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ROADBLOCK TEST 1.

Question paper.

Instructions to candidates

1. This book contains 10 short answer questions.
2. You have 1 hour and 6 minutes to complete the exam.
3. Question 1 is twice the length of the other questions and you should allot your time accordingly
4. Each 2 page question is designed to be completed in the same amount of time, irrespective of the number of marks assigned
5. Each 2 page question will be scaled to contribute equally to the examination outcome,
6. Answer in the space provided within this booklet.
7. Write in blue or black pen.
8. Where referenced refer to the supplementary clinical information booklet for clinical information.
9. Where a number of answers are requested only that number will be marked.

Question 1.

A 32 year old motorbike rider is brought into your department after being struck by a motorbike. The front tire ran directly over her abdomen just inferior to the costal margins.

Her vital signs are:

HR	128	/min
BP	90/44	mmHg
RR	29	/min
Sats	94%	6L O ₂
T	35.8	°C

i. (5 marks)

What is the evidence for the empiric use of tranexamic acid in this patient?

ii. (5 marks)

The patient has a venous gas taken in the resus room. The results are shown on page 2 of the supplementary booklet.

Give the 2 primary disturbances present and justify your answer.

Question 1.

iii. (8 marks)

Based on the VBG results use the following table to list two major pathologic processes you are concerned about, and three injuries which may contribute to each.

PATHOLOGIC PROCESS	INJURIES

iv. (4 marks)

The patient is taken to CT scan, and a copy of the image is reproduced on page 3 of the supplementary booklet.

List four (4) major abnormalities present?

1. _____
2. _____
3. _____
4. _____

Question 1.

v. (1 mark)

What grade of kidney injury is this?

vi (4 marks)

Give 4 indications for operative management of this patient. (4 marks)

1.

2.

3.

4.

vii. (5 marks)

Give five (5) elements important in a massive transfusion protocol.

1.

2.

3.

4.

5.

Question 1.

Question 6. (6 marks)

Give 6 endpoints you would use to judge the efficacy of your transfusion.

1.

2.

3.

4.

5.

6.

vii. (2 marks)

Is there any evidence for the use of low BP targets (permissive hypotension) in trauma?

Question 2.

You are the ED consultant on duty in a regional hospital with no obstetric or neonatal specialist services. A primigravid 25 year old patient presents to your emergency department at 8am. She is 31 weeks pregnant with appropriate antenatal care which has elicited no complications of pregnancy.

She describes severe rhythmic lower abdominal pains which have been in progress for the past 4 hours.

i. (2 marks)

Give 2 differential diagnoses for this presentation.

1.

2.

ii. (8 marks)

Using the table below outline 4 features (not inclusive of vital signs) you will assess on clinical examination and the rationale for each.

FEATURE	RATIONALE

Question 2.

iii. (5 marks)

Your examination indicates that preterm labour is in progress without any major complications to further medication administration.

Give 5 steps in management you will now institute.

1.

2.

3.

4.

5.

iv. (4 marks)

List 4 contraindications to tocolytic therapy in patients with preterm labour.

1.

2.

3.

4.

Question 3.

An 18 year old man presents to your emergency department with an acutely painful right testicle. He is visibly distressed by the pain and is vomiting at triage. He has no past medical history of note. He states the pain began more than 4 hours ago.

His vital signs are:

HR	110	/min
BP	135/92	mmHg
RR	24	/min
Sats	98%	RA
T	37.4	°C

i. (4 marks)

List 4 differential diagnoses for this presentation.

1.

2.

3.

4.

ii. (3 marks)

What further features on examination would support a diagnosis of testicular torsion?

Question 3.

iii. (6 marks)

Your resident who has primary care of the patient returns to you and asks you to approve an ultrasound of the testicle.

Using the table below outline of two issues in this case which may limit the utility of ultrasound in this patient.

ISSUE	OUTLINE

iv. (2 marks)

Your resident returns to you to say the surgical registrar is refusing to see the patient until an ultrasound is performed. At this stage the patient has been in your department 45 minutes.

Outline your next actions.

Question 4.

An 82 year old female is brought in by the ambulance after being found faecally incontinent on her bathroom floor. It is unclear how long she has been there. Her neighbours in the apartment block have not seen her for 3 days. On arrival to the ED she is confused and disoriented. Her medication list includes warfarin, telmisartan, atorvastatin and digoxin.

Her vital signs are:

HR	45	/min
BP	99/66	mmHg
RR	28	/min
Sats	92%	RA
T	33.1	°C

i. (3 marks)

The patient's ECG is reproduced on page 4 of the supplementary information booklet.

Give 3 abnormalities which relate to this lady's presentation.

1.

2.

3.

ii. (4 marks)

The resident brings you a venous blood gas which is reproduced on page 5 of the supplementary information booklet.

Give 2 acid-base disturbances present and provide 2 derived values to support your answer.

1.

2.

Derived value 1:

Derived value 2:

Question 4.

iii. (12 marks)

Using the table below list 6 investigations you will perform now in this patient. Give a justification for each.

TEST	INDICATION

iv. (4 marks)

Give 4 methods which you will use to actively rewarm this patient. (4 marks)

1. _____
2. _____
3. _____
4. _____

Question 5.

A 35 year old male presents to your department after catching his right foot underneath a door.

A clinical image of the foot is reproduced on page 6 of the supplementary information booklet.

i. (2 marks)

Describe the important findings in the image.

ii. (5 marks)

Describe your technique to anaesthetise this patient to exam and treat him.

Question 5.

iii. (6 marks)

The patient has the injured toenail with him in his pocket.

Describe the treatment you will provide including your disposition & management.

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Question 6.

A 46 year old male with a history of gastro-oesophageal reflux and intravenous drug use presents to the emergency department with sudden onset central abdominal pain. On examination he has a rigid abdomen to palpation, and his vital signs are:

HR	125	/min
BP	98/42	/min
RR	29	/min
Sats	99%	RA
T	38.4	°C

A CT scan of his abdomen is organised, and an image is shown on page 7 of the supplementary information booklet.

i. (5 marks)

What are the important findings on the CT image?

ii. (4 marks)

Give 4 differential diagnoses for the CT findings.

1.

2.

3.

4.

Question 6.

iii. (8 marks)

Describe your immediate management (8 marks)

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Question 7.

A 38 year old female presents to your emergency department with severe constant right upper quadrant pain. She complains of urine that is darker colour than normal and significant sweating overnight. She also feels nauseous and has no appetite. On examination she has severe right upper quadrant tenderness and notable ocular jaundice.

Her vital signs are:

HR	125	/min
BP	89/52	mmHg
RR	29	/min
Sats	98%	RA
T	39.6	°C

i. (6 marks)

Give 3 pathology tests will you perform on this patient and a justification for each?

ii. (8 marks)

Selected pathology is shown on page 8 of the supplementary information booklet.. Describe the results and their implications.

Question 7.

iii (3 marks).

What are the advantages of ultrasound over CT in imaging this patient? (3 marks)

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Question 8.

A 48 year old male presents to your department after being struck in the right eye with a squash ball. He is complaining of blurred vision and a headache. His right orbit is swollen and bruised but there are no other major injuries.

i. (5 marks)

For each category listed below give the requested number of features you will examine for and the injuries they may represent

PUPIL:

1.

2.

EYE MOVEMENTS

1.

2.

LIP

1.

ii. (2 marks)

A CT scan of the patient's face is shown on page 9 of the supplementary information booklet.

What are the two major abnormalities?

1.

2.

Question 8.

iii (4 marks).

What are the indications for surgery in this fracture?

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Question 9.

A 46 year old patient presents to your hospital with 20 minutes of crushing central chest pain. You do not have PCI facilities in your institution. The nearest cardiac catheter laboratory is 40 minutes away.

i. (4 marks)

His ECG is shown on page 10 of the supplementary information booklet. Give 3 major abnormalities and a likely diagnosis.

ii. (6 marks)

Explain three issues you would consider in determining whether to send this patient for primary PCI or use thrombolysis in the ED.

Question 10.

A 16 year old apprentice presents to your emergency department after an industrial accident. A large glass pane dropped from a height onto his right arm on a building site.

i. (5 marks)

His initial xray is shown on page 11 of the supplementary examination booklet. Give five (5) important features of the xray.

ii. (8 marks)

Using the table on the following page list 4 structures which may be damaged in association with this orthopaedic injury, and give a clinical sign you will assess for to evaluate the structure.

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EXAMINATION PAPER

STRUCTURE	CLINICAL SIGN

iii. Give four (4) interventions or consultations you will undertake as part of your management.

1. _____
2. _____
3. _____
4. _____