



# Fellowship Practice Exam

May 2018 - Book 2

## WRITTEN EXAMINATION SHORT ANSWER QUESTIONS

EXAMINATION TIME: 3 HOURS - 1 hour per booklet

### Directions to Candidates

This booklet is one of three. It contains 9 questions. Allow 9 minutes for 3 page questions (10 and 18), and 6 minutes for 2 page questions (11 - 17). The entire booklet should take you 1 hour to complete.

1. Answer each question in the space provided in this question paper.
2. Do not write your name on this question paper.
3. Write your candidate number **on each page** in the space provided.
4. Cross out any errors completely.
5. Do not begin the exam until instructed to do so.
6. No examination papers or materials to leave the room.
7. Props are provided in a separate booklet.

**Question 10 (18 marks)**

A 12 year old boy has had a Biers Block performed for manipulation of a distal radius/ulnar fracture.

During the procedure he develops systemic local anaesthetic toxicity.

a) State the mechanism of action of local anaesthetic toxicity. (1 mark)

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b) List four (4) serious clinical complications of local anaesthetic toxicity. (4 marks)

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

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

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

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

**Question 10 (continued)**

c) List four (4) ECG features that would indicate systemic local anaesthetic toxicity. (4 marks)

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

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

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

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

**Question 10 (continued)**

d) Complete the table with three (3) pharmacological agents (from different classes) that can be used to treat the Cardiovascular effects of systemic toxicity (9 marks)

	<b>Agent</b>	<b>Dose</b>	<b>Frequency/rate</b>
<b>1</b>			
<b>2</b>			
<b>3</b>			

**Question 11 (12 marks)**

A 35 year old man has been found in a snow bank and brought to your emergency department. A photo of his hands are shown in **PROPS booklet; page 7**.

a) List three (3) important factors that may predispose to this type of injury. (3 marks)

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

b) List three (3) important factors that will ENHANCE tissue damage in this type of injury, giving your reason for each. (6 marks).

	<b>Factor that ENHANCES tissue damage</b>	<b>Reason it does this</b>
<b>1</b>		
<b>2</b>		
<b>3</b>		

**Question 11 (continued)**

c) List three (3) important principles of management of this man's hands. (3 marks)

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

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

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

**Question 12 (12 marks)**

ACEM's *Policy on the Use of Focused Ultrasound in Emergency Medicine* (February 2016) supports the use of ultrasound imaging by emergency physicians for specific *critical care* indications.

a) Other than Focused Abdominal Sonography in Trauma and Bedside Echocardiography in life support, list four (4) specific critical care indications. (4 marks).

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

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

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

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

You are tasked with establishing a training program for bedside ultrasound in your department. Your program will incorporate assessment of learner's competence.

b) List two (2) tools you may use to assess competence in an ultrasound skill. (2 marks)

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

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

**Question 12 (continued)**

c) For each of your listed assessment tools in part b, state one advantage and one disadvantage. (4 marks)

	<b>Advantage</b>	<b>Disadvantage</b>
<b>1</b>		
<b>2</b>		

d) According to ACEM's *Policy on Credentialing for Focused Echocardiography in Life Support* (February 2016), list two (2) requirements of *this individual clinician* for maintenance of recognised competence. (2 marks)

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

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



**Question 13 (13 marks)**

A 7 year old girl is brought to your emergency department after a fall from monkey bars. She describes pain localised to the right elbow and has no other injuries. On examination she is unable to flex the elbow past 30 degrees. X-rays of her elbow are shown in **PROPS booklet; page 11**.

a) List the elbow ossification centres including the ages they appear. (6 marks)

	<b>Centre</b>	<b>Age appearing</b>
<b>1</b>		
<b>2</b>		
<b>3</b>		
<b>4</b>		
<b>5</b>		
<b>6</b>		

**Question 13 (Continued)**

b) List three (3) abnormalities on these X-rays. (3 marks)

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

c) What injury is commonly associated? (1 mark)

\_\_\_\_\_

d) List your management steps for the injury shown in the X-ray. (3 marks)

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

**Question 14 (10 marks)**

A 43 year old woman presents to your emergency department with increasing left neck swelling and fever. She has had a sore throat for one week. Today she has also developed a painful left knee.

On examination she looks unwell. She is drowsy but easily roused. Her photo is shown in **PROPS booklet; PAGE 9**.

Her vital signs are:

BP	105/55	mmHg
HR	110	bpm
RR	24	bpm
Temp	38.7	°C
O2 Sat	99%	RA
GCS	14	(E3, V5, M6)

a) List your three (3) most important differential diagnoses. (3 marks)

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

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

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

b) List three (3) important investigations that will aid in your diagnosis. (3 marks)

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

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

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

**Question 14 (continued)**

c) State four (4) management priorities. (4 marks).

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

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

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

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

**Question 15 (10 marks)**

A 65 year old male with no significant past medical or surgical history is brought in to your Emergency department by his wife after being unwell for three days with vomiting. His vital signs are :

HR	120	bpm
BP	80/50	mmHg
RR	28	bpm
Sat	95%	RA
Temp	38.6	°C
GCS	14	(E3V5M6)

His X-ray is shown in **PROPS booklet; page 10** .

a) State three (3) important steps in management of his shock. (3 marks)

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

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

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

b) State three (3) abnormalities on his X-ray with one significance for each (3 marks)

	<b>Abnormality</b>	<b>Significance</b>
<b>1</b>		
<b>2</b>		
<b>3</b>		

**Question 15 (continued)**

c) List two (2) important differential diagnoses causing the above findings. (2 marks)

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

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

His venous blood gas shows moderate lactic acidosis.

d) State the Cohen-Woods classification for lactic acidosis and one cause for each group. (2 marks)

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

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

**Question 16 (12 marks)**

A 14 year old male is brought to your emergency department by his friends who tell you he has ingested "GHB" (gammahydroxybutyrate) an hour earlier with no co-ingestants. His vital signs are:

HR	50	bpm
BP	85/60	mmHg
RR	16	bpm
Sat	98%	RA
Temp	36.2	°C
GCS	7	(E2V1M4)

a) List four (4) important complications of a GHB overdose. (4 marks)

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

b) State four (4) immediate management priorities for this patient. (4 marks)

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

**Question 16 (continued)**

Ten hours later the patient GCS:14 (M5 unsteady) and states he wants to leave and moves towards the exit.

c) List four (4) interventions to manage this scenario. (4marks)

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

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

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

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



**Question 17 (12 marks)**

A 35 year old man presents feeling unwell with palpitations. His vital signs are:

BP	80/50	mmHg
RR	18	bpm
Sat	99%	RA
Temp	36.2	°C
GCS	15	

His ECG is shown in **PROPS booklet; page 11**.

a) List two (2) most likely differential diagnosis. (2 marks)

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

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

b) Complete the table below listing six (6) ECG features that can be used to help you distinguish between your above differential diagnosis. (6 marks)

	<b>ECG feature</b>	<b>Differential 1:</b>	<b>Differential 2:</b>
<b>1</b>			
<b>2</b>			
<b>3</b>			
<b>4</b>			
<b>5</b>			
<b>6</b>			

**Question 17 (continued)**

c) List four (4) possible underlying causes for this condition in this patient. (4 marks)

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

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

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

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

**Question 18 (12 marks)**

A 38 year old alcoholic presents with altered mental status. He is unable to provide any useful history. His vital signs are:

BP	102/58	mmHg
HR	104	bpm
RR	28	bpm
O2 Sat	96%	RA
Temp	34.5	C

An Arterial Blood Gas is taken and shown in **PROPS booklet; page 12**.

a) Provide two (2) calculations to assist with your interpretation of these investigations. (2marks)

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

\_\_\_\_\_

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

\_\_\_\_\_

b) What is the primary acid base disturbance? (1 mark)

\_\_\_\_\_

**Question 18 (continued)**

c) List three (3) LIKELY differential diagnoses for the patient's presentation (3 marks):

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

d) List three (3) additional blood tests that are critically important in this patient's workup. (3 marks)

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

**Question 18 (continued)**

e.) List three (3) specific treatments that you would consider in this patient. (3 marks)

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

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

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