Candidate No: _____

The Hong Kong College of Anaesthesiologists

Final Fellowship Examinations

Paper II – Investigations (1 - 4)

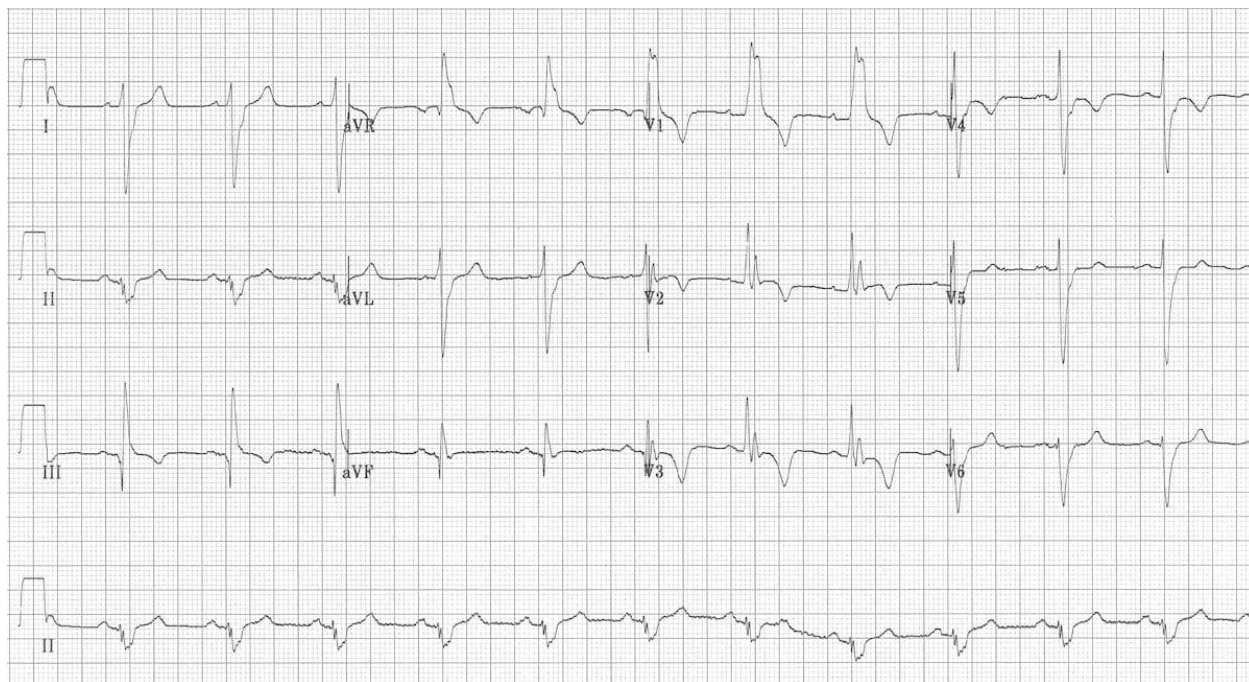**12 August 2024 (Monday)**

12:20 – 12:30 hours

Instructions:

a. This is a <u>question-answer book</u>. 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 4 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 (5 marks)

A 55-year-old man, chronic smoker with history of DM and hypertension, presented to the Emergency Department for sudden onset of shortness of breath and chest discomfort, requiring high flow oxygen at 15L/min to maintain oxygen saturation of 95%.
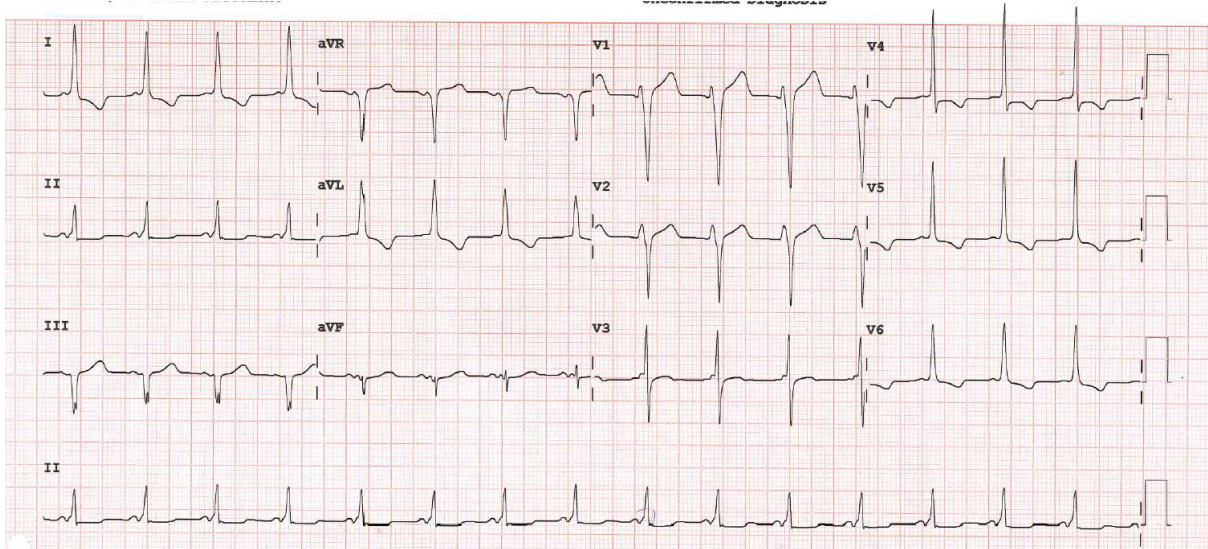
12 leads ECG was performed.

A. Describe 3 abnormal ECG features (3 marks).

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B. Name <u>2</u> differential diagnosis of this presentation (2 marks).

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Question 2 (3 marks)

In the preanaesthetic clinic, you review the following ECG of a 45-year-old man who had one previous episode of palpitation.

A. Name 2 ECG abnormalities (2 marks).

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B. What is the diagnosis based on the ECG findings (1 mark)?

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Question 3 (3 marks)

A 28-year-old woman is booked for elective laparoscopic bilateral adrenalectomy. She received a total thyroidectomy for her medullary carcinoma of the thyroid five years ago. The following laboratory result is the workup of her adrenal tumour.

Tests	Value	Reference interval
Urine volume (litres)	1.61	
24hr Urine Metanephrine	592	<216 nmol/day
24hr Urine Normetanephrine	1619	<312nmol/day
24hr 3-methoxytyramine	210	<382nmol/day

A. What is the diagnosis (1 mark)?

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B. From the above laboratory result, what may affect accuracy of the laboratory test (1 mark)?

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C. What other factor may affect the laboratory results (1 mark)?

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Question 4 (5 marks)

A 65-year-old man sustained a fall two days ago with a CT scan showing bilateral frontal haemorrhage and is booked for an emergency insertion of an external ventricular device of intracranial pressure monitoring.

His GCS drop from 14/15 to 10/15 with two episodes of vomiting. He was recently diagnosed to have an anxiety disorder and started on SSRI two months ago.

The following is his vital signs and blood test results. His tongue mucosa is dry with decreased skin turgor.

	00:00	02:00	04:00	06:00
Serum Sodium (mmol/L)	120			119
Serum Potassium (mmol/L)	4.1			3.8
Serum Urea (mmol/L)	6.4			5.9
Serum Creatinine (mmol/L)	60			60
Serum Osmolality (mmol/kg)	267			253
Urine Sodium (mmol/L)	145			165
Urine Osmolality (mmol/Kg)	819			922
Urine output (ml) (ml per hour)	120	150	150	200

A. What is the most likely diagnosis (1 mark)?

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B. What is the pathophysiological mechanism of the diagnosis (3 marks)?

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C. What pharmacological treatment should be initiated (1 mark)?

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