



**AMREF INTERNATIONAL UNIVERSITY  
SCHOOL OF MEDICAL SCIENCES  
DEPARTMENT OF NURSING & MIDWIFERY SCIENCES  
END OF SEMESTER AUGUST 2024 EXAMINATIONS**

**COURSE CODE AND TITLE: ACN120: ESSENTIALS OF CRITICAL CARE NURSING**

**DATE: Monday 12<sup>th</sup> August 2024**

**Duration: 2 HOURS**

**Start: 9:00 AM**

**Finish: 11:00 AM**

**INSTRUCTIONS**

1. This exam is out of 70 marks
2. This Examination comprises ONE Section. Section I: Multiple Choice Questions (120 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-****120 MARKS**

1. Brain death is characterized by:
  - A. Irreversible loss of brain function, including the brainstem
  - B. Temporary loss of brain function due to injury or trauma
  - C. Loss of consciousness but preserved brainstem function
  - D. Partial loss of brain function with potential for recovery
2. The diagnostic test used to confirm the diagnosis of meningitis is;
  - A. Lumbar puncture
  - B. Magnetic resonance imaging (MRI)
  - C. Computed tomography (CT) scan
  - D. Blood culture
3. The following is a priority nursing intervention during the immediate post-operative period after a craniotomy; -
  - A. Monitoring neurologic status every hour
  - B. Administering pain medication as prescribed
  - C. Encouraging deep breathing and coughing exercises
  - D. Assessing surgical incision site for signs of infection
4. The medication commonly administered preoperatively to reduce cerebral edema is;
  - A. Dexamethasone
  - B. Furosemide
  - C. Mannitol
  - D. Metoprolol
5. Cholinesterase inhibitors are primarily used for the treatment of:
  - A. Hypertension
  - B. Asthma
  - C. Alzheimer's disease
  - D. Diabetes mellitus
6. The piece of data critical to obtain in all stroke individuals is;
  - A. Date of birth
  - B. Hemoglobin A1c
  - C. Bilateral arm blood pressure
  - D. Time last seen normal
7. Cushing's triad is a set of clinical signs associated with increased ICP, including:
  - A. Hypertension, bradycardia, and irregular respirations
  - B. Hypertension, tachycardia, and hyperthermia
  - C. Hypotension, bradycardia, and respiratory alkalosis
  - D. Hypotension, tachycardia, and hypothermia
8. The strength of the magnetic field used in an MRI machine is measured in:
  - A. Volts (V)
  - B. Hertz (Hz)
  - C. Decibels (dB)
  - D. Tesla (T)

9. A decreased nerve conduction velocity can indicate:
  - A. Normal nerve function
  - B. Nerve compression or damage
  - C. Excessive nerve activity
  - D. Muscle weakness
10. A potential risk associated with a CT scan is;
  - A. Allergic reaction to contrast agents
  - B. Permanent hearing loss
  - C. Increased risk of stroke
  - D. Development of psychiatric disorders
11. The nurse is assessing a patient who had craniotomy three days prior. The nurse would suspect the patient of developing meningitis if they exhibit:
  - A. A negative Kernig's sign
  - B. Absence of nuchal rigidity
  - C. A positive Brudzinkin's sign
  - D. A Glasgow coma scale score of 15
12. You are assessing a patient who you suspect has impairment in cranial nerve II. What would you test for to confirm this:
  - A. Corneal reflex
  - B. Pupil response to light
  - C. Six cardinal fields of gaze
  - D. Pupils response to light and accommodation
13. Multiple sclerosis:
  - A. Is characterized by progressive loss of myelin
  - B. Is characterized by progressive loss of melanin
  - C. Is associated with an autoimmune response following a bacterial infection
  - D. Has no recognized triggers
14. The normal response to striking the triceps tendon with a reflex hammer is;
  - A. Forearm pronation
  - B. Flexion of the arm at the elbow
  - C. Extension of the arm
  - D. Flexion and supination of the elbow
15. Following a lumbar puncture, the nurse should assess the patient for;
  - A. Headache
  - B. Allergic reactions to the dye
  - C. Lower limb paralysis
  - D. Hemorrhage from the puncture site
16. When using intraventricular ICP monitoring, what should the nurse be aware of to prevent inaccurate readings?
  - A. The P2 wave is higher than the P1 wave.
  - B. CSF is leaking around the monitoring device.
  - C. The transducer of the ventriculostomy monitor is at the level of the upper ear.
  - D. The drain of the CSF drainage device was closed for 6 minutes before taking the reading

17. The drug treatment that helps to decrease ICP by expanding plasma and the osmotic effect to move fluid is;
- A. Oxygen administration
  - B. Mannitol (Osmitrol) (25%)
  - C. Pentobarbital (Nembutal)
  - D. Dexamethasone (Decadron)
18. When assessing the body functions of a patient with increased ICP, the nurse should first assess for;
- A. Corneal reflex testing
  - B. Extremity strength testing
  - C. Pupillary reaction to light
  - D. Circulatory and respiratory status
19. The following mechanisms of injury commonly results in the tearing of the axons in the brain;
- A. Rotational injury
  - B. Acceleration injury
  - C. Deceleration injury
  - D. Penetrating injury
20. A patient is admitted with uncontrolled atrial fibrillation. The patient's medication history includes vitamin D supplements and calcium. What type of stroke is this patient at MOST risk for?
- A. Ischemic thrombosis
  - B. Ischemic embolism
  - C. Hemorrhagic
  - D. Ischemic stenosis
21. In order for tissue plasminogen activator (tPA) to be most effective in the treatment of stroke, it must be administered;
- A. 6 hours after the onset of stroke symptoms
  - B. 3 hours before the onset of stroke symptoms
  - C. 3 hours after the onset of stroke symptoms
  - D. 12 hours before the onset of stroke symptoms
22. You are assessing the client diagnosed with bacterial meningitis. The clinical manifestations that would support the diagnosis of bacterial meningitis is;
- A. Positive Babinski's sign and peripheral paresthesia.
  - B. Negative Chvostek's sign and facial tingling.
  - C. Positive Kernig's sign and nuchal rigidity.
  - D. Negative Trousseau's sign and nystagmus.
23. The type of precautions the nurse should implement for the client diagnosed with septic meningitis is;
- A. Standard Precautions.
  - B. Airborne Precautions.
  - C. Contact Precautions
  - D. Droplet Precautions

24. A client with subdural hematoma was given mannitol to decrease intracranial pressure (ICP). The following results would best show the mannitol was effective;
- A. Urine output increases
  - B. Pupils are 8 mm and nonreactive
  - C. Systolic blood pressure remains at 150 mm Hg
  - D. BUN and creatinine levels return to normal
25. The nurse understands that when the spinal cord is injured, ischemia results and edema occurs. How should the nurse explain to the patient the reason that the extent of injury cannot be determined for several days to a week?
- A. "Tissue repair does not begin for 72 hours."
  - B. "The edema extends the level of injury for two cord segments above and below the affected level."
  - C. "Neurons need time to regenerate so stating the injury early is not predictive of how the patient progresses."
  - D. "Necrosis of gray and white matter does not occur until days after the injury."
26. A patient being mechanically ventilated receives midazolam (Versed) for sedation. The findings that indicate to you that the patient is receiving an appropriate dose of this medication is;
- A. Asleep but withdrawing from noxious stimuli with a heart rate of 80
  - B. Awake with a respiratory rate of 38 and a heart rate of 132
  - C. Asleep but awakening to light touch with a heart rate of 72
  - D. Awake with a heart rate of 124 and attempting to pull out the IV
27. The client has sustained a severe closed head injury and the neurosurgeon is determining if the client is brain dead. Which data support that the client is brain dead?
- A. The client's head is turned to the right; the eyes turn to the right.
  - B. The EEG has identifiable waveforms.
  - C. There is no Eye activity when the cold caloric test is performed.
  - D. The client assumes decorticate posturing when painful stimuli are applied.
28. A female client has experienced an episode of myasthenic crisis. The nurse would assess whether the client has precipitating factors such as:
- A. Getting too little exercise
  - B. Taking excess medication
  - C. Omitting doses of medication
  - D. Increasing intake of fatty foods
29. A client with a diagnosis of Guillain-Barre syndrome is scheduled to receive plasmapheresis treatments. A nurse explains to the client's spouse that the purpose of the plasmapheresis is to:
- A. Remove excess fluid from the bloodstream
  - B. Restore protein levels in the blood
  - C. Remove circulating antibodies from the bloodstream
  - D. Infuse lipoproteins to restore the myelin sheath

30. Which of the following spinal cord injury patient requires long term mechanical ventilation?
- A. C1-C2
  - B. C6-C7
  - C. T1-T5
  - D. All patients with spinal cord injury require long term mechanical ventilation
31. The following condition is a common indication for extracorporeal membrane oxygen (ECMO) therapy;
- A. Acute kidney injury
  - B. Hypertension
  - C. Acute respiratory failure
  - D. Cardiac arrhythmias
32. A ventilation perfusion (VQ) scan is primarily used to evaluate:
- A. Lung function
  - B. Blood pressure
  - C. Kidney function
  - D. Liver function
33. Spirometry is a pulmonary function test that measures:
- A. Blood pressure
  - B. Lung volumes and capacities
  - C. Blood oxygen saturation
  - D. Heart rate
34. Capnography is a monitoring technique that measures:
- A. Blood pressure
  - B. Heart rate
  - C. Carbon dioxide levels in exhaled breath
  - D. Oxygen saturation in the blood
35. Oxygen toxicity affects pulmonary system by: -
- A. Increasing oxygen free radicals
  - B. Increasing mucus production
  - C. Increasing surfactant production
  - D. Increasing cilia mobility
36. Avoiding "Auto PEEP" in permissive hypercapnia is achieved by: -
- A. Low minute ventilation
  - B. High Tidal volume
  - C. Low FI02
  - D. Increased respiratory rate
37. The following is a major risk factor for the development of ventilator-associated pneumonia;
- A. Adequate hand hygiene
  - B. Early mobilization of the patient
  - C. Endotracheal intubation
  - D. High ambient temperature in the intensive care unit (ICU)

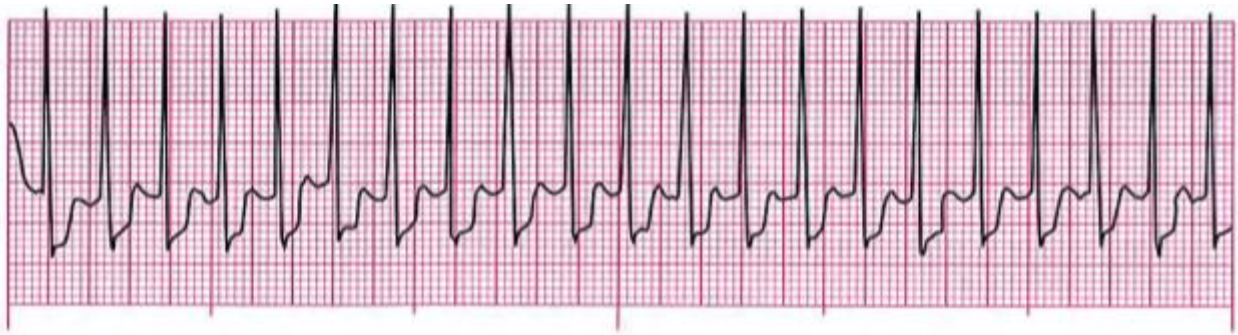
38. Pulmonary edema is characterized by:
- A. Excessive fluid accumulation in the alveoli of the lungs
  - B. Excessive gas accumulation in the alveoli of the lungs
  - C. Obstruction of the bronchioles in the lungs
  - D. Constriction of the blood vessels supplying the lungs
39. The following statement is correct regarding tracheostomy;
- A. Tracheostomy is a surgical procedure performed on the lungs.
  - B. Tracheostomy is a temporary procedure used for short-term respiratory support.
  - C. Tracheostomy involves the creation of an opening in the trachea to establish a direct airway.
  - D. Tracheostomy is primarily performed in emergency situations.
40. The following ventilation mode provides full support to the patient by delivering a set tidal volume at a set rate
- A. Assist-Control (AC) mode
  - B. Pressure Support (PS) mode
  - C. Continuous Positive Airway Pressure (CPAP) mode
  - D. Synchronized Intermittent Mandatory Ventilation (SIMV) mode
41. Patient with asthmatic attack develops respiratory alkalosis due to
- A. Air trapping in the lower airways
  - B. Hyperventilation
  - C. Respiratory muscles fatigue
  - D. Prolonged inspiratory time
42. The appropriate adjustment on mechanical ventilation for a patient with an ABG showing pH 7.35, PaCO<sub>2</sub> 55mmHg, PaO<sub>2</sub> 80mmHg, HCO<sub>3</sub> 24mmol/Lis: -
- A. Increase FiO<sub>2</sub>
  - B. Increase the respiratory rate
  - C. Maintain FiO<sub>2</sub>
  - D. Increase PEEP
43. The possible cause of airway pressure of 36cmH<sub>2</sub>O in a ventilated patient would be:-
- A. Tube kinking, presence of secretions
  - B. Wheezes, tube leakage
  - C. Reduced FiO<sub>2</sub>, tube leakage
  - D. Increased respiratory rate, reduced FiO<sub>2</sub>
44. Invasive mechanical ventilation involves:
- A. The use of positive pressure ventilation via a mask or nasal prongs.
  - B. The insertion of an endotracheal tube or tracheostomy tube.
  - C. The delivery of oxygen through a nasal cannula.
  - D. The administration of medication to support breathing.
45. Bi-level Positive Airway Pressure (BiPAP) is a mode of ventilation that:
- A. Provides a set tidal volume at a set rate.
  - B. Delivers two different pressure levels during inhalation and exhalation.
  - C. Uses a constant positive pressure to keep the airways open.
  - D. Supports spontaneous breathing efforts with a preset pressure level.

46. Constant Positive Airway Pressure (CPAP) is a mode of ventilation that:
- A. Provides a set tidal volume at a set rate.
  - B. Delivers two different pressure levels during inhalation and exhalation.
  - C. Uses a constant positive pressure to keep the airways open.
  - D. Supports spontaneous breathing efforts with a preset pressure level.
47. The technique used for airway clearance in patients with respiratory conditions is;
- A. Nebulization
  - B. BiPAP
  - C. Chest physiotherapy
  - D. Continuous positive airway pressure (CPAP)
48. The drug used to treat bronchospasm is;
- A. Albuterol
  - B. Morphine
  - C. Acetaminophen
  - D. Ondansetron
49. The following drug is commonly used as a neuromuscular blocking agent during intubation;
- A. Propofol
  - B. Midazolam
  - C. Rocuronium
  - D. Fentanyl
50. A common diagnostic tool used to assess pH levels in patients with respiratory disorders is;
- A. Electrocardiogram (ECG)
  - B. Ultrasound
  - C. Arterial blood gas analysis
  - D. Magnetic resonance imaging (MRI)
51. Waveform capnography is a technique used to measure:
- A. Blood pressure
  - B. Heart rate
  - C. Oxygen saturation
  - D. Carbon dioxide levels
52. Pulmonary function tests (PFTs) are performed to assess:
- A. Blood glucose levels
  - B. Liver function
  - C. Lung capacity and function
  - D. Kidney function
53. A Venturi mask is used primarily for patients who:
- A. Require high-flow oxygen therapy
  - B. Need precise control of oxygen concentration
  - C. Have a compromised airway
  - D. Are on long-term oxygen therapy



54. A potential complication of bronchoscopy is;
- A. Pneumothorax
  - B. Hypertension
  - C. Urinary retention
  - D. Gastrointestinal bleeding
55. The most common causative agent of community-acquired pneumonia is;
- A. Streptococcus pneumoniae
  - B. Haemophilus influenza
  - C. Mycoplasma pneumoniae
  - D. Legionella pneumophila
56. A potential cause of massive hemoptysis is;
- A. Acute bronchitis
  - B. Pneumonia
  - C. Pulmonary embolism
  - D. Allergic rhinitis
57. The following factor may contribute to failed extubation;
- A. Adequate respiratory muscle strength
  - B. Stable hemodynamic parameters
  - C. Normal electrolyte levels
  - D. Excessive secretions or airway edema
58. lobectomy involve;
- A. Removal of a lung lobe
  - B. Removal of the entire lung
  - C. Repair of the esophagus
  - D. Removal of the thymus gland
59. On auscultating the patient's chest, a nurse noted high pitched musical sound on expiration. The nurse concludes that;
- A. The upper airway is obstructed with secretions
  - B. The patient's airway is patent.
  - C. The lower airway is narrowed.
  - D. There are retained secretions in the airway
60. The role of type II alveoli cells is to
- A. Secret surfactant
  - B. Form the part of alveoli wall
  - C. Protect the alveoli against invading microbes
  - D. Equalize air pressure throughout the lungs
61. Which Of the following approaches is recommended during an initial patient evaluation?
- A. Oxygen, IV, monitor
  - B. Level of responsiveness, airway, breathing, circulation, defibrillation if necessary
  - C. Temperature, pulse, respiration, blood pressure
  - D. Oxygen, IV fluid challenge, vital signs, level of responsiveness

62. A 37-year-old woman is complaining of shortness of breath and palpitations. The cardiac monitor shows the following rhythm:



Your best course of action will be to:

- A. Perform synchronized cardioversion starting with 50 joules
- B. Give sublingual nitroglycerin
- C. Perform CPR for 2 minutes, then defibrillate with 200 joules
- D. Perform CPR and give epinephrine 1 mg IV push

63. At doses recommended for use in cardiac arrest, epinephrine and vasopressin:

- A. Cause significant peripheral vasoconstriction
- B. Neutralize acid accumulated during cardiac arrest
- C. Slow conduction through the atrioventricular node
- D. Cause profound peripheral vasodilation

64. The first antiarrhythmic administered in the management of the patient in pulseless ventricular tachycardia or ventricular fibrillation is:

- A. Epinephrine or vasopressin
- B. Amiodarone or lidocaine
- C. Vasopressin or amiodarone
- D. Epinephrine or lidocaine

65. During cardiac arrest:

- A. Chest compressions should be interrupted for 2 to 3 minutes to start an IV and insert an advanced airway
- B. Chest compressions should never be interrupted
- C. Interruptions in chest compressions to analyse the ECG, Charge the defibrillator, place an advanced airway, check a pulse, or other procedures must be kept to a minimum
- D. Chest compressions and ventilations should be interrupted every 3 to 5 minutes to permit the members of the resuscitation team to change positions

66. From across the room, your first impression of the patient is that she is not moving, you can see no rise and fall of her chest or abdomen. And her skin color is pale. When you arrive at the patient's side, you confirm that she is unresponsive. As you shout for help, your next action in this situation should be to:

- A. Apply the automated external
- B. Open her airway and check
- C. Begin chest compressions
- D. Prepare the to insert an advanced airway

67. If no head or neck trauma is suspected, which of the following techniques should healthcare professionals use to open the airway?

- A. Jaw-thrust without head tilt
- B. Head tilt-neck lift
- C. Head tilt-chin lift
- D. Tongue-jaw lift

68. The primary survey reveals that the patient is unresponsive and not breathing. A weak pulse is present at a rate of about 70. Your course of action will be to:

- A. Begin mouth-to-mouth breathing
- B. Begin ventilating with a bag-valve-mask
- C. Begin chest compressions
- D. Insert an endotracheal tube, Cornbitube. or laryngeal mask airway

69. An oral airway:

- A. May help in the delivery of adequate ventilation with a device by preventing the tongue from blocking the airway
- B. Is Of proper size if it extends from the tip of the nose to the tip of the ear
- C. Is usually well-tolerated in responsive or semi-responsive patients
- D. Can only be used in spontaneously patients

70. A patient Who presents with a possible (or definite) acute syndrome should receive a targeted history and physical exam and initial 12-lead ECG within \_\_\_\_\_ Of patient contact (prehospital) or arrival in the emergency department.

- A. 5 minutes
- B. 10 minutes
- C. 30 minutes
- D. 60 minutes

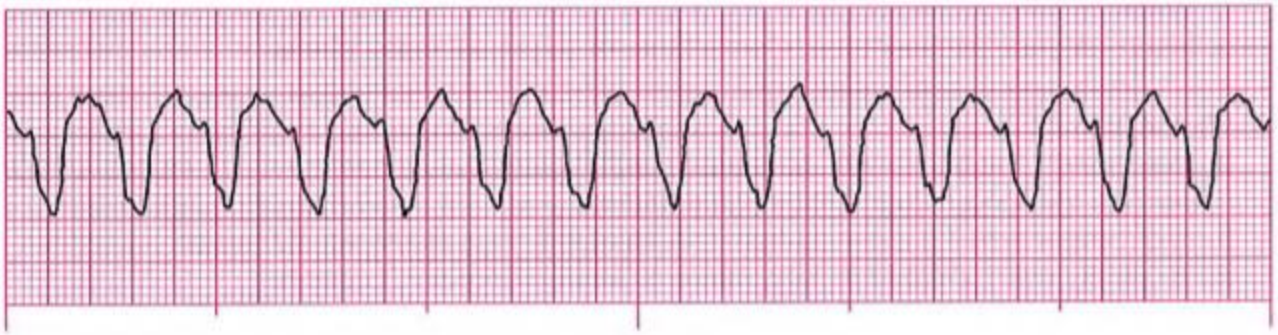
71. Most myocardial infarctions occur because of:

- A. Coronary thrombosis
- B. Acute respiratory failure
- C. Coronary artery spasm
- D. Acute volume overload

Questions 72 and 73 pertain to the following scenario.

**A 65-year-old woman is found unresponsive and not breathing. You are unable to feel a pulse.**

72. The cardiac monitor reveals the following rhythm.



Which of the following statements is true about this rhythm?

- A. This rhythm is ventricular fibrillation, a “shockable” rhythm
  - B. This rhythm is a narrow-QRS tachycardia, a “non-shockable” rhythm
  - C. This rhythm is monomorphic ventricular tachycardia, a “shockable” rhythm
  - D. This rhythm is a wide-QRS tachycardia, a “non-shockable” rhythm
73. When a shockable rhythm is present during cardiac arrest and a biphasic manual defibrillator is available, the initial energy level selected should be:
- A. 120 joules
  - B. 200 joules
  - C. 360 joules
  - D. The dose recommended by the manufacturer for terminating the rhythm
74. Attempts to establish a peripheral IV have been unsuccessful. Your best course of action at this time will be to:
- A. Attempt intraosseous access
  - B. Insert a central line
  - C. Continue peripheral IV attempts until successful
  - D. Discontinue resuscitation efforts

75. Amiodarone:

- A. Is given as an initial IV dose of 300 mg and one repeat dose of 150 mg in cardiac arrest due to pulseless ventricular tachycardia or ventricular fibrillation
- B. Should be given IV or endotracheally in cardiac arrest due to pulseless electrical activity
- C. Is given as a loading dose of 150-mg IV bolus over 10 minutes in cardiac arrest
- D. Should be given only if there is a return of spontaneous circulation after cardiac arrest

76. The cardiac monitor reveals the rhythm below.



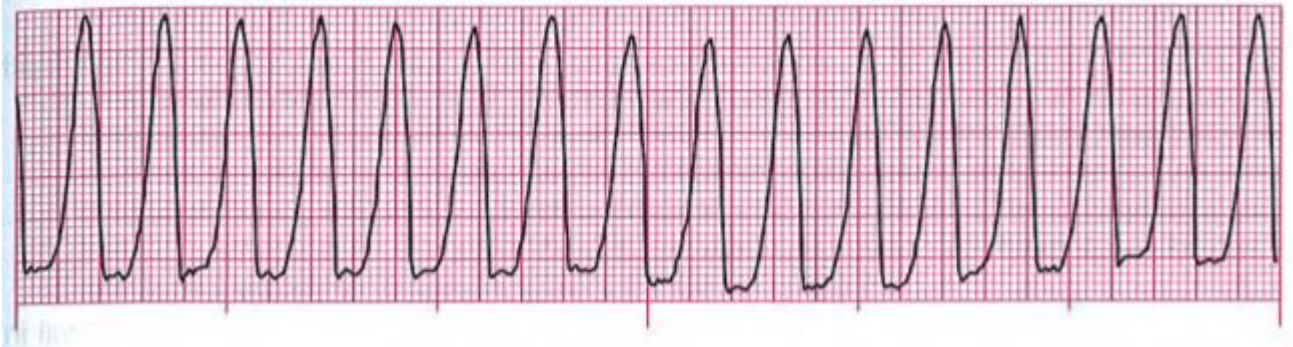
Immediate management of this patient should include:

- A. Vagal maneuvers and adenosine rapid IV push
- B. Nitroglycerin, morphine, lidocaine Or amiodarone, and aspirin
- C. Aspirin, nitroglycerin, and morphine
- D. Vagal maneuvers and an amiodarone IV infusion

77. Defibrillation is indicated in the management of:

- A. Asystole and pulseless electrical activity
- B. Pulseless ventricular tachycardia and ventricular fibrillation
- C. Ventricular fibrillation and asystole
- D. Pulseless ventricular tachycardia and pulseless electrical activity

78. A 72-year-old man presents with severe substernal chest pain. His level of consciousness suddenly decreased as an alarm sounded on the monitor. A quick glance at the cardiac monitor reveals the rhythm below. He now responds by moaning when his name is spoken. His skin is pale and clammy. BP 68/40, R 12. His pulse is weak and fast. Your best course of action in this situation will be to:



- A. Consider sedation and perform synchronized cardioversion with 100 joules
  - B. Start an IV and give a 300-mg dose of amiodarone
  - C. Ask the patient to bear down; if unsuccessful, give adenosine IV
  - D. Begin CPR and then defibrillate with 360 joules as soon as a defibrillator is available
79. What is the most common complication in the first few hours of an acute myocardial infarction?

- A. Pulmonary embolism
- B. Hypertension
- C. Ventricular aneurysm
- D. Dysrhythmias

80. Select the incorrect statement regarding the automated external defibrillator (AED).

- A. Some AEDs are programmed to detect spontaneous movement by the patient or others
- B. If a fully automated AED is used and a shockable rhythm is detected, the AED will instruct the AED operator to press the shock control to deliver a shock
- C. Some AEDs have adapters available for many popular manual defibrillators, enabling the AED pads to remain on the patient when patient care is transferred
- D. AEDs will recommend a shock for monomorphic ventricular tachycardia, polymorphic ventricular tachycardia, and ventricular fibrillation

81. Which of the following is a characteristic of high-quality CPR in adults?
- A. Minimizing recoil
  - B. Compressing at a depth of about 1 inch
  - C. Compressing at a depth of at least 2 inches and not exceeding 2.4inches
  - D. Checking for a pulse every minute
82. The compression-to-ventilation ratio for 2-rescuer adult CPR is
- A. 30:2.
  - B. 5:1.
  - C. 20:2.
  - D. 15:2.
83. Which of the following victims needs CPR?
- A. A victim with a pulse who is having trouble breathing
  - B. A victim with chest pain and indigestion
  - C. A victim who is unresponsive with no normal breathing and no pulse
  - D. A victim who is unresponsive but is breathing adequately
84. The rescuer should deliver a shock with an AED after
- A. The AED advises a shock, charges, and prompts the rescuer to push the shock button.
  - B. Completion of 2 cycles of compressions and breaths.
  - C. Placement of an advanced airway.
  - D. A check for a carotid pulse.
85. For every delay in defibrillation the chances of survival are reduced by?
- A. 5%
  - B. 10%
  - C. 25%
  - D. 20%
86. The QRS complex;
- A. Should be equal or less than 3 small boxes
  - B. Denotes ventricular repolarization
  - C. Corresponds to the phase 4 in the cardiac action potential
  - D. Should be equal to 0.20 seconds
87. Supraventricular Tachycardia
- A. Should be managed by immediate defibrillation
  - B. Atropine is a drug of choice
  - C. It is an atrial rhythm
  - D. Adrenaline quickly restores the rhythm.
88. Mr Kamau with crushing chest pain and severe diaphoresis has a confirmed STEMI. What will be the priority as per the ACS protocol?
- A. Take Mr kamau for a CT scan brain to rule out a stroke
  - B. Take Mr Kamau to Cath lab immediately for a primary PCI
  - C. Start the patient on Aspirin, Nitroglycerine, Morphine protocol
  - D. Admit the patient to a cardiac ICU for close monitoring



89. A patient who has just gone through insertion of a permanent pacemaker should avoid;
- A. Lifting heavy objects
  - B. Sexual activity
  - C. Flying in Aircrafts
  - D. Using Kitchen appliances
90. The following is an indication for cardioversion
- A. Pulseless ventricular Tachycardia
  - B. Supraventricular Tachycardia
  - C. Idioventricular rhythms
  - D. Asystole
92. The following is an indication for intra-aortic balloon pump (IABP)
- A. Aortic Stenosis
  - B. Aortic Regurgitation
  - C. Cardiogenic shock
  - D. Peripheral vascular disease.
93. What wave represents ventricular repolarization?
- A. P Wave
  - B. T wave
  - C. U wave
  - D. QRS Complex
94. An R-R interval represents \_\_\_\_\_ on the EKG.
- A. Two complete cardiac cycles
  - B. Rest and relaxation
  - C. One complete cardiac cycle
  - D. Inferior MI
95. The following is a likely sign and symptom of left sided heart failure.
- A. Anorexia and Nausea
  - B. Jugular Venous Congestion
  - C. Lower limbs edema
  - D. Dyspnea.
96. Which laboratory finding should cause the nurse to suspect that a patient is developing hypovolemic shock?
- A. Serum sodium of 130 mEq/L (130 mmol/L)
  - B. Metabolic acidosis validated by arterial blood gases
  - C. Serum lactate of 3 mmol/L
  - D. SvO<sub>2</sub> greater than 80%
97. Which solution would be the most appropriate initial volume replacement for a patient with severe GI bleeding?
- A. 200 mL of normal saline (NS) per hour for 5 hours
  - B. A liter of Ringer's lactate (RL) over 15 minutes
  - C. Two liters of D5W over half an hour
  - D. 500 mL of 0.45% normal saline (1/2 NS) over half an hour

98. The nurse should warm intravenous fluids when a rapid infuser is being utilized to prevent which complication?

- A. Hemorrhagic shock
- B. Hypothermia
- C. Sepsis
- D. Cardiogenic shock

99. The vasopressor of choice in patients with septic shock is

- A. Norepinephrine
- B. Phenylephrine
- C. Dopamine
- D. Milrinone

100. Which best describes this rhythm



- A. First Degree Heart Block
- B. Second Degree Type 1
- C. Second Degree Type 2
- D. Third Degree Heart Block

101. Which best describes this rhythm



- A. Sinus Bradycardia
- B. Sinus Tachycardia
- C. Ventricular Fibrillation
- D. Ventricular Tachycardia.

102. Which best describes this rhythm



- A. Sinus Bradycardia
  - B. Sinus Tachycardia
  - C. Ventricular Fibrillation
  - D. Ventricular Tachycardia
103. Which is the vulnerable period during the cardiac cycle
- A. At the peak of of the R wave
  - B. At the peak of the P wave
  - C. From the pick of the R wave to the mid T wave
  - D. From mid T wave to the end of the T wave
104. Stroke volume is a function of:
- A. Contractility, heart rate, afterload
  - B. Preload, blood pressure, heart rate
  - C. Contractility, afterload, preload
  - D. Preload, blood pressure, contractility
105. An indication for intra-aortic balloon pump (IABP) is:
- A. Congestive heart failure
  - B. Cardiogenic shock
  - C. Pulmonary embolism
  - D. Aortic insufficiency
106. The second (2<sup>nd</sup>) heart sound “dub” is produced by closure of the:
- A. Atrio-ventricular valves
  - B. Aortic valves
  - C. Semi-lunar valves
  - D. Mitral valves
107. Mr. Mburu has been diagnosed with aortic dissection, which layer of his coronary artery is most likely affected?
- A. Tunica adventitia
  - B. Tunica media
  - C. Tunica intima
  - D. Endothelium

108. The initial vasopressor of choice in a patient in septic shock should be;

- A. Dopamine
- B. Dobutamine
- C. Noradrenaline
- D. Adrenaline

109. The best fluid in trauma resuscitation for a patient post catastrophic bleeding is;

- A. Crystalloids
- B. Colloids
- C. Packed cells
- D. Whole blood

110. In hypertensive urgency

- A. The blood pressure is under control
- B. IV antihypertensives are preferred
- C. There is evidence of end organ damage
- D. Oral antihypertensives are sufficient.

111. Mr Kamau with crushing chest pain and severe diaphoresis has a confirmed STEMI. What will be the priority as per the ACS protocol

- A. Take Mr kamau for a CT scan brain to rule out a stroke
- B. Take Mr Kamau to Cath lab immediately for a primary PCI
- C. Start the patient on Aspirin, Nitroglycerine, Morphine protocol
- D. Admit the patient to a cardiac ICU for close monitoring

112. In the SAN, failure of the P cells leads to,

- A. Sinus arrest
- B. Sinus arrhythmia
- C. Sino atrial exit block
- D. Atrial Fibrillation

113. In the SAN, failure of the T cells leads to,

- A. Sinus arrest
- B. Sinus arrhythmia
- C. Sino atrial exit block
- D. Atrial Fibrillation

114. The following is an indication for cardioversion

- A. Pulseless ventricular Tachycardia
- B. Supraventricular Tachycardia
- C. Idioventricular rhythms
- D. Asystole

115. The commonest cyanotic heart defect is

- A. Ventricular septal defect
- B. Atrial septal defect
- C. Tetralogy of Fallot
- D. Coarctation of the aorta

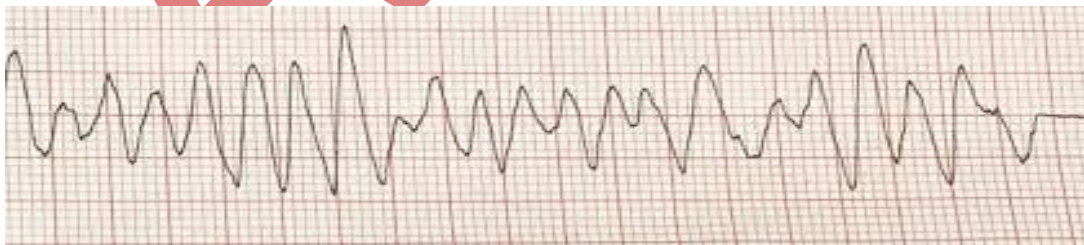
116. The two solutions used to achieve cardioplegia during open heart surgeries are

- A. Potassium chloride and magnesium sulphate
- B. Potassium sulphate and magnesium chloride
- C. Protamine sulfate and magnesium sulphate
- D. Potassium chloride and magnesium chloride.

117. Which is the vulnerable period during the cardiac cycle

- A. At the peak of the R wave
- B. At the peak of the P wave
- C. From the pick of the R wave to the mid T wave
- D. From mid T wave to the end of the T wave

118. A patient has a witnessed loss of consciousness. The ECG shows the rhythm below, which is the most appropriate treatment for this patient?



- A. Defibrillation
- B. Synchronized Cardioversion
- C. Cardiac Pacing
- D. IV Amiodarone

119. Dopamine is available in 200mg/5ml solution. You are required to start an infusion for Mr. Kamau who weighs 90kg. What is the pump rate, given the following prescription? NB: Drug is diluted in 45mls of D5W Doctors Order: 6.0ug/kg/min

- A. 6.8
- B. 8.1
- C. 4.2
- D. 2.4

120. If the pump rate is 6.5mls/h for a 70kg man, what is the prescribed dose?

- A. 6.2ug/kg/min
- B. 4.8ug/kg/min
- C. 9.5ug/kg/min
- D. 7.8ug/kg/min

AAMU