



## **Fellowship Practice Exam**

**June 2016 - 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 19), and 6 minutes for 2 page questions (11 - 18). 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.

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

**Question 10 (21 marks) 9 minutes**

You are working in a regional hospital ED. You receive a call from ambulance that a 4 year-old boy is *en route* after an apparent near-drowning accident in a family swimming pool. CPR is in progress, with bag, valve, mask airway support. Estimated time of arrival is 10 mins.

i) List six (6) specific pieces of equipment that you would prepare for this patient. (6 marks)

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

On arrival, the patient is in PEA with a ventricular rate of 50 bpm. The family wish to come in to resus with the child.

ii) List three (3) advantages to this family's presence during the resuscitation. (3 marks)

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

**Question 10 (continued)**

iii) List three (3) disadvantages to this family's presence during the resuscitation. (3 marks)

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

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

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

The patient arrives and is successfully intubated. Return of Spontaneous Circulation is achieved.

iv) List the ventilator settings that you would commence. (5 marks)

<b>Mode (1 mark)</b>	
<b>Tidal volume (1 mark)</b>	
<b>Respiratory rate (1 mark)</b>	
<b>I:E (1 mark)</b>	
<b>PEEP (1 mark)</b>	

**Question 10 (continued)**

v) Other than adjusting the ventilation settings above, list four (4) specific treatment steps to optimise pulmonary recovery. (4 marks)

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

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

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

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

**Question 11 (14 Marks) 6 minutes**

A 48 year old female presents to the Emergency department with facial swelling .

1. List Three (3) **causes** of angioedema without urticaria (other than ACE I/ARB related angioedema) (3 marks)

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

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

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

2. How is angioedema differentiated from allergy / anaphylaxis? (1 mark )

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

3. List three (3) mechanisms of angioedema? (3 marks )

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

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

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

**Question 11 (continued)**

4. List Two (2) important systemic complications of angioedema (2 marks)

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

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

5 . List five (5) management option for ACE inhibitor mediated angioedema .  
(5 marks)

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

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

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

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

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

6. What are the chances of any patient on an ACE inhibitor or ARB developing angioedema ? (1 mark)

\_\_\_\_\_

\_\_\_\_\_

**Question 12 (15 marks) 6 minutes**

You are performing procedural sedation for a 3 year-old boy who is having a foreign body removed from his ear by a junior registrar. He is previously well, adequately fasted, and has no significant past history.

Two minutes after administering IV ketamine, he develops laryngospasm.

(1) List four (4) clinical features of laryngospasm (4 marks)

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

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

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

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

(2) List six (6) initial treatment steps in sequential order. (6 marks)

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

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

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

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

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

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



**Question 12 (continued)**

(3) List five (5) differences between adult and paediatric airways.(5 marks)

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

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

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

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

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

**Question 13 ( 18 marks) 6 minutes**

A 68 year old driver is involved in a motor vehicle accident and is intubated for a Glasgow Coma Score of 3. His wife states that he has been off balance for 3 weeks and she didn't want him to drive.

**An axial slice of his brain CT scan is shown in Props booklet ;Page 5.**

1. List five (5) abnormal findings on this image (5 marks)

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

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

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

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

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

2. What is the likely diagnosis based on the CT findings? (1 mark)

\_\_\_\_\_

\_\_\_\_\_

**Question 13 ( continued )**

3. List eight (8) advantages of a standard protocolled CT Brain in trauma (8 marks)

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

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

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

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

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

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

7. \_\_\_\_\_

8. \_\_\_\_\_

4. List four (4) limitations of a contrast-enhanced CT abdomen/pelvis in trauma (4 marks)

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

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

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

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

**Question 14 (19 marks) 6 minutes**

You are the consultant in an emergency department in a regional hospital with off site anaesthetics back up ( 30 minutes away).

You receive a phone call about the arrival of a morbidly obese patient within 10 minutes with respiratory distress. The paramedic anticipates that patient will need to be intubated.

a) List four (4) anatomical changes with obesity which work against successful airway management. (4 marks)

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

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

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

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

b) List six (6) steps that you would take to prepare for patient's arrival. (6 marks)

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

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

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

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

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

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

**Question 14 ( continued )**

c) A few minutes later, ambulance brings a 130 kg man (BMI = 40), write down three (3) of your preferred medications for induction of anaesthesia. State the dose you would use for each choice (assume normal BP and HR). ( 6 marks)

	<b>Medication</b>	<b>dose</b>
1		
2		
3		

**Question 15 (16 Marks) 6 minutes**

A grandmother brings a 4-year old female to the Emergency Department, 1 hour after she was witnessed to have taken 3 tablets of 240 mg extended-release Diltiazem tablets. The patient's heart rate is 40, her BP is 60/40 and she is responding to pain only.

- i) Other than cardiovascular and central nervous system effects, list one other expected toxic effects of this ingestion. (2 marks)

Physiological system	Toxic effect

- ii) State two (2) methods of decontamination that may be indicated in this case. List one (1) indication for the use of each method in this case.(4 marks)

	Method	Indication
1		
2		

**Question 15 (continued)**

- iii) State five (5) key steps in the management of this patient over the first 1 hour in the emergency department. Provide one (1) point of detail for each step (10 marks)

	<b>Treatment</b>	<b>Detail</b>
1		
2		
3		
4		
5		

**Question 16 (14 marks) 6 minutes**

A 78 yo female with PMH : Left total knee replacement, AF and GORD , presents after slipping over in the supermarket. She is very distressed. Ambulance treatment en route includes Normal Saline 500 mL, Air-splint to left leg and fentanyl 250 mcg . her vital signs on arrival:

BP	180/95	mmHg	HR	110	bpm
Temp	36.5	°C	GCS	14	(E3, V5, M6)
RR	12	breaths/min	Sat	96%	on 6L/min nasal prong

**Her Xray is available in PROPS booklet ; page 6.**

1. List five (5) abnormalities on the Xray (5 marks)

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

\_\_\_\_\_

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

\_\_\_\_\_

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

\_\_\_\_\_

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

\_\_\_\_\_

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



**Question 16 (continued)**

2. List four (4) options that you would utilise for pain management in this patient. (4 marks)

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

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

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

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

3. List five (5) investigations that you would request for this patient . State one (1) justification for each choice. (5 marks)

	<b>Investigation</b>	<b>Justification</b>
1		
2		
3		
4		
5		

**Question 17 ( 20 marks) 6 minutes**

A 45 year old previously well man is brought by ambulance in hard collar, after falling off a ladder with head strike and brief LOC. He has a GCS of 15 and his vital signs on arrival are normal. His examination reveals posterior lower cervical and upper thoracic spine tenderness, 3/5 weakness in the upper limbs and 4/5 weakness in the lower limbs.

1. Describe the CT image, **Shown in PROPS booklet - page 7**; listing two (2) relevant positive findings (2 marks).

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

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

2. What is the most likely diagnosis for his neurological presentation? (1 mark).

\_\_\_\_\_

3. List three (3) measures you would take to prevent secondary spinal injury (3 marks).

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

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

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

4. Define neurogenic and spinal shock (2 marks).

Neurogenic Shock: \_\_\_\_\_

\_\_\_\_\_

Spinal Shock: \_\_\_\_\_

\_\_\_\_\_

**Question 17 (continued)**

5. You diagnose a cord syndrome. Describe three (3) cord syndromes and differentiate them by completing the following table regarding aetiology, clinical presentation and prognosis. (12 marks)

	1	2	3
Cord Syndrome (3 marks)			
Aetiology (3 marks)			
Clinical Presentation (3 marks)			
Prognosis (3 marks)			

**Question 18 ( 23 marks) 9 minutes**

A 59-year-old man presents to the ED via ambulance. He has a history of alcohol abuse and has been noted to have increasing confusion over the preceding 2 days. He was found lying on the floor having a generalised seizure which was terminated by intramuscular midazolam from the ambulance crew.

In the ED his observations are:

GCS 3 (intubated)    BP 170/80    HR 110    O2 sats    95%

**His Venous Blood Gas is shown in PROPS booklet ; page 8.**

1) What is the acid base abnormality? ( 1 mark)

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2) List three (3) differential diagnosis in this patient for his acid base abnormality? ( 3 marks)

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

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

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

**Question 18 (continued)**

3) List three (3) potential causes for his hyponatraemia in this patient ( 3 marks)

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

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

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

4) List five (5) investigations you would perform in the ED – justify each decision (10 marks)

	Investigation	Justification
1		
2		
3		
4		
5		

**Question 18 (continued)**

While you are assessing the patient in the ED, the patient has a further tonic-clonic seizure.

5) List three (3) specific treatments you would consider to treat this seizure, with appropriate doses (6 marks)

	Treatment	Dose
1		
2		
3		