



THE HONG KONG COLLEGE OF ANAESTHESIOLOGISTS
FINAL FELLOWSHIP EXAMINATION (INTENSIVE CARE)
SHORT ANSWER PAPER

15 Questions

Monday 7 August 2017 (9:00 am - 11:30 am)

NOTICE

- (A) Write your answers in the books provided.
- (B) Please separate your answers into three groups:
 - Q1 to Q5
 - Q6 to Q10 and
 - Q11 to Q15
- (C) Start each answer on a new page and indicate the question number.
- (D) You may choose to answer the questions in any order but please make sure that they can be separated into the three groups as above, by starting on a new booklet as necessary.
- (E) It is not necessary to rewrite the question in your answer book.
- (F) You should answer each question in ten minutes or less.
- (G) The questions are worth equal marks.
- (H) Record your number on the cover of each book and hand in all books.
- (I) Use ink or ball-point pen

Question 1

List ten (10) complications of the placement of a central venous catheter. (2.5 marks)
Discuss the possible ways of prevention. (7.5 marks)

Question 2

A 50-year-old good past health gentleman has been treated in your ICU for confusion and acute kidney injury for 1 week. He has now also developed severe MRSA infection and requires continuous renal replacement therapy. In recent few days, his platelet count is persistently below $40 \times 10^6 L^{-1}$.

- A. List six (6) most likely causes for the thrombocytopenia. (3 marks)
- B. Discuss your investigations for the causes of thrombocytopenia. (4 marks)
- C. You are suspecting Thrombotic Thrombocytopenic Purpura (TTP). List your treatment options for his TTP.(3 marks)

Question 3

- Outline features of acute on chronic liver failure (ACLF). (2marks)
- Describe how organ functions are affected in ACLF. (4marks)
- Outline your management of a patient with ACLF. (4 marks)

Question 4

Describe the pathophysiology (2 marks), clinical manifestations and laboratory findings (2marks) and management (6marks) of acute aspirin overdose.

Question 5

A 30-year-old man of 100kg with a body mass index (BMI) 38 is admitted for severe pneumonia. His respiratory rate is 35/min, SpO₂ 89% on 15L/min of non-rebreathing mask. Intubation with rapid sequence induction and mechanical ventilation was planned.

Discuss various maneuvers to prolong safe apnoea time before successful intubation. (10 marks)

Question 6

Critically appraise the timing of tracheostomy in ICU patients? (10 marks)

Question 7

Write short notes on the causes (4 marks), clinical features (4 marks) and the treatment (2 marks) of hypophosphataemia.

Question 8

Outline the principles of various therapeutic options available for the treatment of right ventricular dysfunction. (10 marks)

Question 9

Mr. C is a 70-year-old gentleman with underlying low grade B cell lymphoma. He was followed up by hematologist and not yet required any treatment for his disease. In recent 2 months he noted night sweat and weight loss. He attended the accident and emergency department (AED) today for shortness of breath, cough and sputum. He was in respiratory distress. You decided to admit him to your ICU. Discuss your initial approach to this patient. (10 marks)

Question 10

Evaluation of a new serum biomarker for the rapid diagnosis of Acute Kidney Injury (AKI) is performed in a sample of 100 patients. The biomarker is compared with histological results as the gold standard and yields the following information:

	AKI present (Histology positive)	AKI absent (Histology negative)
Biomarker positive	20	20
Biomarker negative	40	20
Number	60	40

With reference to these results, define the following and give the values for the performance of the test:

- a) Sensitivity (2 marks)
- b) Specificity (2 marks)
- c) Positive predictive value (2 marks)
- d) Negative predictive value (2 marks)
- e) Accuracy (2 marks)

Question 11

Describe the endocrine changes of a brain death patient and discuss the treatment options. (10 marks)

Question 12

You have a 34-year-old female presents to the medical ward with a chief complaint of fever, vomiting and palpitation. She has history of hyperthyroidism. She defaulted from follow up for a year. She was drowsy with high fever 41°C.

You suspect this lady is suffering from thyroid storm,

- List four (4) other differential diagnoses. (1 mark)
- Outline the Initial management and investigations (3 marks),
- Discuss the specific treatment with underlying mechanism of action (dosage is not required) (4 marks), and supportive treatment (2 marks).

Question 13

A 50 year-old man with history of diabetes mellitus (DM) and hypertension (HT), presented to the accident and emergency department (AED) with sudden onset of slurring of speech and left sided weakness. After neurologist assessment, intravenous thrombolytic r-tPA was given. He was transferred to ICU for close monitoring. Twenty-four (24) hours after admission, the in charges nurse informed you that his Glasgow Coma Score (GCS) has dropped from E3V4M6 to E1V3M2. A repeat cerebral CT scan revealed the following:



L

What is the diagnosis? (1 mark).

Outline your management plan for this patient. (7 marks).

What are the current evidence of the role of decompressive craniectomy in this condition? (2 marks)

Question 14

A 35 year old lady at 36 week of gestation developed eclampsia with abruptio placentae had undergone emergency caesarean section.

She was intubated and sedated for transfer from operating theatre to intensive care unit. Vital signs are as follow: BP 160/100 mmHg, SpO₂ 95% FiO₂ 0.4, on mandatory ventilation without spontaneous ventilation. She has been oliguric in the last 4 hours.

- Discuss the general management of this patient in the first 24 hours. (7 marks)
- Briefly outline the management of oliguria in this patient. (3 marks)

Question 15

- What are the common uses of high-flow nasal cannula (HFNC) oxygen therapy in ICU? (list at least 4) (2 marks)
- List two (2) special features of the HFNC device. (2 marks)
- Outline the postulated mechanisms of HFNC? (3 marks)
- Name four (4) complications of HFNC therapy? (2 marks)
- What is the current evidence for the use of HFNC in adult patient? (1 marks)

- End -