



Part 1 Primary Examination in Critical Care Medicine 2017 -PAPER 1

College of Critical Care Medicine

(under auspices of Critical Care Education Foundation)

Examination Endorsed by the International Board of Medicine & Surgery (IBMS), USA

1. Read the questions carefully and thoroughly. Candidates are advised to include in their answer only information that is **relevant to the question and to write legibly.**
2. **Short Notes in Section A and B: Each question carries 5 marks only.**
 - a. You should not take more than 5 minutes per question in these sections.
 - b. Normally one side of a fool-scape paper is enough as long paragraphs are not expected.
3. **Questions in Section C: Each question carries 10 marks only.**
 - a. You should not take more than 10 minutes per question in these sections.
 - b. Normally 2 side of a fool-scape paper provided is enough as long paragraphs are not expected.
 - c. **Section C has 1 extra question. Choose ANY 4 out of 5 Choices below.**
4. **Section D: Each MCQ carries 1 mark only (total 10 Marks). Section D must be returned with the answersheet.**
5. **Start all questions on a NEW Page**
6. Do not rewrite the question in your answer book. **CLEARLY write the ANSWER NUMBER** before you answer.
7. The questions in each section are worth equal marks.
8. **Record your candidate ROLL number on top of each answer sheet paper (approx. 15 pages) in space provided.**
9. The candidate must demonstrate performance consistent with that of a competent senior registrar.

GLOSSARY OF TERMS

- **Critically evaluate:** Evaluate the evidence available to support the hypothesis.
- **Outline:** Provide a summary of the important points.
- **List:** Provide a list.
- **Compare and contrast:** Provide a description of similarities and differences (eg. Table form).
- **Management:** Generic term that implies overall plan. (includes diagnosis as well as treatment).
- **Discuss:** Explain the underlying key principles. (this may include controversies and/or pros and cons)

CHECK LIST

	Important instruction	Sign if understood
1	Write legibly. No marks if Examiner cannot understand. Avoid abbreviations not clearly explained in beginning of your answer. <i>eg. The patient may have raised intracranial pressure (ICP)...subsequent ICP use in answer OK</i>	
2	Section C has 1 extra question. <u>Choose ANY 4 out of 5 Questions.</u>	
3	Start all questions on a NEW Page	
4	Write the ANSWER NUMBER before you answer.	
5	The questions in each section are worth equal marks.	
6	Record your candidate ROLL number on top of each answer sheet	



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SECTION A (5 marks each)

Q. 1.	List the possible disadvantages of excessive PEEP in ventilated patients?												
Q. 2.	List the advantages and disadvantages of using neuromuscular blocking agents in severe ARDS on ventilator?												
Q. 3.	<p>Outline your management of a 60 year male with a prosthetic mitral valve who was noted to have the following coagulation profile?</p> <table border="1"> <thead> <tr> <th>Test</th> <th>Value</th> <th>Normal range</th> </tr> </thead> <tbody> <tr> <td>PT</td> <td>101 sec</td> <td>(12-14)</td> </tr> <tr> <td>APTT</td> <td>45 sec</td> <td>(34-38)</td> </tr> <tr> <td>INR</td> <td>8.7</td> <td>(0.8-1.2)</td> </tr> </tbody> </table>	Test	Value	Normal range	PT	101 sec	(12-14)	APTT	45 sec	(34-38)	INR	8.7	(0.8-1.2)
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PT	101 sec	(12-14)											
APTT	45 sec	(34-38)											
INR	8.7	(0.8-1.2)											
Q. 4.	The peripheral blood smear of a patient shows Heinz bodies. List 4 conditions that may be responsible for this blood picture?												
Q. 5.	List 5 clinical signs of fractured base of skull following a motor vehicle accident												

SECTION B (5 marks each)

Q. 6.	Critically evaluate the significance of tidal volume in patients undergoing mechanical ventilation?
Q. 7.	With respect to salicylate toxicity: a) List 5 severe complications. b) List the associated hematological abnormalities. c) List the options for enhancing salicylate removal.
Q. 8.	With respect to thrombotic thrombocytopenic purpura (TTP): A. List the classical clinical features of TTP. B. Describe the underlying pathophysiological process C. Outline the important differences between the plasma exchange treatment regimens used to treat TTP and Guillain Barre syndrome?
Q. 9.	A. List the Indications and complications of cardioversion (synchronized) in ICU? B: What are the advantages and disadvantages compared to chemical cardioversion (eg. Amiodarone)?
Q.10.	A. What is a TIPS procedure and why is it used in patients with portal hypertension? B. What are 2 recognised indications for this procedure?

SECTION C: ANSWER ANY 4 ONLY (10 marks each)

Q.11.	<p>List 1 specific antidote for overdose with each of the agents listed below.</p> <table border="0"> <tr> <td>1. Benzodiazepines</td> <td>2. Beta blockers</td> <td>3. Cyanide</td> <td>4. Digoxin</td> </tr> <tr> <td>5. Iron</td> <td>6. Heparin</td> <td>7. Organophosphate</td> <td>8. Opiates</td> </tr> <tr> <td>9. Paracetamol</td> <td>10. Methanol</td> <td></td> <td></td> </tr> </table>	1. Benzodiazepines	2. Beta blockers	3. Cyanide	4. Digoxin	5. Iron	6. Heparin	7. Organophosphate	8. Opiates	9. Paracetamol	10. Methanol		
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Q.12.	Outline your approach to the management of rapid atrial fibrillation in the ICU patient.												
Q.13.	<p>A 68 year man is transferred to your ICU following a mechanical aortic valve replacement and coronary artery bypass surgery. Shortly after arrival his blood pressure falls to 60/30 mmHg but improves rapidly with a fluid bolus, and examination is otherwise unremarkable. However, he is noted to lose 200ml of blood from his mediastinal drains over the next 30 minutes.</p> <p>A. List 4 likely causes of excessive post-operative bleeding in this setting? B. Outline your immediate management for this bleeding?</p>												
Q.14.	<p>A 42 yr female is admitted with acute breathlessness. She is unable to provide any history due to her tachypnoea. She is fully alert, afebrile, using accessory muscles with respiratory rate of 30/min, BP is 90/60mmHg. On auscultation, she has bilateral widespread expiratory wheeze.</p> <p>A. In addition to acute severe asthma, what other differential diagnoses of her clinical presentation should be considered? B. Assuming this patient has acute severe asthma, outline your management steps at this stage?</p>												
Q.15.	<p>A. List the indications for intubation? B. List the short term and long term complications associated with intubation?</p>												



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SECTION D (10 marks)

1	<p>A 68-year-old man with an Inferior wall myocardial infarction has a pulmonary capillary wedge pressure (PCWP) of 16 mmHg and a low cardiac output. He is started on dobutamine and his blood pressure falls from 93/70 to 87/55 mmHg. What is the best response</p> <p>A Stop dobutamine + start dopamine</p> <p>B Continue dobutamine + add dopamine</p> <p>C Give a 500 ml normal saline bolus</p> <p>D Start norepinephrine</p> <p>E Consider an intra-aortic balloon pump</p>	6	<p>Cor pulmonale:</p> <p>A Is an early sign of COPD and will respond to bronchodilator therapy.</p> <p>B Is more commonly seen in patients with emphysema</p> <p>C Results from chronic hypoxia inducing pulmonary hypertension.</p> <p>D Produces a LBBB pattern on the ECG.</p> <p>E Results from the cardiac toxicity of inhaled bronchodilators</p>
2	<p>All the following are major metabolic complications of hyperalimantation EXCEPT</p> <p>A Hypercapnia</p> <p>B Hyperglycemia</p> <p>C Hyperchloremia</p> <p>D Hyperphosphatemia</p> <p>E Hyperlipidemia</p>	7	<p>Conditions predisposing to aspiration synd. include:</p> <p>A Seizure disorder</p> <p>B Multiple sclerosis</p> <p>C Pregnancy</p> <p>D Use of a nasogastric tube</p> <p>E All of the above</p>
3	<p>A 30 yr man with head injury opens his eyes only on deep painful stimuli, he is moaning/producing sounds that are incomprehensible and he tries to hold the hand when sternal compression is applied. His GCS score would be:</p> <p>A 5</p> <p>B 7</p> <p>C 9</p> <p>D 11</p> <p>E 13</p>	8	<p>All the following ECG findings are suggestive of left ventricular hypertrophy EXCEPT</p> <p>A S in V1 + R in V5 or V6 > 35 mm</p> <p>B R in avL > 11 mm</p> <p>C R in avR > 8 mm</p> <p>D R in I + S in III > 25 mm</p> <p>E R in V5 OR V6 > 25 mm</p>
4	<p>In the setting of hemoptysis appropriate initial interventions might include</p> <p>A Placing the patient in the Trendelenburg position</p> <p>B Placing the bleeding lung in dependent position</p> <p>C Placing a double-lumen endotracheal tube</p> <p>D All of the above</p> <p>E None of the above</p>	9	<p>The ideal pressure to which the cuff of the endotracheal tube must be inflated is:</p> <p>A 5-10 mmHg</p> <p>B 10-20 mmHg</p> <p>C 20-30 mmHg</p> <p>D 30-40 mmHg</p> <p>E 40-50 mmHg</p>
5	<p>The benefits associated with the use of nitroglycerin in patients with Acute Coronary Syndrome result primarily from:</p> <p>A Pulmonary artery vasoconstriction</p> <p>B Decreasing myocardial preload.</p> <p>C Increasing afterload.</p> <p>D Coronary vasoconstriction.</p> <p>E Inotropic support.</p>	10	<p>All of the following are Correct statements regarding uremic bleeding EXCEPT:</p> <p>A It is not corrected by dialysis or corticosteroids</p> <p>B It can be corrected with desmopressin</p> <p>C It is characterized by an abnormal bleeding time</p> <p>D It is a qualitative platelet dysfunction</p> <p>E Conjugated estrogens considered beneficial in treatment.</p>

Recheck: (1) You have put your Roll number on each answer sheet.



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(2) Answers are Numbered correctly & written in appropriate section.

SECTION D Answers:

MCQ 1	
MCQ 2	
MCQ 3	
MCQ 4	
MCQ 5	
MCQ 6	
MCQ 7	
MCQ 8	
MCQ 9	
MCQ 10	