ketamine
 - D. Midazolam
144. You are calculating the appropriate size for a cuffed endotracheal tube for a critically ill 6-year-old child. Using the standard modified Cole formula, what internal diameter (ID) size should you select?
- A. 4.0 mm ID
 - B. 5.0 mm ID
 - C. 5.5 mm ID
 - D. 6.0 mm ID
145. Immediately following the intubation of a 2-year-old child in septic shock, the colorimetric end-tidal Co₂ detector turns from purple to yellow, but the patient's heart rate drops from 110 to 55 beats per minute. The most appropriate next step is:
- A. Extubate immediately because the color change indicates esophageal intubation.
 - B. Administer a dose of epinephrine and continue manual ventilation with 100% oxygen
 - C. Check for bilateral breath sounds and chest rise while initiating chest compressions.
 - D. Decrease the positive end-expiratory pressure (PEEP) to improve venous return.
146. Newborns have an increased respiratory rate (30-60 bpm) in order to;
- A. Compensate for a decreased inspiratory reserve volume by increasing the minute volume
 - B. Compensates for a decreased metabolic rate
 - C. Overcome the positive and expiratory pressure
 - D. Increase the lung capacity necessary to initiate respiration

147. In cardiac changes at birth
- A. Blood flows through the ductus venous is reduced, causing passive closure over 3-7 days, increasing blood return to the inferior vena cava
 - B. Lung expansion causes drop in pulmonary vascular resistance and a decrease in the return to the left atrium
 - C. The drop in pulmonary vessel resistance decreases systemic resistance reverses the direction of blood flowing through the ductus arteriosus
 - D. Umbilical vessels constrict in response to stretching and increased oxygen content at delivery
148. Neural tube defects include;
- A. Vertebral collapse, hydrocephaly
 - B. Spinal bifida, ancephaly
 - C. Chiari malformation, cerebral hernia
 - D. Imperforate anus, hydrocecephaly
149. Diagnosis of dawn's syndrome is suspected when the nurse observes the following signs in a baby;
- A. Broad short fingers, low set ears, flattened occiput
 - B. Big head, low set ears, spinal deformity
 - C. Muscle dystrophy, involuntary muscle movement, abnormal reflexes
 - D. Small head, broader hands, protruding forehead
150. A 6 year old admitted in diabetic coma, the priority nursing intervention will be;
- A. Administration of insulin stat, repeat after every 8 hours
 - B. Intravenous fluids administration normal saline
 - C. Intravenous administration of potassium
 - D. Confirmation of acetone breathe
151. Classical signs of nephrotic syndrome include;
- A. Proteinuria, hypoalbuminemia, hyperlipidemia
 - B. Polyuria, hypolipidemia, recurrent infections
 - C. Hyperlipidemia, polyuria, hypoalbuminemia
 - D. Proteinuria, polydipsia, polyuria
152. In diagnosis of Atresia/ Tracheoesophageal fistula is suspected when the nurse observes the following signs in the newborn;
- A. Abdominal distension, drooling, acute abdomen
 - B. Dysphagia, frothing, hyperacidity
 - C. Cyanosis when feeding, coughing, choking
 - D. Frothing, recurrent pneumonia, abdominal distention
153. A significant manifestation of increased intracranial pressure in children include;
- A. Widening pulse pressure, projectile vomiting, reduced level of consciousness
 - B. Reduced blood pressure, tachycardia, severe headache

- C. Bradycardia, opisthotonus, hypotension
 - D. Narrow pulse pressure, projectile vomiting, opisthotonus
154. In electrolyte imbalance, sodium chloride and potassium chloride are administered to correct one of the following;
- A. Metabolic acidosis
 - B. Metabolic alkalosis
 - C. Respiratory acidosis
 - D. Respiratory alkalosis
155. Atrial Septal Defect (ASD)
- A. Is always symptomatic
 - B. Is easily diagnosed when the foramen ovale is patent
 - C. Creates a right to left shunt of the pulmonary venous return
 - D. Creates a left to right shunt of the pulmonary venous return
156. Coarctation of the aorta presents with;
- A. Hepatomegaly
 - B. Upper body hypotension
 - C. Diminished lower extremities pulses
 - D. Severe symptoms if combined with a patent ductus arteriosus (PDA)
157. The ductus arteriosus;
- A. Is smaller than the aorta
 - B. Connects the pulmonary trunk to the aorta
 - C. Transports purely oxygenated blood
 - D. Closes within 24 hours of birth
158. Congenital heart disease;
- A. Occurs in 10% of live births
 - B. Diagnosis is mostly established after one year of life
 - C. Has a higher incidence in stillbirths than in abortuses
 - D. Has a higher incidence in abortuses than in still births
159. The congenital heart defect causing increased volume due to left to right shunting is;
- A. Ventricular Septal Defect (VSD)
 - B. Transposition of the Great Vessels
 - C. Pulmonary Atresia
 - D. Coarctation of the aorta
160. Diabetes insipidus is a
- a) Deficiency of antidiuretic hormone
 - b) Deficiency of insulin
 - c) Increased levels of antidiuretic hormone
 - d) Increased levels of insulin

161. In the antenatal period a maternal sign that is suspicious of tracheoesophageal atresia of the unborn baby is;
- a) Excessive craving of animal protein
 - b) Maternal malnutrition
 - c) Polyhydramnios
 - d) Oligohydramnios
162. Excessive salivation and drooling of saliva is a sign of
- a) Adenotonsillitis
 - b) Tracheoesophageal atresia
 - c) Tetralogy of fallot
 - d) Pyloric stenosis
163. One of the following is not a special pattern of breathing in children
- a) Head bobbing
 - b) Periodic breathing in infants
 - c) Diaphragmatic breathing
 - d) Normal quiet breathing