

Candidate number \_\_\_\_\_

# **BOOK TWO**

QUESTION 10 (20 marks) – DOUBLE QUESTION

You are the consultant in a regional Emergency Department. A 5 year old girl re-presents having been discharged 7 hours ago. She was assessed during the previous presentation for a head injury, sustained after a fall from a slide at preschool. No investigations were performed.

- i. List 6 indications for CT scan of brain for this child (6 marks)

---

---

---

---

---

---

---

---

- ii. Give 3 positive findings from the axial CT Image below (3 marks)

**A CT BRAIN IS SHOWN IN THE PROPS BOOKLET, PAGE 5**

---

---

---

---

- iii. The child deteriorates to GCS 5. List your top 5 management priorities (5 marks)

---

---

---

---

---

---

Candidate number \_\_\_\_\_

- iv. Concerns about the management of the initial presentation are brought to your attention. Give 3 potential issues and action required (6 marks)

---

---

---

---

---

---

---

QUESTION 11 (16 marks)

You are the overnight registrar in your tertiary hospital ED. You receive an ambulance pre-arrival call at 2am for a 25 year old male, stabbed multiple times in the chest. ETA is 10 min.

Vital signs:   HR 150 bpm  
                  BP 72/41 mmHg  
                  SaO2 90% on 15L  
                  RR 30 bpm  
                  GCS 12

- i. List 6 potential life threatening injuries in this patient (6 marks)

---

---

---

---

---

---

- ii. Briefly describe how you would prepare to receive this patient (5 marks)

---

---

---

---

---

iii. What are the indications for ED thoracotomy in trauma (3 marks)

---

---

---

---

iv. Provide an estimate of survival rates following ED thoracotomy for traumatic arrest (2 marks)

In penetrating chest trauma	
In blunt trauma	

## QUESTION 12 (14 marks)

A 68 year old female presents to your tertiary emergency department intoxicated, 2 hours after deliberately ingesting 120 x 600mg tablets of slow release potassium. She has been vomiting and has a GCS of 14 (confused). An initial VBG is performed.

pH	7.32	(7.35-7.45)
pCO <sub>2</sub>	35 mmHg	(35-38)
Lactate	5 mmol/L	(0.6-1.5)
Creat	110 mcml/L	(45-90)
BSL	6.3 mmol/L	(3.9-5.8)
Na	133 mmol/L	(136-146)
K	6.1 mmol/L	(3.9-5.2)
HCO <sub>3</sub>	18 mmol/L	(21-28)
BE	-4 mmol/L	(-1.5-3.0)

- i. Outline your risk assessment with regard to her ingestion (4 marks)

---

---

---

---

- ii. List and briefly describe 2 specific toxicological interventions that may be used to manage her potassium ingestion (2 marks)

---

---

Candidate number \_\_\_\_\_

iii. List an advantage and disadvantage for each of the methods listed above (4 marks)

---

---

---

---

iv. List 4 other management priorities (4 marks)

---

---

---

---

## QUESTION 13 (20 marks)

A 35 year old female presents to your Emergency Department with an acute asthma attack. She is highly distressed and only speaking single words despite continuous salbutamol nebs.

- i. List 4 markers of severe asthma (4 marks)

---

---

---

---

- ii. Complete the table below regarding the use of intravenous salbutamol and magnesium sulfate in asthma (8 marks)

	Indication and rationale	Adverse Effects
Intravenous salbutamol		
Magnesium		



Despite intensive therapy, and a period of non-invasive ventilation, the patient continues to deteriorate, appears exhausted and begins to tire rapidly. You decide intubation is required.

iii. Outline what your initial ventilator settings (4 marks)

---

---

---

---

iv. List likely causes of climbing airway pressures in a ventilated asthmatic (4 marks)

---

---

---

---

QUESTION 14 (13 marks)

This is the ear of a 40-year-old male who has developmental delay with autism.

**A CLINICAL IMAGE IS SHOWN IN THE PROPS BOOKLET, PAGE 6**

- i. Describe and interpret the image (2 marks)

---

---

- ii. List two possible predisposing conditions (2 marks)

---

---

- iii. List two complications (2 marks)

---

---

- iv. Name the three bacteria typically involved (3 marks)

---

---

---

- v. Name one suitable antibiotic choice for this condition (1 mark)

---

---

This developmentally delayed man is distressed about being in hospital. He is currently pacing and will not come into the assessment room.

- vi. List 3 non-pharmacological strategies or techniques you can use to manage his agitation (3 marks)

---

---

---

QUESTION 15 (15 marks)

A 74 year old man presents after a fall the night before. He is now complaining of reduced mobility. Past medical history includes atrial fibrillation and hypertension. His medications are dabigatran, metoprolol and aspirin. GCS is 15.

- i. Outline the findings on the CT image (4 marks)

**A CT BRAIN IS SHOWN IN THE PROPS BOOKLET, PAGE 7**

---

---

---

---

- ii. List 4 possible treatments you would consider using and your rationale for each (8marks)

---

---

---

---

---

---

---

---

Candidate number \_\_\_\_\_

- iii. List 2 important additional features on assessment that are required to assist your treatment decision (2 marks)

---

---

- iv. List one other option for the management of NOAC associated bleeding (1 mark)

---

---

QUESTION 16 (15 marks)

A 12 year old girl was brought to ED via ambulance following a syncopal episode.

i. What is the definition of syncope (3 marks)

---

---

---

ii. What is the most common cause of syncope in children (1 mark)

---

iii. Name a form of syncope unique to the preschool population (1 mark)

---

iv. List 5 red flags in this girl's history that would prompt further investigation (5 marks)

---

---

---

---

---

v. List 5 conditions you would look for in this girl's ECG (5 marks)

---

---

---

---

---

## QUESTION 17 (14 marks)

A 26 year old primigravida presents at 36 weeks gestation with jaundice, blurred vision and hypertension (180/100 mmHg). The antenatal period was otherwise unremarkable. The following are her blood results:

Hb	80g/L	(115 – 160)
Platelets	52 x 10 <sup>9</sup> /L	(140 – 400)
INR	1.8	(0.9 – 1.3)
APTT	55 seconds	(25 – 38)
LDH	654 U/L	(110 – 250)
Fibrinogen	1.0 G/L	(1.5 – 4.0)
Total bilirubin	51 micromol/L	(< 20)

- i. List the four most likely diagnoses for this clinical presentation (4 marks)

---

---

---

---

- ii. Outline 4 priorities in your management (4 marks)

---

---

---

---

- iii. She starts to have a generalised seizure. List 2 medications with doses that you might administer (2 marks)

---



---



---



---

- iv. List the findings on a cardiotocograph (CTG) trace that would indicate foetal distress (4 marks)

CTG Feature	Non-reassuring or Abnormal values
Baseline rate	
Decelerations	



## QUESTION 18 (16 marks)

A 72 year old male presents via ambulance short of breath. He is sweaty and looks unwell but is conscious. He has a history of IHD and has an AICD in situ.

Vital signs     P 150 bpm  
                    BP 75/- mmHg  
                    RR 30 bpm  
                    SaO<sub>2</sub> 96% 15LNRB

- i.    What rhythm is shown (1 mark)

**A 12 LEAD ECG IS SHOWN IN THE PROPS BOOKLET, PAGE 8**

---

---

You decide to perform DC cardioversion to treat the rhythm noted above. A VBG done after a cannula is placed shows the following.

pH	7.35	(7.35-7.45)
pCO <sub>2</sub>	57 mmHg	(32-45)
Lactate	3.3 mmol/L	(0.5-1.6)
K	6.1 mmol/L	(3.5-5.2)
Cr	160 mcmmol/L	(60-110)

- ii.    What other treatment is required while cardioversion is being arranged (2 marks)

---

---

- iii. Outline 2 pharmacologic agents you could use for sedation in this patient with initial doses and indicating an advantages and disadvantage for each (8 marks)

Drug	Dose	Advantage	Disadvantage

- iv. Describe what settings you would set on the defibrillator and the positioning of the pads on the patient (2 marks)

---

---

---

---

- v. After cardioversion with sedation his rhythm is as follows. Describe the rhythm (1 mark)

**A RHYTHM STRIP IS SHOWN IN THE PROPS BOOKLET, PAGE 8**

---

---

- vi. Despite the ECG change the patient remains hypotensive, P 100bpm, SBP 80mmHg. Give 2 differential diagnoses for this (2 marks)

---

---