HealthCare Training Service

Advanced Life Support

Theoretical Examination B

Exam Time: **20 minutes**

Perusal Time: **5 minutes**

Total Marks: **25**

Instructions:

Read each question carefully. Using a pencil, record your response to each question on the examination answer sheet. When answering each multiple-choice question place an 'X' over the box containing the letter which corresponds to the most correct response for the question you are answering, as displayed below.

Question 1	A	B	C	D

If you wish to change your response to a multiple-choice question erase the initial response and place an obvious 'X' over the letter you have selected as the correct response.

Question 1	A	B	C	D

Place your name on the top right hand corner of the examination answer sheet.

Attempt all questions. The **pass mark** for this examination **is 80%**, this equates to **20/25** correct responses.

Do not place any marks on this paper.

Indicate your response to the following multiple-choice questions on the examination answer sheet by placing an 'X' over the box containing the letter which corresponds to the most correct response for the question you are responding to.

Section One

1. What is the recommended CPR ratio *(compressions to ventilations)* for a single operator on an adult?

    A. 15 : 1

    B. 5 : 1

    C. 30 : 2

    D. 15 : 2

2. If the patient that has arrested is advanced in her pregnancy, consideration should be directed to which of the following?

    A. Placing the woman in a left lateral tilt position achieved by placing padding under the woman's right hip to tilt the pelvis to the left.

    B. Positioning the woman supine with a downward head tilt to prevent vena cava compression by the gravid uterus.

    C. Administering Sodium Bicarbonate early to prevent acidosis.

    D. Performing one person CPR as this is most effective.

3. When providing rescue breaths via a bag-valve-mask device, how is the operator to ventilate the victim?

    A. Ventilate at a rate of 22 breaths per minute.

    B. Ventilate with just enough to make the chest rise and fall.

    C. Ventilate slow and long to ensure full lung capacity is being achieved with each breath.

    D. The full contents of the bag-valve-mask device is to be pushed into the victim with each breath given.

4. During the intubation procedure, what is the maximum time that CPR should be interrupted if at all?

    A. 5 seconds

    B. 20 seconds

    C. 30 seconds

    D. 45 seconds

5. Following return of spontaneous circulation (ROSC), the victim is still not breathing, at what ventilation rate would you now continue to provide breaths for the victim?

   A. 5 breaths per minute
   B. 10 breaths per minute
   C. 20 breaths per minute
   D. 25 breaths per minute

6. With regard to oxygen (O_2) administration during resuscitation, which of these statements is correct?

   A. Oxygen (O_2) is administered with an Oxygen (O_2) and Air mix at a 1 : 1 ratio of each gas, that is 50% Oxygen (O_2) and 50% Air.
   B. 100% Oxygen (O_2) is administered as soon as possible to maximise arterial blood Oxygen (O_2) saturation.
   C. Oxygen (O_2) is not administered during resuscitation to avoid hyperoxaemia.
   D. Ventilation is not performed during resuscitation to prevent the risk of hyperventilation and barotrauma.

7. Which of these statements is true for biphasic defibrillators?

   A. Biphasic defibrillators deliver energy in exactly the same manner as monophasic defibrillators, biphasic defibrillators are just newer.
   B. Biphasic defibrillators do **not** require the use of gel pads to enhance conduction.
   C. Biphasic defibrillators feature a 2-way current flow through the myocardium with each shock delivered.
   D. Biphasic defibrillators do **not** require interruptions to chest compressions while delivering the shock to the victim.

8. Complete the following statement. Whilst the defibrillation charge is being <u>delivered</u> to the patient,

   A. it is important that the patient is still receiving oxygen via the bag-valve-mask device or face mask.
   B. neither the person performing the defibrillation or others are to be touching the patient or the bed.
   C. chest compressions are to be continued throughout shock delivery, only oxygen is to be removed.
   D. All personnel need to stand 2 metres away from the patient/bed/trolley and defibrillator.

9. Which of these statements is correct in relation to intravenous administration of drugs during cardiac arrest?

   A. IV administration requires effective chest compressions to circulate the drug to the myocardium.

   B. IV administration takes longer to circulate through a central venous line than through a peripheral cannula.

   C. IV administration requires interruption of chest compressions.

   D. IV administration is contraindicated when an endotracheal tube is insitu.

10. In which of these circumstances may calcium chloride be helpful in cardiac arrest?

   A. For hypokalaemia

   B. Digitalis toxicity

   C. For hypercalcemia

   D. For hyperkalaemia

11. Which of these drugs is indicated when Torsade de pointes is the identified rhythm?

   A. Calcium Chloride

   B. Sodium Bicarbonate

   C. Potassium Chloride

   D. Magnesium Sulphate

12. What is meant by the term 'pacing threshold'?

   A. The minimum output (milliamps) the patient is able to tolerate without sedation.

   B. The maximum number of patients to be externally paced in any organisation at the same time.

   C. The maximum output the pacemaker is able to generate, which is always used for externally pacing patients.

   D. The minimum output from the pacemaker that results in capture.

13. During post resuscitation care, what is the temperature range for implementing Targeted Temperature Management (TTM)?

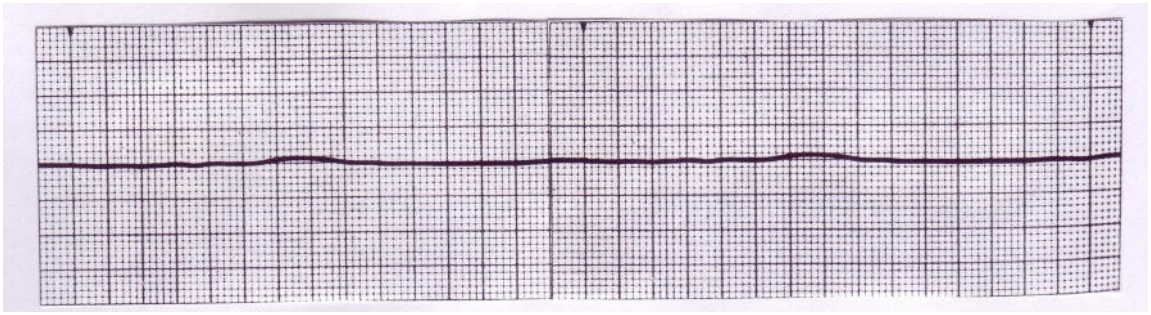
   A. 32°C – 36°C.

   B. 28°C – 32°C.

   C. >36°C

   D. <30°C

Section Two



An elderly male, believed to be a visitor, was found collapsed in the corridor of your facility. His medical history is unkown. Following assessment of the man, staff commenced CPR. You are part of the ALS response team and on arrival attach the defibrillator to the victim.

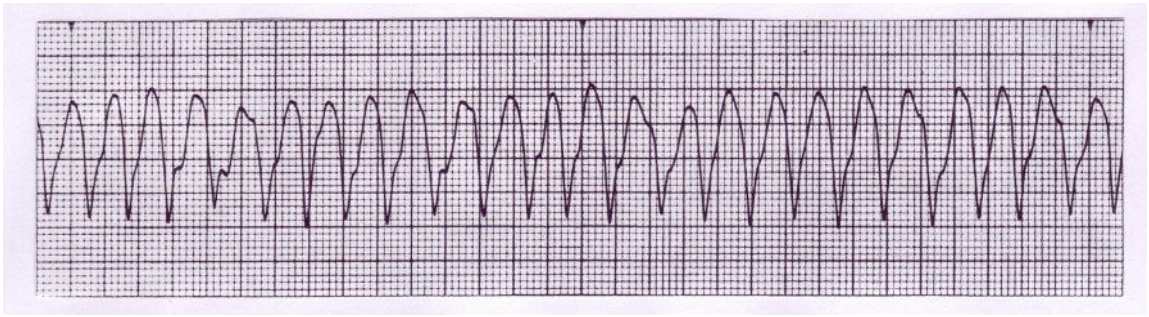
14. What is the above rhythm that is being displayed on the defibrillator?
    A. Ventricular Fibrillation
    B. Third degree heart block
    C. Idioventricular rhythm
    D. Asystole

15. The ALS Team Leader requests for CPR to be stopped so the patient's rhythm (and pulse) can be analysed. The patient is unresponsive (and pulseless), which of the following is the **initial** management of this event?
    A. Defibrillate
    B. Immediately continue CPR
    C. Administer IV/IO Atropine 1mg
    D. Administer IV/IO Amiodarone 300mg in 5% Dextrose

16. While the initial management is being instigated, the patient remains unresponsive, indicate the **next** step in the management of this event.
    A. Defibrillate
    B. Cannulate and administer IV/IO Lignocaine 1mg/kg
    C. Cannulate and administer IV/IO 10% Calcium Chloride 10mL
    D. Cannulate and administer IV/IO Adrenaline 1mg

17. Following a further 4 minutes of CPR (i.e. 2 loops of 5 cycles x [30 compressions to 2 breaths]) the victim remains unresponsive (and pulseless). The rhythm remains unchanged. The ALS Team Leader would now request which drug to be administered?
    A. IV/IO Adrenaline 1mg
    B. IV/IO Amiodarone 300mg
    C. IV/IO 10% Calcium Chloride 10mL
    D. IV/IO Sodium bicarbonate ($NaHCO_3$)

Section Three



A 52 year old male has been brought into the emergency room by his friends, who stated the man just collapsed as they were running past the facility on a jog. On assessment the man was unresponsive and CPR was commenced immediately. The ALS response team attached the victim to the defibrillator.

18 What is the above rhythm that is being displayed on the defibrillator?

A. Ventricular Fibrillation
B. Ventricular Tachycardia
C. Junctional Rhythm
D. Idioventricular rhythm

19. On assessment the victim displaying the above rhythm is unresponsive. What is the initial management required for this situation?

A. Defibrillate
B. Continue CPR for a further full 2 minutes before additional management {a full 5 cycles of (30 compressions to 2 breaths)}
C. Cannulate and administer IV/IO Amiodarone 300mg in 5% Dextrose
D. Cannulate and administer IV/IO Adrenaline 1mg stat

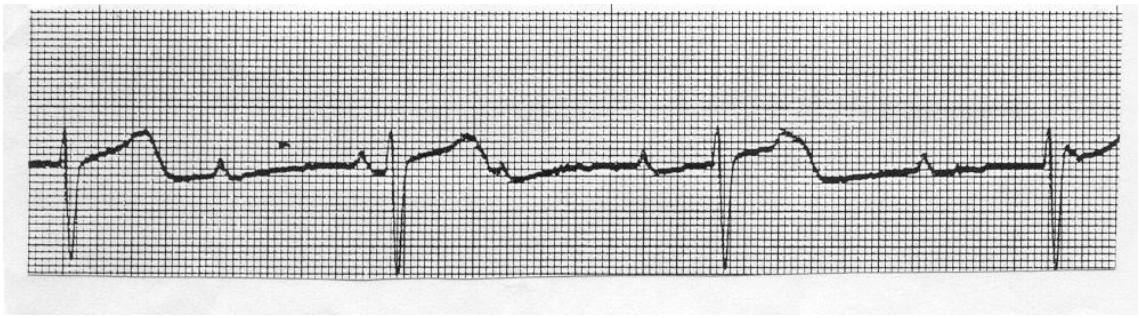
20. Having completed the initial management, the victim remains unresponsive. What is the very next step in the management of this event?

A. Defibrillate
B. Immediately resume CPR for 2 minutes {a full 5 cycles of (30 compressions to 2 breaths)}
C. Cannulate and administer IV/IO Atropine 1mg
D. Cannulate and administer IV/IO Adrenaline 1mg

21. Following completion of the above step, the victim remains unresponsive with the above rhythm displayed. What is the next action for the ALS Team to undertake?

A. Continue CPR for a further full 2 minutes {a full 5 cycles of (30 compressions to 2 breaths)}
B. Administer IV/IO Adrenaline 1 mg
C. Administer IV/IO Amiodarone 300mg in 5% Dextrose
D. Defibrillate

Section Four



A 74 year old female has been referred for admission. She had a pacemaker inserted three days ago and since returning home, she has felt dizzy and nauseated. The lady has been unable to eat and has been feeling faint every time she stands up. Staff were taking the lady's history when she suddenly collapsed and became unresponsive. CPR was commenced immediately. On arrival the ALS response team attach the defibrillator to the patient.

22. The above rhythm is being displayed on the patient's monitor. This rhythm is identified as:

A. Ventricular Tachycardia
B. Idioventricular rhythm
C. Junctional Rhythm
D. Third degree heart block

23 The ALS Team Leader requests for CPR to be stopped so the patient's rhythm (and pulse) can be analysed. The patient is unresponsive (and pulseless), which of the following is the **initial** management of this event?

A. Set up for intubation as the person is not breathing
B. Defibrillate
C. Immediately continue CPR
D. Cannulate and administer IV/IO Atropine 500 mcg

24 While this initial management is being instigated, the patient remains unresponsive, indicate the **next** step by the ALS team in the management of this event.

A. Defibrillate
B. Cannulate and administer IV/IO Amiodarone 300mg in 5% Dextrose
C. Cannulate and administer IV/IO 10% Calcium Chloride 10mL
D. Cannulate and administer IV/IO Adrenaline 1mg

25. Following the above management and after obtaining a patient history, the Team Leader should proceed to:

A. Administer IV Adrenaline 1mg
B. Treat the cause of the event as indicated by the history
C. Perform a clinical examination of the patient to verify the cause as indicated by the history
D. Administer a rapid intravenous infusion of at least 2 litres fluid replacement.