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## BRAINWARE UNIVERSITY

Term End Examination 2024-2025

Programme – B.Sc.(CCT)-2021/B.Sc.(CCT)-2022

Course Name – Concepts in Advanced Life Support

Course Code - BCCTC601

( Semester VI )

Full Marks : 60

Time : 2:30 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

### Group-A

(Multiple Choice Type Question)

1 x 15=15

1. Choose the correct alternative from the following :

- (i) Tell the drug employed for rapid control of acute myocardial infarction:
  - a) Nitroglycerin
  - b) Aspirin
  - c) Atorvastatin
  - d) Clopidogrel
- (ii) State the medication indicated for acute control of severe allergic reactions:
  - a) Desloratadine
  - b) Epinephrine
  - c) Hydroxyzine
  - d) Diphenhydramine
- (iii) Identify the primary indication for using adrenaline in cardiac arrest.
  - a) To restore cardiac rhythm and contractility
  - b) To increase coronary blood flow
  - c) To stabilize blood glucose levels
  - d) To improve renal function
- (iv) Interpret the term for the destruction of skin resulting from prolonged pressure.
  - a) Cellulitis
  - b) Decubitus ulcer
  - c) Eczema
  - d) Pressure sore
- (v) Report which of following is a stage of pressure ulcer characterized by a partial-thickness skin loss involving epidermis and or dermis.
  - a) Stage 4
  - b) Stage 1
  - c) Stage 2
  - d) Stage 3
- (vi) Identify -The purpose of postural drainage is to:
  - a) Promote drainage of secretions from specific lung segments
  - b) Improve posture
  - c) Reduce chest pain
  - d) Increase blood flow to the lungs
- (vii) Sketch which of the following conditions is a common indication for postural drainage.
  - a) Hypertension
  - b) Cystic fibrosis
  - c) Urinary tract infection
  - d) Osteoporosis
- (viii) Choose the primary indication for using peripheral parenteral nutrition.
  - a) Short-term nutrition support
  - b) Chronic malnutrition
  - c) Nonfunctional gastrointestinal tract
  - d) Severe pancreatitis

- (ix) Infer the behavioral pain scale is commonly used in critically ill patients who are unable to communicate verbally.
- a) Critical-Care Pain Observation Tool (CPOT)      b) Wong-Baker FACES Pain Rating Scale  
 c) Visual Analog Scale (VAS)                      d) Behavioral Pain Scale (BPS)
- (x) Interpret how does the BPS score pain intensity.
- a) By measuring physiological parameters      b) By assessing pain duration  
 c) By categorizing as mild, moderate, or severe      d) By assigning a numerical value
- (xi) Sketch the primary mechanism of action of opioids in providing analgesia.
- a) Blockade of NMDA receptors                      b) Activation of opioid receptors  
 c) Inhibition of COX enzymes                      d) Enhancement of GABAergic transmission
- (xii) Tell which rhythm should prompt immediate defibrillation in ACLS.
- a) Asystole                                              b) Pulseless electrical activity (PEA)  
 c) Ventricular fibrillation (VF)                      d) Third-degree heart block
- (xiii) Tell the initial recommended dose of epinephrine during ACLS for adult cardiac arrest.
- a) 0.5 mg IV/IO every 3-5 minutes                      b) 1 mg IV/IO every 3-5 minutes  
 c) 0.1 mg/kg IV/IO every 3-5 minutes                      d) 0.01 mg/kg IV/IO every 3-5 minutes
- (xiv) Explain the protocol for ACLS.
- a) CAB                                              b) ABC  
 c) BAC                                              d) CBA
- (xv) Select the recommended dose of lidocaine for stable VT in ACLS.
- a) 100 mg IV bolus, repeat every 5-10 minutes up to 3 doses      b) 50 mg IV bolus, repeat every 5-10 minutes up to 3 doses  
 c) 1-1.5 mg/kg IV bolus, repeat every 5-10 minutes up to 3 doses      d) 2-3 mg/kg IV bolus, repeat every 5-10 minutes up to 3 doses

#### Group-B

(Short Answer Type Questions)

3 x 5=15

2. Define defibrillator, and list its primary purpose. (3)
3. Discuss the different types of defibrillation shocks, and when are they used in the ICU. (3)
4. Discuss some psychological factors that might increase a patient's risk of experiencing anxiety, depression, or post-traumatic stress disorder (PTSD) after an ICU stay. (3)
5. Write the Components of CPOT. (3)
6. Devise the approach to managing pulseless electrical activity (PEA) and asystole in the ICU during ACLS. (3)

OR

Explain the indications, techniques, and complications associated with advanced airway management (endotracheal intubation) during ACLS in the ICU. (3)

#### Group-C

(Long Answer Type Questions)

5 x 6=30

7. Discuss TPN. (5)
8. Write the complication of improper wound care. (5)
9. Explain the use of vasopressors, such as epinephrine and vasopressin, during ACLS in the ICU, including their mechanisms of action, dosages, and indications for administration. (5)
10. Write the potential long-term psychological effects of ICU stays on patients. (5)
11. Write the different type of fracture alongwith diagrams. (5)
12. Write the treatment algorithm for pulseless electrical activity (PEA) in ACLS. (5)

OR

Infer the use of antiarrhythmic medications such as amiodarone and lidocaine in ACLS. (5)

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