

Candidate No: \_\_\_\_\_



**The Hong Kong College of Anaesthesiologists**

**Final Fellowship Examinations**

**Paper II – Investigations (1-5)**

**9 April 2024 (Tuesday)**

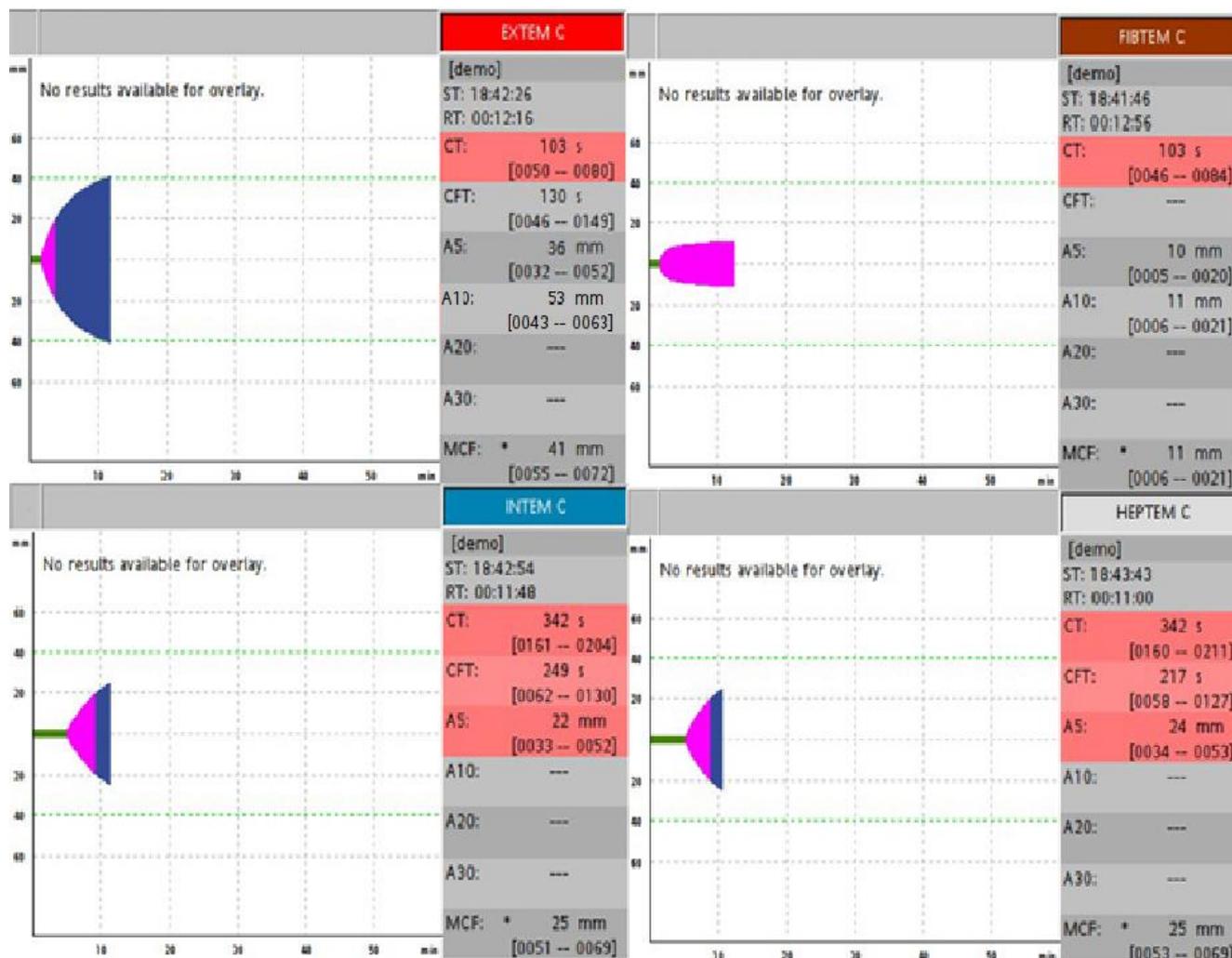
**12:20 – 12:30 hours**

**Instructions:**

- a. This is a question-answer book. Please write your answers in the space provided.
- b. Write your candidate number on the first page of the answer book.
- c. Use ink or ball-point pen.
- d. There are 5 questions in this paper, each with multiple parts.
- e. Answer **ALL** questions.
- f. For questions with multiple parts, allocation of marks is indicated in the brackets.

**Question 1 (4 marks)**

A 70-year-old man is undergoing emergency open repair of ruptured abdominal aortic aneurysm. Surgical repair is completed but diffuse raw area bleeding is noted. Rotational thromboelastometry (ROTEM) is done and result is shown:



1. What is the cause of the diffuse bleeding (1 mark)?  
Justify your answer (2 marks).

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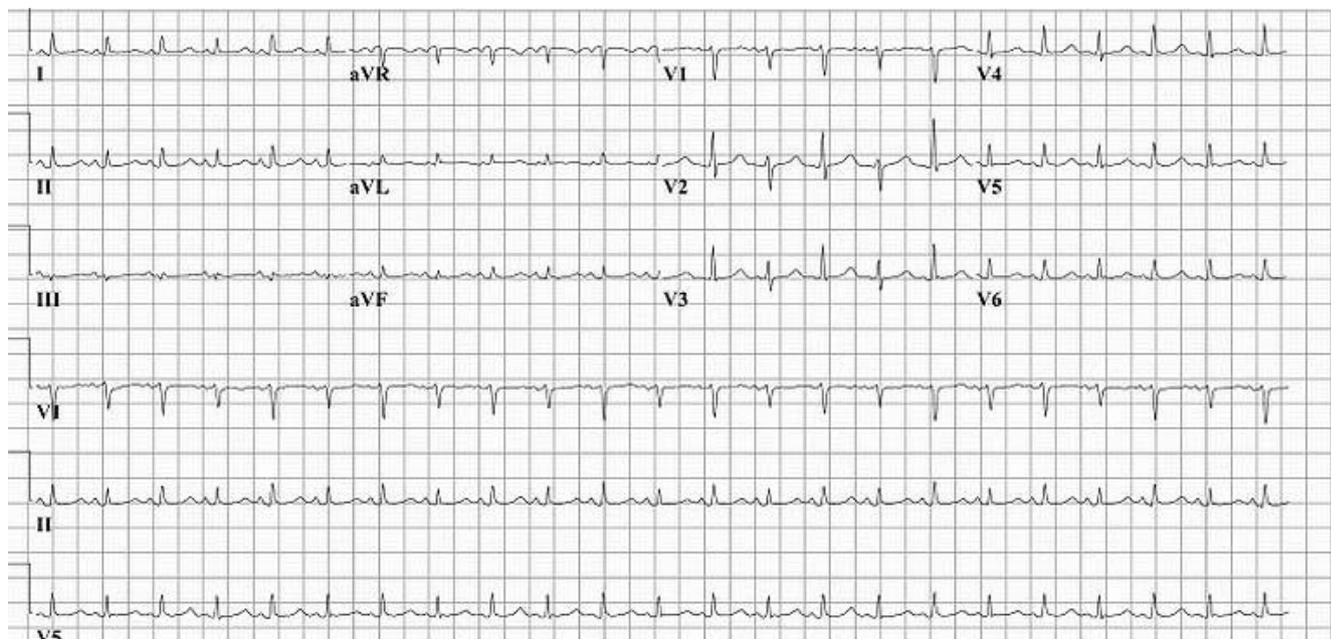
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2. Based on this ROTEM result, what is your treatment for this patient (1 mark)?

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**Question 2 (6 marks)**

**A 40-year-old lady has just undergone percutaneous balloon mitral valvuloplasty under monitored anaesthetic care (MAC). The procedure was uneventful and the patient has regained consciousness before transferring to the post-anaesthetic care unit (PACU). She lost consciousness and stopped responding while the nurse is performing ECG as her postoperative order. You immediately attend to the patient and cannot feel any central pulse.**



1. What is your immediate action (1 mark)?

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2. Based on this ECG, what is the likely cause of her change in condition (1 mark)?  
Give THREE features in the ECG to support your answer (3 marks).

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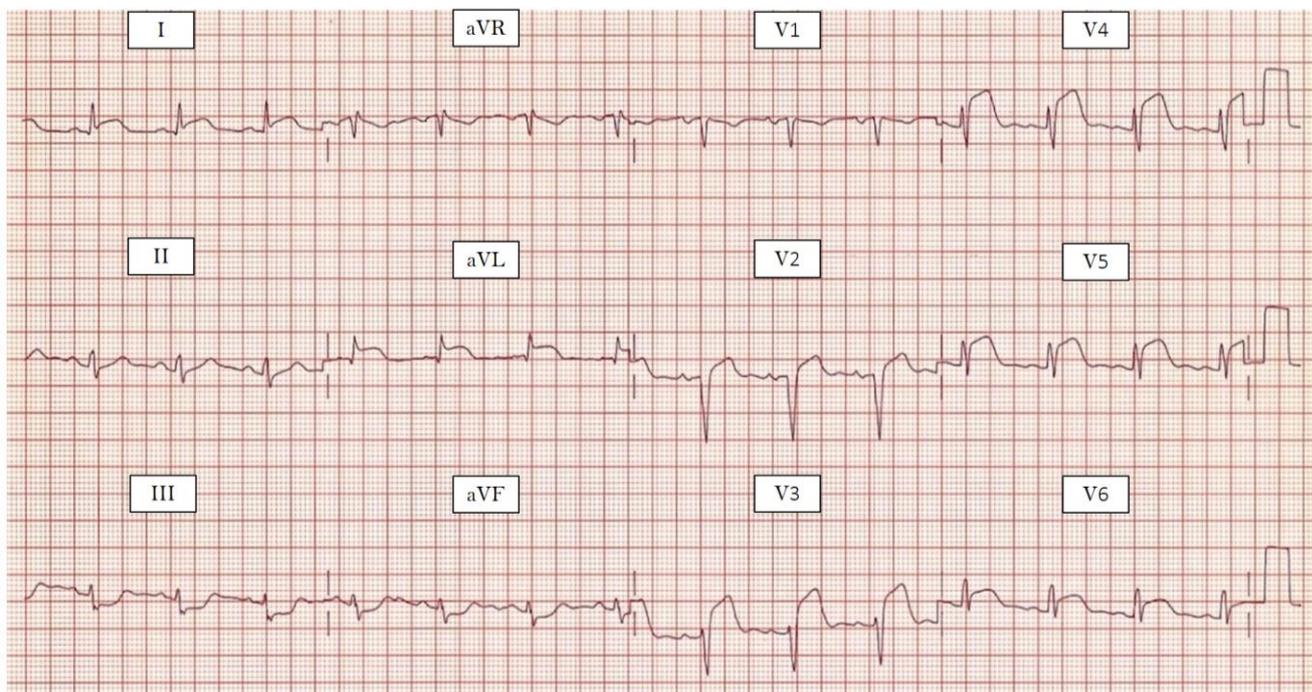
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3. What is the treatment of the underlying cause (1 mark)?

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**Question 3 (5 marks)**

**A 60-year-old man had an open reduction and internal fixation done for his fractured left radius. He complained of generalized discomfort and shortness of breath in the post-anaesthetic care unit. ECG is shown below:**



1. Describe the abnormalities in ECG (2 marks).

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2. What is the diagnosis (1 mark)?

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3. What are the treatment for this patient (2 marks)?

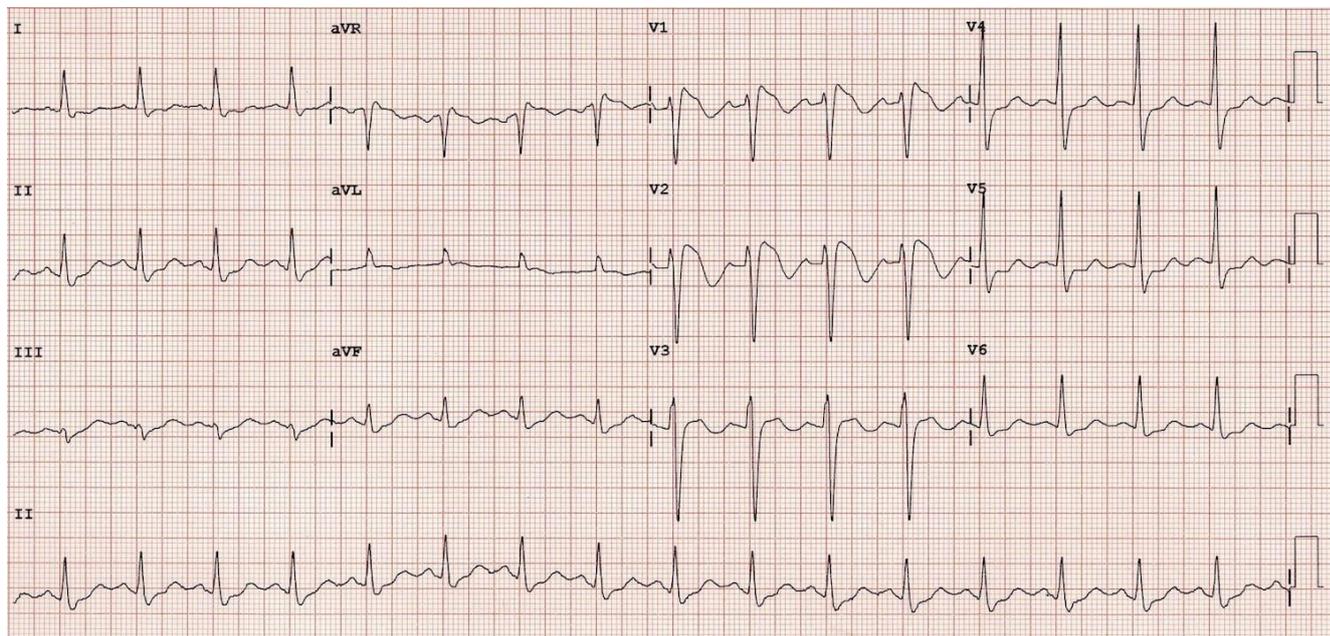
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**Question 4 (4 marks)**

**A 40-year-old man developed sudden syncope while washing dishes at home. He regained consciousness a few minutes later. He had sustained a fractured left humerus due to the fall. Open reduction internal fixation of fractured humerus is planned. Below shows his preoperative ECG:**



1. Describe the abnormalities in the ECG? (1 mark).

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2. What diagnosis do you suspect (1 mark)?

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3. What is the definitive treatment of this condition (1 mark)?

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4. Suggest one precaution in anaesthetizing this patient after the above definitive treatment (1 mark).

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**Question 5 (5 marks)**

**An 18-year-old man with history of asthma is admitted to emergency department with a 2-day history of difficulty breathing and shortness of breath. He is alert but tired. He has great difficulty in speaking a full sentence. His arterial blood gas and laboratory results are:**

	Patient value	Reference range	Units
Blood pH	7.4	7.35 – 7.45	
Blood pCO <sub>2</sub>	3.7	4.7 – 6.0	kPa
Blood pO <sub>2</sub>	6	10 – 13	kPa
O <sub>2</sub> Saturation	70	≥ 95	%
Sodium	136	136 – 145	mmol/L
Potassium	4.4	3.5 – 4.5	mmol/L
Chloride	98	98 – 107	mmol/L
Bicarbonate	16	22 – 26	mmol/L

1. Comment on the acid-base status (3 marks).

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2. Explain why the patient develop this acid-base status (2 marks).

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