



**AMREF INTERNATIONAL UNIVERSITY
SCHOOL OF MEDICAL SCIENCES
DEPARTMENT OF NURSING & MIDWIFERY SCIENCES
End of Semester August 2025 Examinations**

COURSE CODE AND TITLE: CAN 135: College Final Exam

DATE: 15-8-2025

Duration: 2 HOURS

Start: 1400HRS Finish: 16:00HRS

INSTRUCTIONS

1. This exam is out of 120 marks
2. Answer ALL Questions.

SECTION I: MULTIPLE CHOICE QUESTIONS**(120 MARKS)**

1. The Glasgow Coma Scale (GCS) is used to assess which aspect of neurological function;
 - A. Motor response, eye opening, and verbal response
 - B. Blood pressure, heart rate, and respiratory rate
 - C. Blood glucose level, electrolyte balance, and renal function
 - D. Visual acuity, hearing, and sense of touch
2. The part of the nervous system responsible for controlling voluntary movements and sensory perception is;
 - A. Central nervous system (CNS)
 - B. Peripheral nervous system (PNS)
 - C. Autonomic nervous system (ANS)
 - D. Somatic nervous system (SNS)
3. Nerve Conduction Studies (NCS) are used to evaluate:
 - A. Brain function
 - B. Cardiac function
 - C. Peripheral nerve function
 - D. Pulmonary function
4. Electromyography (EMG) is a diagnostic test used to evaluate:
 - A. Brain function
 - B. Cardiac function
 - C. Peripheral nerve function
 - D. Muscular function
5. Cerebrospinal Fluid (CSF) is primarily produced in the:
 - A. Choroid plexus
 - B. Spinal cord
 - C. Kidneys
 - D. Lungs
6. Continuous Electroencephalography (cEEG) is used for:
 - A. Assessing kidney function
 - B. Monitoring heart rhythm
 - C. Evaluating lung function
 - D. Detecting seizure activity
7. A cerebrovascular accident (CVA) is commonly known as a:
 - A. Heart attack
 - B. Stroke
 - C. Seizure
 - D. Brain tumor
8. The causative agent of Tetanus is;
 - A. Clostridium tetani
 - B. Staphylococcus aureus
 - C. Streptococcus pneumoniae
 - D. Escherichia coli
9. The neurotransmitter primarily affected in Myasthenia Gravis is;
 - A. Acetylcholine
 - B. Dopamine
 - C. Serotonin
 - D. GABA

10. Encephalitis is characterized by inflammation of which part of the central nervous system?
 - A. Brain
 - B. Spinal cord
 - C. Nerve roots
 - D. Peripheral nerves
11. 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
12. 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
13. 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
14. The medication commonly administered preoperatively to reduce cerebral edema is;
 - A. Dexamethasone
 - B. Furosemide
 - C. Mannitol
 - D. Metoprolol
15. Cholinesterase inhibitors are primarily used for the treatment of:
 - A. Hypertension
 - B. Asthma
 - C. Alzheimer's disease
 - D. Diabetes mellitus
16. 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
17. 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
18. 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)

19. A decreased nerve conduction velocity can indicate:
 - A. Normal nerve function
 - B. Nerve compression or damage
 - C. Excessive nerve activity
 - D. Muscle weakness
20. 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
21. The recommended compression-to-ventilation ratio for adult CPR with two rescuers is;-
 - A. 15:2
 - B. 30:2
 - C. 20:2
 - D. 25:2
22. The recommended depth of chest compressions for an adult during CPR is;-
 - A. At least 1 inch
 - B. At least 2 inches
 - C. At least 3 inches
 - D. As deep as possible
23. The correct rate of chest compressions during adult CPR is;-
 - A. 80–100 compressions per minute
 - B. 100–120 compressions per minute
 - C. 120–140 compressions per minute
 - D. 60–80 compressions per minute
24. The correct site to check for a pulse in an unresponsive adult is;-
 - A. Radial pulse
 - B. Brachial pulse
 - C. Carotid pulse
 - D. Femoral pulse
25. The first step in the BLS sequence for an unresponsive patient is;-
 - A. Start chest compressions
 - B. Open the airway
 - C. Check for responsiveness
 - D. Deliver rescue breaths
26. Rescuers should switch roles during two-rescuer CPR;-
 - A. Every 1 minute
 - B. Every 2 minutes
 - C. Every 5 minutes
 - D. After every 10 cycles
27. The recommended compression depth for infants during CPR is;-
 - A. At least 1/3 the depth of the chest
 - B. At least 1 inch
 - C. At least 2 inches
 - D. At least 3 inches

28. The correct action if an adult patient vomits during CPR is;-
- A. Continue chest compressions
 - B. Turn the patient's head to the side, clear the airway, and continue CPR
 - C. Stop CPR and check for a pulse
 - D. Deliver rescue breaths immediately
29. The compression-to-ventilation ratio for two-rescuer infant CPR is;-
- A. 15:2
 - B. 30:2
 - C. 20:2
 - D. 25:2
30. When should an unconscious patient be placed in the recovery position;-
- A. If the patient has a pulse and is breathing
 - B. If the patient has no pulse and is not breathing
 - C. If the patient has bradycardia and is not breathing
 - D. If the patient has a bounding pulse and is not breathing
31. The first drug of choice for ventricular fibrillation is-
- A. Amiodarone
 - B. Epinephrine
 - C. Lidocaine
 - D. Adenosine
32. The recommended dose of epinephrine during cardiac arrest is;-
- A. 0.5 mg IV/IO
 - B. 1 mg IV/IO
 - C. 2 mg IV/IO
 - D. 5 mg IV/IO
33. The rhythm that requires immediate defibrillation is;-
- A. Asystole
 - B. Pulseless electrical activity (PEA)
 - C. Ventricular fibrillation
 - D. Sinus bradycardia
34. The recommended energy dose for defibrillation in adults is;-
- A. 50–100 joules
 - B. 120–200 joules
 - C. 300–360 joules
 - D. 400–500 joules
35. The normal sinus rhythm of the heart starts in the:
- A. Left ventricle
 - B. Atrioventricular node
 - C. Sinoatrial node
 - D. Right ventricle
36. The P wave on an ECG represent;-
- A. Atrial depolarization
 - B. Ventricular depolarization
 - C. Atrial repolarization
 - D. Ventricular repolarization
37. ECG segment is associated with ventricular depolarization is;-
- A. P wave
 - B. PR interval
 - C. QRS complex
 - D. T wave

38. The standard paper speed for recording an ECG is:-
- A. 10 mm/sec
 - B. 25 mm/sec
 - C. 50 mm/sec
 - D. 100 mm/sec
39. The QT interval represent -----on an ECG;-
- A. Time for ventricular depolarization and repolarization
 - B. Duration of atrial depolarization
 - C. Time for atrial repolarization
 - D. Duration of ventricular contraction
40. The following indicates myocardial infarction in ECG interpretation :-
- A. Flattened T wave
 - B. ST segment elevation
 - C. Prolonged PR interval
 - D. Wide QRS complex
41. The common ethical justification for withholding CPR in specific cases is;-
- A. Limited availability of medical equipment
 - B. Patient's Do Not Resuscitate (DNR) order
 - C. Fear of legal consequences for the provider
 - D. Lack of training among healthcare staff
42. All of the following are bradycardic rhythms except:
- A. Atrial fibrillation
 - B. First-degree heart block
 - C. Mobitz Type I
 - D. Third-degree heart block
43. _____ access is preferred in arrest due to easy access and no interruption in CPR.
- A. Central
 - B. Peripheral
 - C. Intraosseous
 - D. Endotracheal
44. The following is not found within the 8 D's of stroke care;-
- A. Detection
 - B. Dispatch
 - C. Delivery
 - D. Defibrillate
45. The primary goal of ACLS?
- A. Preventing arrhythmias
 - B. Restoring spontaneous circulation and preserving neurological function
 - C. Managing chronic heart conditions
 - D. Reducing blood pressure
46. The preferred method for opening the airway in a patient with suspected spinal injury is;-
- A. Head tilt-chin lift
 - B. Jaw thrust maneuver
 - C. Nasopharyngeal airway insertion
 - D. Oropharyngeal airway insertion

47. An advanced airway should be considered during ACLS;-
- A. After 1 minute of CPR
 - B. When bag-mask ventilation is ineffective
 - C. Immediately upon arrival
 - D. Only in a hospital setting
48. The target oxygen saturation range during post-cardiac arrest care?
- A. 80-85%
 - B. 90-94%
 - C. 94-99% o
 - D. 100%
49. The recommended temperature range for targeted temperature management (TTM) is;-
- A. 28-32°C
 - B. 32-36°C
 - C. 36-40°C
 - D. 40-44°C
50. The drug used to treat torsades de pointes associated with prolonged QT interval is;-
- A. Atropine
 - B. Magnesium sulfate
 - C. Epinephrine
 - D. Adenosine
51. The target PaCO₂ range during post-respiratory arrest care is;-
- A. 30-35 mmHg
 - B. 35-45 mmHg
 - C. 45-55 mmHg
 - D. 50-60 mmHg
52. Closed-loop communication is critical during ACLS because;-
- A. It reduces verbal exchanges during resuscitation •
 - B. It ensures that instructions are heard and acted upon accurately
 - C. It replaces the need for leadership
 - D. It eliminates medication errors
53. The first priority for a pregnant patient in cardiac arrest is;
- A. Perform a perimortem cesarean delivery
 - B. Displace the uterus to relieve aortocaval compression
 - C. Defibrillate immediately
 - D. Administer magnesium sulfate
54. The focus of ACLS in opioid-related cardiac arrest is;-
- A. Reversing hypoxia and administering naloxone
 - B. Delivering defibrillation
 - C. Administering atropine
 - D. Focusing only on CPR
55. The primary purpose of administering amiodarone during ACLS is;-
- A. To increase heart rate
 - B. To treat bradycardia
 - C. To manage ventricular arrhythmias
 - D. To improve oxygenation

56. The recommended ventilation rate during CPR with an advanced airway in place is;-
- A. 6–8 breaths per minute
 - B. 10–12 breaths per minute
 - C. 15–20 breaths per minute
 - D. 20–30 breaths per minute
57. The first step in the ACLS algorithm for bradycardia with a pulse is;-
- A. Administer atropine
 - B. Start chest compressions
 - C. Assess the patient's airway, breathing, and circulation
 - D. Prepare for transcutaneous pacing
58. The drug is used to treat symptomatic bradycardia;-
- A. Adenosine
 - B. Atropine
 - C. Amiodarone
 - D. Epinephrine
59. The recommended dose of adenosine for the first administration is;-
- A. 3 mg IV push
 - B. 6 mg IV push
 - C. 12 mg IV push
 - D. 18 mg IV push
60. The maximum interval between chest compressions during CPR is;-
- A. 5 seconds
 - B. 10 seconds
 - C. 15 seconds
 - D. 20 seconds
61. The hypothalamic hormones reach anterior pituitary gland by means of;
- A. Median eminence
 - B. Neural transmitters
 - C. Neural network
 - D. Vascular network
62. Lipid soluble hormones are;
- A. Steroid and thyroid hormones
 - B. Catecholamine and thyroid hormones
 - C. Thyroid hormone and peptide hormone
 - D. Peptide hormone and catecholamine
63. The hormone secreted by the endocrine pancreas that prevents postprandial hyperglycemia is;
- A. Insulin
 - B. Somatostatin
 - C. Glucagon
 - D. Pancreatic polypeptide
64. Thyroid hormones promote growth and development by stimulating;
- A. Formation of DNA
 - B. Formation of RNA
 - C. Increased basal metabolic rate
 - D. Increased oxygen consumption

65. During formation of catecholamine, tyrosine is converted to L-dopa by the enzyme;
- A. Dopa- carboxylase
 - B. Tyrosine- hydrolase
 - C. Dopa -hydrolase
 - D. Beta hydrolase
66. The pair of cranial nerves being evaluated when performing corneal reflex is being performed on the left eye;
- A. Left CN V and VII
 - B. Right CN V and VII
 - C. Left CN III and VII
 - D. Right CN III and VII
67. The nurse is assessing the motor function of an unconscious male client. The nurse would plan to use which of the following to test the client peripheral response to pain;
- A. Sternal rub
 - B. Nail bed pressure
 - C. Pressure on the orbital rim
 - D. Squeezing of the sternocleidomastoid muscle
68. A nurse would use which standardized tool as a guide in assessing a client with a head injury and increased intracranial pressure?
- A. A Snellen charts
 - B. Pulse oximetry graph
 - C. Visual analogue scale
 - D. Glasgow coma scale
69. The nurse is assessing a patient who had craniotomy three days prior. The nurse would suspect of developing meningitis if they exhibit;
- A. A negative kerning's sign
 - B. Absence of nuchal rigidity
 - C. A positive brudzinki sign
 - D. Glasgow coma scale score of 15
70. 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. Pupil response to light and accommodation
71. A low tidal volume is associated most closely with;
- A. Hypoventilation
 - B. Hypocapnia
 - C. Hypoxia
 - D. Hypotension
72. The term barotrauma refers to injury caused by;
- A. Oxygen
 - B. Friction
 - C. Temperature
 - D. Pressure
73. Metabolic acidosis results in;
- A. Increased PaCO₂
 - B. Decreased PH
 - C. Increased base excess
 - D. Increased HCO₃

74. The most common indication for use of a mechanical ventilator is;
- A. Pneumonia
 - B. COPD
 - C. Acute asthmatic attack
 - D. Acute ventilatory failure
75. High endotracheal tube cuff pressures can damage the trachea when the cuff pressure is;
- A. Increased during coughing
 - B. Reduced due to a leak
 - C. Lower than surrounding capillary pressure
 - D. Higher than surrounding capillary pressure
76. Interpret the following blood gas; PaO₂ 78; PaCO₂ 29; PH 7.29; HCO₃ 14; BE-10
- A. Respiratory acidosis
 - B. Respiratory alkalosis
 - C. Metabolic acidosis
 - D. Metabolic alkalosis
77. The term therapeutic relationship means;
- A. Unbiased sharing of information between care provider, patients and family
 - B. Child friendly environment laced with music, soothing color schemes
 - C. Healthcare providers cooperating with family and patients in the care of the ill child
 - D. Customized care that reflects patient's needs values, culture and choices
78. An anatomical variation that most likely to predispose an infant to risk for airway obstruction is;
- A. Soft palate, narrowed epiglottis
 - B. Cephalad cone shaped larynx, short neck
 - C. Unproportionally big head, proportional large tongue
 - D. Short neck, weak diaphragm muscles
79. The best intervention required for a child with right sided heart failure in shock is;
- A. Administration of oxygen by face mask
 - B. Administration of potassium sparing diuretics
 - C. Intravenous fluids administration
 - D. Bed rest in propped up position
80. A child within his 90th to 97th percentile of weight to age is considered to be;
- A. Obese
 - B. Overweight
 - C. Normal weight
 - D. Underweight
81. Fluid volume deficit observed in patients with acute pancreatitis is related to;
- A. Damage of pancreatic duct system
 - B. Extravasation of fluid into third space
 - C. Alteration in secondary process of acinar cells
 - D. Release inflammatory exudate into ductules
82. Priority nursing intervention indicated for a patient admitted with acute viral hepatitis is;
- A. Ensure family members are informed about the condition
 - B. Ensure nutritional status of the patient is maintained
 - C. Refer the patient for vaccination services immediately
 - D. Give the patient health education on preventive measures.

83. Specific enzymes that elevated serum levels confirm diagnosis of acute pancreatitis are;
- A. Amylase and lipase
 - B. Trypsin and amylase
 - C. Amylase and chymotrypsin
 - D. Lipase and chymotrypsin
84. The enteric nerve plexus found between circular and longitudinal layer of the muscle layer of gastrointestinal tract is;
- A. Myenteric plexus
 - B. Celiac plexus
 - C. Cervical plexus
 - D. Meissner's plexus
85. The enteric hormone that stimulates secretion of hydrochloric acid and hormone pepsinogen is;
- A. Secretin
 - B. Cholecystokinin
 - C. Gastrin
 - D. Motilin
86. A critical care unit categorized as level 1 provides;
- A. Monitoring, observation and short-term ventilation
 - B. Observation, monitoring and short term and long-term ventilation
 - C. Invasive hemodynamic monitoring, dialysis and ventilation
 - D. Observation, hemodialysis and long-term ventilation
87. A nurse theorist who wrote about novice to expert theory is;
- A. Virginia Henderson
 - B. Florence Nightingale
 - C. Callister Roy
 - D. Patricia Benner
88. You are to administer lactated ringer's solution IV at 75 ml/hour. The drop factor is 10 drops per ml. How many drops per minute will you set;
- A. 16
 - B. 13
 - C. 15
 - D. 18
89. The head of ICU ideally should be;
- A. Intensivist
 - B. Anesthetist
 - C. Neuro-surgeon
 - D. Nephrologist
90. The priority nursing care for a patient with myocardial infarction will be;
- A. Oxygen
 - B. ECG
 - C. Admit to Cardiac unit
 - D. Call cardiologist

91. You are teaching a group of new graduate nurses how the body fights infection. When discussing humoral immunity, you should explain that this protection is mediated by;
- Basophil
 - Eosinophil
 - The B cells
 - The monocyte
92. The nursing intervention that should be attended to first for a client with a Type I hypersensitivity reaction is;
- Administering naloxone (Narcan) stat
 - Obtaining blood sample for type and cross-match
 - Initiating 0.9% NaCl intravenous solution
 - Establishing and maintaining a patent airway
93. Autoimmune disorders fall into _____ category of "inappropriate responses of the immune system
- Hyperactive responses against environment antigens
 - Inability to protect the body
 - Failure to recognize the body as self
 - Attacks on beneficial foreign tissue
94. A membrane transport is said to be 'gated' if it:
- Requires the binding of ATP to open
 - Allows molecules to pass in only one direction
 - Participates in the formation of membrane potential
 - Opens in response to a specific stimulus
95. As the nurse providing care to a patient who experienced a full-thickness electrical burn you know to monitor the patient's urine for
- Haemoglobin and myoglobin
 - Protein and red blood cells
 - Free iron and white blood cells
 - Potassium and Urea
96. An overdose of Benzodiazepines is treated with
- N-Acetylcysteine
 - Flumazenil
 - Physostigmine
 - Protamine
97. After receiving 1000 mL of normal saline, the central venous pressure for a patient who has septic shock is 10 mm Hg, but the blood pressure is still 82/40 mm Hg. The nurse will anticipate the administration of;
- Nitroglycerine (tridil)
 - Norepinephrine (levophed)
 - Drotrecogin alpha (xigris)
 - Sodium nitroprusside (nipride)
98. The vital sign that will change in a client with hypovolemic shock to indicate the therapy is effective is;
- Urine output increase from 5 mL/hr to 25mL/hr
 - Pulse pressure decrease from 35 mm Hg to 28 mm Hg
 - Respiratory rate increase from 22 breath/min to 26 breaths/min
 - Core body temperature increase from 98.2 F (36.8C) to 98.8 F (37.1C)

99. The compression to breath ratio when performing CPR on an infant with one provider is;
- A. 30:2
 - B. 25:2
 - C. 15:1
 - D. 15:2
100. A sudden increase in blood pressure in the aorta or carotid artery generally causes;
- A. A decrease in force of ventricular contraction
 - B. An increase in the heart rate
 - C. An increase in the systematic vascular resistance
 - D. An increase in force of ventricular contraction
101. Beck's triad, which is associated with cardiac tamponade, consists of distended neck veins, along with the following symptoms;
- A. Tachycardia and a bounding pulse
 - B. Bradycardia and a bounding pulse
 - C. Oliguria and distant heart sound
 - D. Hypotension and distant/muffled heart sound
102. While nursing a Patient on arterial pressure monitoring device, the nurse observes the presence of a dicrotic notch on the arterial waveform. This indicates
- A. Closure of the aortic valve
 - B. Closure of the atrioventricular valves
 - C. Opening of the pulmonic valves
 - D. Opening of the mitral valve
103. A patient diagnosed as having an inferolateral myocardial infarction will have ST segment changes in the following contiguous leads;
- A. I, II, aVF, V1
 - B. I, V4, V5, V6
 - C. V3, V4, V5, II
 - D. aVL, V6, II, III
104. R-on-T phenomenon;
- A. Describes atrial depolarization which is superimposed on the T-wave of the preceding beat
 - B. It is a normal physiological variant observed on the ECG
 - C. May precipitate ventricular fibrillation
 - D. Synchronized cardioversion can precipitate this phenomenon
105. The unit intensivist prescribed 7mcg/min of norepinephrine infusion. If 4mgs of the drug is reconstituted in 50cc of normal saline, the infusion rate will be;
- A. 367mls/hr
 - B. 5.25mls/hr
 - C. 2.5mls/hr
 - D. 184mls/hr
106. Murmurs of aortic and pulmonic regurgitation generally begin immediately;
- A. After the S1, heart sound
 - B. After the S2, heart sound
 - C. Before the S1, heart sound
 - D. Before the S2, heart sound

107. Cardiac pacing is indicated in the following dysrhythmias
- A. First degree heart block, complete heart block
 - B. Asymptomatic sinus bradycardia, Mobitz Type 1
 - C. Mobitz Type II, symptomatic sinus bradycardia
 - D. Complete heart block, supraventricular tachycardia
108. The initial management of patients with pulmonary hypertension should include
- A. Vasodilators
 - B. Bronchodilators
 - C. Oxygen therapy
 - D. Steroid therapy
109. Angiotensin Converting Enzymes (ACE) inhibitors
- A. Can cause hyperkalemia
 - B. Inhibit conversion of renin to angiotensin II
 - C. Are safe for use in pregnancy
 - D. Increase proteinuria in the diabetic nephropathy
110. In the electrocardiogram
- A. Pathological Q wave is the first sign of infarction
 - B. Hypokalemia produces flattened T waves
 - C. A QT interval of 0.5 sec is normal
 - D. Type II atrioventricular block shows lengthening of PR interval
111. Evidence of effective thrombolytic therapy in acute myocardial infarction is
- A. Abrupt cessation of chest pains, early peak elevation of cardiac isoenzymes, and normalization of cardiac dysrhythmias
 - B. Abrupt cessation of chest pain, onset of ventricular dysrhythmias, and stabilized cardiac isoenzyme levels
 - C. Onset of ventricular dysrhythmias, early peak elevation of cardiac enzymes and stabilization of cardiac isoenzymes
 - D. Abrupt cessation of chest pains, early peak elevation of cardiac isoenzymes, onset of ventricular dysrhythmias
112. Dopamine hydrochloride 200mg is reconstituted with normal saline to form 50mls. If the patient's weight is 70kgs and the prescription is 7.5mcg/kg/min, the infusion rate will be
- A. 6.9mls per hour
 - B. 3.9mls per hour
 - C. 6.7mls per hour
 - D. 7.9mls per hour
113. Mobitz type II-degree heart block has
- A. P-wave blocked with no prolongation of PR interval
 - B. P-wave blocked with prolongation of PR interval
 - C. Been associated with posterior wall myocardial infarction
 - D. P-wave with PR interval of none conducted beats
114. The part of the primitive heart tube that gives rise to the pulmonary artery and the aorta is
- A. Bulbs cordis
 - B. Sinus venosus
 - C. Primitive ventricle
 - D. Truncus arteriosus

115. In an infant, the apex is located in the
- A. 4th intercostal space left of the sternum, mid clavicular line
 - B. 4th intercostal space left of the sternal border
 - C. 2nd intercostal space left of the sternum, mid clavicular line
 - D. 2nd intercostal space left of the sternal border
116. The heart is innervated by preganglionic parasympathetic fibres that originate in the
- A. Cervical spinal cord
 - B. Upper thoracic spinal cord
 - C. Medulla
 - D. Lower thoracic spinal cord
117. The statement below is true concerning pain management in ICU
- A. Pre-emptive analgesia and/or nonpharmacologic interventions should be given prior to routine ICU procedures.
 - B. IV opioids should not be the first-line drug class of choice to treat nonneuropathic pain in ICU patients.
 - C. All IV opioids are equally effective when titrated to similar end points.
 - D. Use nonopioid analgesics to should be discouraged in severe pain
118. Opioid-related side effects are best managed in the following ways:
- A. Rotating the opioid
 - B. Using PRN dosing
 - C. Avoid increasing the dosage
 - D. Avoid mixing with NSAID
119. Giving naloxone too quickly or giving too much can precipitate the following symptoms;
- A. severe pain, withdrawal symptoms, tachycardia, dysrhythmias, and cardiac arrest.
 - B. severe pain, dyspnoea, tachycardia, dysrhythmias, and cardiac arrest.
 - C. severe pain, withdrawal symptoms, dyspnoea, dysrhythmias, and cardiac arrest.
 - D. Dyspnoea symptoms, tachycardia, dysrhythmias, and cardiac arrest.
120. The emotional pain is associated with;
- A. distress
 - B. Anxiety
 - C. Fear
 - D. Interpretation