

BOOK THREE

QUESTION 19 (20 marks) – DOUBLE QUESTION

A 12 month old Asian boy is brought to the ED by his parents. Over the last 48 hours his mother noticed him becoming increasingly pale and lethargic and noted his urine was dark. He was seen by his GP 4 days ago with fever, vomiting and cloudy urine which settled with a course of trimethoprim. He is haemodynamically stable and afebrile.

- i. List 4 possible causes of this presentation (4 marks)

He has the following blood results:

WCC	11.8 x10 ⁹ /L	(3.6-11)
Neutrophils	7.3 x 10 ⁹ /L	(1.8-7.5)
Hb	60g/L	(115-165)
Hct	0.29L/L	(0.37-0.44)
Plt	500 x 10 ⁹ /L	(140-400)
RCC	3.5 x 10 ¹² /L	(3.8-5.8)
MCV	90 fL	(80-96)
MCHC	320g/L	(285-300)
Reticulocyte count	240x10 ⁹ /L	(30-140)

DAT / Coombs test – negative

EUC – normal

- ii. Describe and interpret the above results (2 marks)

- iii. List 4 other investigations to help confirm the likely diagnosis and provide your reasoning (8 marks)

- iv. You suspect he has G6PD. List 4 causes of this condition (4 marks)

- v. What would be your treatment for this patient (2 marks)

QUESTION 20 (14 marks)

A 41 year old man presents with a brief syncopal episode. He has no significant past medical history, medications or allergies. On examination he is alert and cardio-respiratory exam is normal.

Vital signs	HR	96 bpm
	BP	135/80 mmHg
	RR	12 bpm
	SaO2 RA	96%
	Temp	36.5 deg C
	BSL	5 mmol/L

- i. Describe the most significant finding on this ECG and state the most concerning diagnosis given the clinical setting (2 marks)

A 12 LEAD ECG IS SHOWN IN THE PROPS BOOKLET, PAGE 9

- ii. List 4 differential diagnoses for this ECG pattern (4 marks)

- iii. List 4 relevant questions you would ask the patient (4 marks)

- iv. Outline the important components of his disposition, follow-up and ongoing management (4 marks)

QUESTION 21 (19 marks)

A 30 year old man presents to your ED with a 24 hour history of increasing weakness.

An ABG and electrolytes are performed.

ABG

FiO₂ 21%

pH 7.26 mmHg (7.35-7.45)

pCO₂ 29 mmHg (35-48)

pO₂ 101 mmHg (83-108)

HCO₃ 13 mmol/L (21-28)

BE -13 mmol/L (-1.5-3.0)

ELECTROLYTES

Na 137 mmol/L (136-146)

K 1.8 mmol/L (3.9-5.2)

CL 116 mmol/L (95-110)

Urea 7.8 mmol/L (3.1-8.1)

Creat 86 mmol/L (60-110)

Glc 4.0 mmol/L (3.9-5.8)

CK 1975 U/L (29-168)

Trop T 20 ng/L (<30)

- i. Describe and interpret his blood results (8 marks)

- ii. List your 3 immediate management priorities (3 marks)

- iii. An internal jugular central venous catheter is placed to facilitate potassium replacement. List 4 early and 4 late complications of internal jugular central venous catheter placement (8 marks)

QUESTION 22 (13 marks)

This 23 year old man sustained isolated dental trauma in a fall.

A CLINICAL IMAGE IS SHOWN IN THE PROPS BOOKLET, PAGE 10

- i. Briefly describe two methods of anaesthetising the affected teeth (4 marks)

- ii. Describe the injury to the upper left lateral incisor (tooth 22) (2 marks)

- iii. Assuming a 12 hour delay to see a dentist, outline the Emergency Department treatment of this tooth injury (4 marks)

- iv. List 3 possible adverse dental sequelae of this tooth injury (3 marks)

QUESTION 23 (15 marks)

A 7 year old boy presents to your ED with an injury to his right elbow after a fall. The elbow is obviously deformed and swollen.

- i. What are the immediate issues that need to be addressed (3 marks)

- ii. Describe the X-ray findings (3 marks)

AN XRAY IS SHOWN IN THE PROPS BOOKLET, PAGE 11

- iii. List 4 potential implications of this injury (4 marks)

- iv. Describe the course of the ulnar nerve at the elbow (2 marks) and list the forearm and hand muscles potentially affected by ulnar nerve injury (3 marks)

QUESTION 24 (17 marks)

A 70 year old man presents with a painful facial rash that started 5 days ago. There have been no new skin lesions for 24 hrs. Vital signs are normal but he is distressed with pain.

A CLINICAL IMAGE IS SHOWN IN THE PROPS BOOKLET, PAGE 12

- i. Describe the appearances seen in this photograph (3 marks)

- ii. List the most likely diagnosis (1 mark)

- iii. List 4 complications of this condition. For each of these, list one examination finding that would support the existence of the complication (8 marks)

iv. Outline your management for this patient (5 marks)

QUESTION 25 (12 marks)

A 53 year old female had a syncopal episode and collapsed onto an electric heater. She sustained a facial burn. She is now haemodynamically stable and GCS 15.

You are in a rural ED.

A CLINICAL IMAGE IS SHOWN IN THE PROPS BOOKLET, PAGE 13

- i. List 4 issues to consider in your assessment of this patient (4 marks)

- ii. How would you describe this burn to the burns registrar on call at the tertiary hospital (2 marks)

- iii. Outline 4 issues in the management of this burn (4 marks)

- iv. List 2 possible adverse sequelae from this burn (2 marks)

QUESTION 26 (16 marks)

A 6 year old girl is brought to the emergency department by her mother. She has had a cold for 1 week, and for the last 24 hours her right eyelid has become very red and swollen. She is unable to open her eye. Her temperature is 38.4 degrees Celsius.

- i. In the table below list 4 examination findings for each condition that may differentiate pre-septal from post-septal cellulitis (8 marks)

Pre-septal	Post-septal

- ii. List 2 bacteria that can cause this presentation (2 marks)

- iii. List appropriate antibiotic therapy (include route and dose) for pre-septal and post-septal cellulitis (2 marks)

	Antibiotic (Dose and Route)
Pre-septal cellulitis	
Post-septal cellulitis	

- iv. List 4 complications of peri-orbital cellulitis (4 marks)

QUESTION 27 (19 marks)

A 30 year old 90kg lady presents to your emergency department having taken a poly-pharmacy overdose including panadeine forte, carbamazepine and temazepam. You are considering treating her with activated charcoal (AC).

- i. What dose would you use if you decided to administer AC (1 mark)

- ii. List 5 general contraindications for this therapy (5 marks)

After a short period, she becomes drowsy, tachycardic (120 bpm) and hypotensive (85/43 mmHg). Further history reveals that she has taken up to 9g of carbamazepine.

- iii. List 4 investigations that should be performed in this patient (4 marks)

- iv. List 5 clinical features you would expect from a significant carbamazepine overdose (5 marks)

- v. During your management, the patient has a generalized tonic-clonic seizure. List 4 conditions that should be excluded (4 marks)
