

**ID NUMBER:**

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**University Hospital, Geelong**  
**Emergency Medicine**  
**Trial Fellowship Exam**  
**Short Answer Questions (SAQ)**  
**Week 18**

**DIRECTIONS TO CANDIDATE**

1. Answer each question in the space provided in this question paper.
2. Do not write your name on this question paper.
3. Enter your examination number in the space below.
4. Cross out any errors completely.
5. Do not begin the exam until instructed to do so.
6. Do not take examination paper or materials from this room.
7. The booklet binder may be removed during the exam.

**QUESTION & ANSWER**  
**BOOKLET**

**Question 1 (16 marks)**

a. State two (2) key features of a “single tier” trauma activation system. (2 marks)

1. \_\_\_\_\_

2. \_\_\_\_\_

b. State the major limitation of a “single tier” trauma activation system. (1 mark)

\_\_\_\_\_

c. State two (2) key features of a “two tier” trauma activation system. (2 marks)

1. \_\_\_\_\_

2. \_\_\_\_\_

d. State the two (2) major effects of a “two tier” trauma activation system as compared with a one tiered system. (2 mark)

1. \_\_\_\_\_

2. \_\_\_\_\_

### Question 1 continued

An 80 year old man is brought to your Tertiary Trauma centre emergency department after being struck by a motorcycle at high speed while walking across a road.

His observations on arrival are:

BP	105/80	mmHg
HR	105	/min
RR	36	/min
Oxygen saturation	85%	on 15L/min via non rebreathing mask.
GCS	15	

**A Chest X-ray is taken on arrival - refer to the props booklet page 2.**

e. State three (3) abnormalities shown in this X-ray. (3 marks)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

### Question 1 continued

The patient deteriorates and requires rapid sequence induction and intubation. You have appropriate IV access, but no other management has been performed other than rapid sequence intubation.

- f. State six (6) management steps that you would utilise to optimise his ventilation post intubation. (6 marks)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_



**Question 2 (12 marks)**

a. List the three (3) criteria for a case definition of measles. (3 marks)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

b. List four (4) features of the rash seen in association with measles. (4 marks)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**Question 2 continued**

c. List four (4) groups of patients that are non-susceptible to measles virus. (4 marks)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

You ensure adequate analgesia and hydration for an 8 month old who appears well with a case of measles in your department.

d. List three (3) other key management steps for this patient. (3 marks)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

### Question 3 (13 marks)

It is 1000 hrs in your tertiary, mixed emergency department. You assess 12 month old twins who present with three days of vomiting and diarrhoea. They have both vomited 3 times and had 3 loose bowel actions today. You diagnose viral gastroenteritis for both twins.

- a. List three (3) key examination findings that you would use to assess the level of dehydration. (3 marks)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

Twin 1: You estimate fluid losses to be about 5% body weight. You estimate his weight to be 10kg.

- b. State your approach to management of this child for the first 1 hour. Provide three (3) points. (3 marks)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

### Question 3 (Continued)

c. Justify your choice for this regime. State two points in you answer. (2 marks)

1. \_\_\_\_\_

2. \_\_\_\_\_

Twin 2: You estimate fluid losses to be > 15% body weight. You estimate his weight to be 10 kg.

d. State your approach to management of this child for the first hour. Provide three (3) points in your answer. (3 marks)

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

e. Justify your choice for this regime. State two points in you answer. (2 marks)

1. \_\_\_\_\_

2. \_\_\_\_\_

### Question 4 (12 marks)

A 25 year old man has been brought to your emergency department after sustaining a knife wound to his neck in an assault. His vital signs and GCS are normal.

**A photo of his upper body is taken- refer to the pop booklet page 3.**

a. State four (4) important features of the injury shown in the photo. (4 marks)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

b. List four (4) deep structures that may be injured in this patient. (4 marks)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**Question 4 continued**

c. State four (4) key features on history that you would obtain. (4 marks)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**Question 5 (12 marks)**

A 50 year old man presents following an episode of palpitations and syncope. At the time of the ECG shown he is asymptomatic.

**An ECG is taken- refer to the props booklet page 4.**

a. State three (3) abnormalities shown in this ECG. (3 marks)

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

### Question 5 (continued)

The patient experiences palpitations and is noted to be in atrial fibrillation on the monitor at a rate of 160. Other than palpitations, he is asymptomatic and appears well. His BP is 150/85. There are no other new changes to his ECG. The rhythm persists. He is placed in a resuscitation cubicle with full monitoring applied. You provide explanation and reassurance to the patient.

- b. State six (6) key steps in his ongoing management over the next 20 minutes. (6 marks)

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

- c. State three (3) points to justify your selected management approach. (3 marks)

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_



### Question 6 (12 marks)

A 47 year old man arrives via ambulance with lethargy, extreme shortness of breath and wheeze despite IV adrenaline. He has a past history of poorly controlled asthma and morbid obesity. You decide to intubate him soon after arrival.

**Arterial blood gases are taken on arrival to the department on 50% oxygen-refer to the props booklet page 5.**

- a. Provide two (2) calculations to help you to interpret these results. (2 marks)

Derived value 1: \_\_\_\_\_

\_\_\_\_\_

Derived value 2: \_\_\_\_\_

\_\_\_\_\_

- b. Using the scenario and the derived values, define the primary acid/base abnormality/s. (2 marks)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

- c. Using the scenario and the derived values, define the secondary acid/base abnormality/s. (2 marks)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### Question 6 (continued)

d. Provide a unifying explanation for these gases in this clinical context. State three (3) points. (3 marks)

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

e. State three (3) key aims in your support of this patients' ventilation. (3 marks)

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

**Question 7 (10 marks)**

A 75 year old female presents with gradual loss of vision in her left eye.

**A photograph of her fundus is taken- refer to the props booklet page 6.**

- a. What is the diagnosis for this patient? (1 mark)

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- b. List five (5) likely underlying causes for this diagnosis in this patient. (5 marks)

1. 

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2. 

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3. 

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4. 

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5. 

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**Question 7 continued**

c. List four (4) key pieces of information that you would provide the patient.(4 marks)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

### Question 8 (12 marks)

You are in a regional emergency department. A registrar approaches you for assistance with one of his patients. The patient is a 30 year old man who presented with a headache.

**A CT head is taken- refer to the props booklet page 7.**

a. State two (2) abnormalities shown in this CT scan. (2 marks)

1. \_\_\_\_\_

2. \_\_\_\_\_

b. List four (4) features on examination that would indicate severe disease. (4 marks)

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

### Question 8 continued

You review the patient. He reports 8/10 on pain score for headache. He has been given 10mg oxycodone only prior to your review. He has 2 large bore IV access and full non invasive monitoring in situ and is in a resuscitation cubicle.

His observations are:

BP	220/100	mmHg
HR	90	bpm
Temperature	36.8	°C
Oxygen saturation	99%	on room air
GCS	15	

- c. List three (3) key steps in your management of this patient over the next 30 minutes.  
State one (1) point of detail for each management choice. (6 marks)

	Management step (3 marks)	Details (3 marks)
1		
2		
3		

### Question 9 (18 marks)

A 2 year old girl presents with agitation. She has been noted to have taken some of her grandmother's theophylline tablets.

- a. Other than agitation, list three (3) early clinical features of theophylline toxicity. (3 marks)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

- b. List three (3) key investigations that are required for this patient. (3 marks)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

- c. What is the role of decontamination in this overdose? State three (3) points in your answer. (3 marks)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

**Question 9 continued**

- d. What is the role of enhanced elimination in this overdose? State three (3) points in your answer. (3 marks)

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_



**Question 9 continued**

- e. List three (3) specific features of severe theophylline toxicity. List the specific treatment of each of these features. (6 marks)

	<b>Specific feature (3 marks )</b>	<b>Specific treatment (3 marks )</b>
1		
2		
3		

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**PROP BOOKLET**

**Question 1**

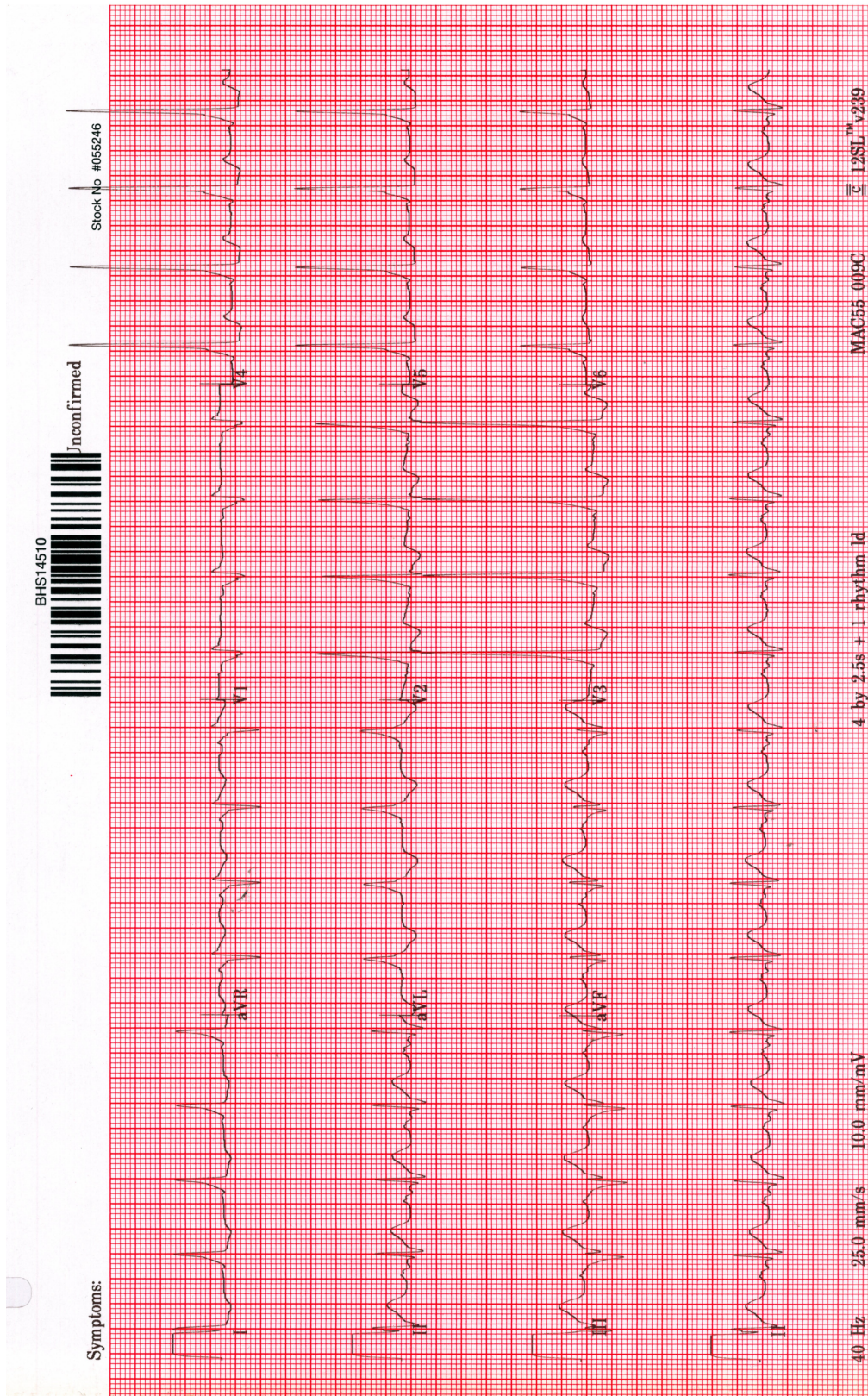


**Question 4**





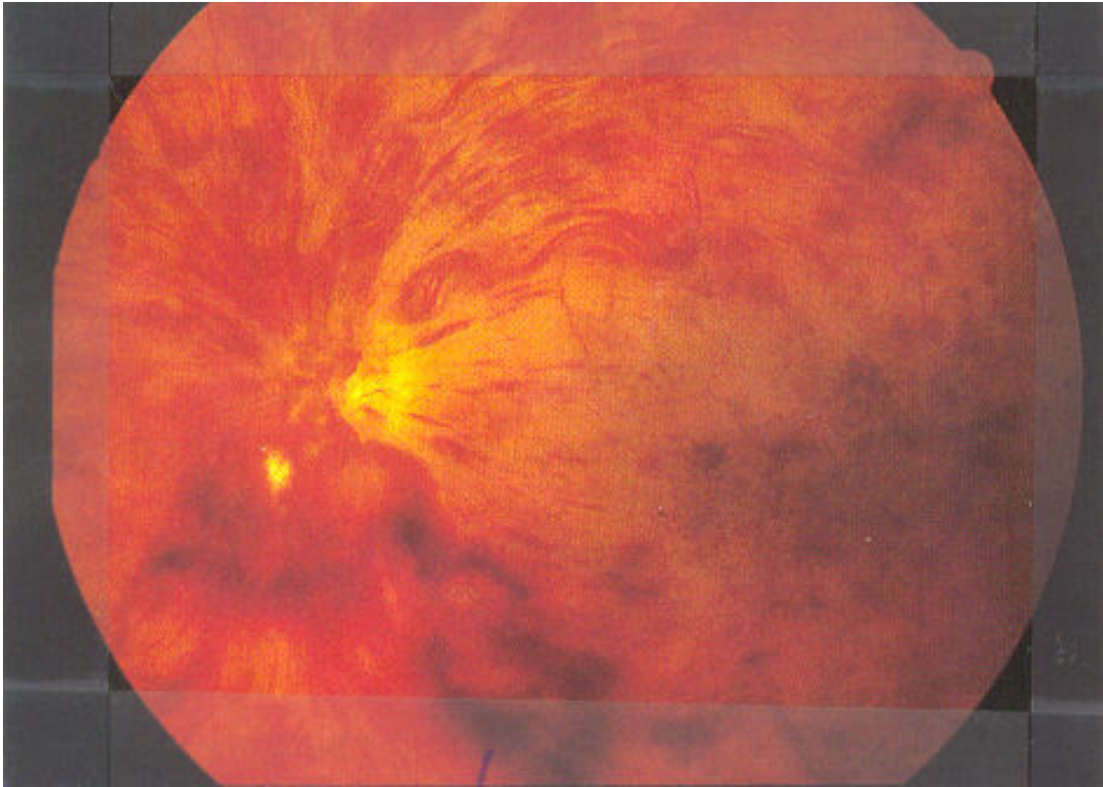
## Question 5



**Question 6**                      **Arterial blood gas**

		Reference range	
<b>FiO<sub>2</sub></b>	<b>0.50</b>		
<b>pH</b>	<b>7.12</b>		<b>( 7.35- 7.45 )</b>
<b>pCO<sub>2</sub></b>	<b>80</b>	<b>mmHg</b>	<b>( 35-45 )</b>
<b>PO<sub>2</sub></b>	<b>246</b>	<b>mmHg</b>	<b>( 80- 95 )</b>
<b>Bicarbonate</b>	<b>18</b>	<b>mmHg</b>	<b>( 22-28 )</b>
<b>Base excess</b>	<b>- 14</b>		<b>( -3 - +3 )</b>
<b>O<sub>2</sub> saturation</b>	<b>99</b>	<b>%</b>	<b>( &gt; 95 )</b>

**Question 7**





**Question 8**

