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**University Hospital, Geelong**  
**Emergency Medicine**  
**Trial Fellowship Exam**  
**Short Answer Questions (SAQ)**  
**Week 1**

**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 (18 marks)

A 40 year old man presents to the emergency department with fever and confusion for 24 hours. He has just returned from back- packing through Papua New Guinea and Indonesia.

His observations are:

HR	120	bpm
RR	16	/min
BP	130/80	mmHg
Temp	39.5	°C
GCS	13	(E4,V3,M6)

- a. List four (4) MOST LIKELY differential diagnoses for this presentation. For each diagnosis, list the expected incubation period prior to clinical features. (8 marks)

	Differential diagnosis (4 marks)	Expected incubation period (4 marks)
1.		
2.		
3.		
4.		

### Question 1 (continued)

- b. List four (4) key investigations that you may perform to assist with the diagnosis. (4 marks)

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

- c. List two (2) specific medications that you would consider as empiric treatment prior to obtaining confirmatory tests for this patient. For each, list your dose and route. (6 marks)

	Medication (2 marks)	Dose (2 marks)	Route (2 marks)
1.			
2.			

## Question 2 (8 marks)

A 59 year old obese man receives 5 mg of intravenous morphine for analgesia for abdominal pain. Thirty minutes later, his GCS has fallen to 12 and investigations are performed.

**Arterial blood gas and serum biochemistry is taken- refer to the props booklet- page 1.**

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

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

\_\_\_\_\_

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

\_\_\_\_\_

**Question 2 (continued)**

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

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

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- d. Provide a unifying explanation for these results. (2 marks)

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### Question 3 (12 marks)

A 42 year old woman presents via private car to the emergency department with severe right flank pain.

Her observations are:

HR	150	bpm
RR	16	/min
BP	70	mmHg
Temp	37	°C
GCS	15	

a. List four (4) MOST LIKELY differential diagnoses for this scenario. (4 marks)

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

**Question 3 (continued)**

- b. List four (4) investigations that you would perform to assist with the diagnosis. State one (1) justification for each choice. (8 marks)

	<b>Investigation (4 marks)</b>	<b>Justification (4 marks)</b>
1.		
2.		
3.		
4.		

### Question 4 (12 marks)

A 72 year old man presents to the emergency department with extreme shortness of breath. He has a history of COPD and is otherwise well. He is 70kg. He has not been given any medications.

His observations are:

HR	120	bpm
RR	36	/min
BP	130	mmHg
Temp	38.2	°C
GCS	15	

- a. List two (2) medications that you would consider using for his initial treatment. List dose and route of administration. (6 marks)

	Drug (2 marks)	Delivery (2 marks)	Dose (2 marks)
1.			
2.			



### Question 4 (continued)

He does not respond to your treatment and requires intubation.

b. State your initial ventilator settings. (3 marks)

	<b>Ventilator settings (3 marks)</b>
<b>Rate (1 mark)</b>	
<b>Tidal volume (1 mark)</b>	
<b>I:E rate (1 mark)</b>	

c. State three (3) reasons for your choice of these ventilation settings. (3 marks)

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

### Question 5 (12 marks)

A 6 year old boy presents to the emergency department with a rash for 1 day.

**A photograph of the boy's upper right thorax and arm is taken- refer to the props booklet- page 2.**

a. List five (5) diagnostic features of this rash. (5 marks)

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

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

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

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

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

b. List five (5) likely causes for this rash. (5 marks)

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

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

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

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

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

**Question 5 (continued)**

- c. List two (2) features of this disease that differentiates mild to severe disease. (2 marks)

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

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

### Question 6 (12 marks)

A 52 year old man presents to the emergency department with chest pain.

**An ECG is taken- refer to the props booklet- page 3.**

a. State four (4) abnormalities shown on this ECG. (4 marks)

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

b. State four (4) SIGNIFICANT implications of these findings. (4 marks)

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

**Question 6 (continued)**

- c. State two (2) SPECIFIC complications that you may anticipate for this patient within the first 30 minutes of your care. State one (1) specific treatment indicated for each complication. (4 marks)

	<b>Complication (2 marks)</b>	<b>Specific treatment (2 marks)</b>
<b>1</b>		
<b>2</b>		

**Question 7 (12 marks)**

- a. Complete the following statement with five (5) statements. (5 marks)

A person gives valid, informed consent if they:

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

- b. List two (2) circumstances in which a patient can be legally held against his/her wishes. (2 marks)

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

**Question 7 (continued)**

c. Define medical "negligence". (1 mark)

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d. List the four (4) legal conditions required to prove negligence. (4 marks)

1. 

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2. 

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3. 

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4. 

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### Question 8 (12 marks)

A 62 year old woman presents to the emergency department with massive haematemesis. She has a history of alcohol dependence.

Her vital signs on presentation are:

HR	150	bpm
RR	16	/min
BP	70	mmHg
Temp	37	°C
GCS	15	

- a. List four (4) MOST LIKELY differential diagnoses for the cause of her bleeding. (4 marks)

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

- b. List three (3) indications for urgent (< 1 hour) gastroscopy. (3 marks)

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



### Question 8 (continued)

She has 2 large IV access, full external monitoring and is referred to the gastroenterology service.

- c. Other than endoscopy, list three (3) steps in the management of her haemodynamic state. List one (1) detail for each step. (6 marks)

	Management (3 marks)	Detail (3 marks)
1.		
2.		
3.		

### Question 9 (16 marks)

A 2 year old woman presents to the emergency department after accidental ingestion of 2 x 400mg rapid release carbamazepine tablets.

a. List three (3) mechanisms of possible toxicity from this exposure. (3 marks)

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

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

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

b. List three (3) ECG findings that would suggest significant toxicity from this ingestion.  
(3 marks)

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

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

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

**Question 9 (continued)**

- c. List three (3) methods of decontamination or elimination. State one (1) indication for use in this patient for each method. (6 marks)

	<b>Method (3 marks)</b>	<b>Indication (3 marks)</b>
<b>1.</b>		
<b>2.</b>		
<b>3.</b>		

**Question 9 (continued)**

- d. List four (4) criteria, specific to this exposure, that need to be met to allow safe discharge. (4 marks)

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

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

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

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

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**PROP BOOKLET**

## Question 2

		Reference Range
FiO2	0.21	
pH	7.24	7.35-7.45
pCO2	92 mmHg	35-45
pO2	45 mmHg	80-95
Bicarbonate	49 mmol/L	22-28
Base excess	10	-3 - +3
O2 saturation	78 %	> 95
Lactate	1.2 mmol/L	< 1.3
Na+	142 mmol/L	134-146
K+	3.8 mmol/L	3.4-5
Cl-	86 mmol/L	98-106
Glucose	11.4 mmol/L	3.5-5.5
Haemoglobin	184 g/L	135–180
Carboxy	Hb 7 %	< 6%

**Question 5**



## Question 6

