



Part 1 Primary Examination in Critical Care Medicine 2019 -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

Instructions: Read the Instructions carefully

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 provided is enough as long paragraphs are not expected.
3. **Questions in Section C (Each question carries 10 marks only) and D: Each MCQ carries 1 mark only.**
 - a. You should not take more than 10 minutes per question in section and 1 minute per question in Section D.
 - b. Normally 2 side of a fool-scape paper provided is enough as long paragraphs are not expected.
 - c. **Section C has extra question. Choose ANY 4 out of 5 Choices below. DO NOT ANSWER ALL 5 QUESTIONS. Only first 4 will be marked.**
4. **Start all questions on a NEW Page**
5. It is not required to rewrite the question in your answer book. **CLEARLY write the ANSWER NUMBER** before your answer.
6. The questions in each section are worth equal marks.
7. Record your candidate ROLL number on top of each answer sheet paper (approx. 15 pages) in space provided.
8. Candidates fail or loose marks in a questions for one or more of the following reasons:
 - a. Insufficient knowledge of the topic in question.
 - b. Insufficient detail and/or depth of the answer.
 - c. Lack of specificity and precision in the answers
 - d. Poorly structured answer.
 - e. Failure to answer the question as asked.
 - f. Omission of all or part of the question.
9. The candidate has to 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
(E.g. Table form).
- **Management:** Generic term that implies overall plan. Where appropriate, may include diagnosis as well as treatment.
- **Discuss:** Explain the underlying key principles. Where appropriate, this may include controversies and/or pros and cons



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SECTION A (5 marks each)	
Q. 1.	List the correctable metabolic factors in ICU patients that have negative inotropic effect?
Q. 2.	Outline the role of Vasopressin and its analogues (Desmopressin and Terlipressin) in the ICU patient?
Q. 3.	List the advantages and disadvantages of electrical DC cardioversion over chemical cardioversion?
Q. 4.	a) What is a “Spontaneous Breathing Trial” (SBT)? b) List the criteria that indicate that SBT has failed?
Q. 5.	A 38 year female is diagnosed to have tumor lysis syndrome following chemotherapy for lymphoma. a) What is Tumor Lysis Syndrome and how it diagnosed biochemically? b) Outline your management of this complication in this female?

SECTION B (5 marks each)	
Q. 6	A patient recently started on Sulfamethoxazole-Trimethoprim is diagnosed to have developed methemoglobinemia. Outline your management of this condition?
Q. 7.	a) Which of the following need “cross-matching” (i) Packed RBC, (ii) Cryoprecipitate, (iii) FFP, (iv) IV Immunoglobulins, (v) Platelets. b) What are the adverse events associated with blood transfusions?
Q. 8.	a) List 5 clinical features of ‘Fracture Base of Skull’ b) Outline your management of a CSF leak?
Q. 9.	Discuss the Pros and Cons of the practice of “Routine daily Xray-Chest” in the ICU?
Q.10.	List the indicators of successful “reperfusion of coronary circulation” following thrombolysis, in a patient with acute myocardial STEMI?

SECTION C: ANSWER ANY 4 ONLY (10 marks each)	
Q.11.	List the complications of corrosive ingestion (alkali / acid)? Outline your approach to managing a patient admitted with ingestion of a corrosive substance?
Q.12.	Outline your approach to establishing etiological diagnosis in an ICU patient found to have elevated Serum Bilirubin?
Q.13.	a) List the criteria that you will use to intubate and ventilate a patient with acute severe asthma? b) Outline your approach to intubation and ventilation in these patients?
Q.14.	a) What is the definition of “Hepato-renal Syndrome”? b) Outline the medical management of this syndrome?
Q.15.	a) List the options available to open the occluded coronaries in a patient with acute STEMI myocardial infarction? b) Discuss the PROs and CONs of each of these therapeutic options?



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SECTION D (10 marks)

1	<p>A ECHOGardiogram of patient shows that he has a LV end-diastolic volume of 125ml and end-systolic volume of 50ml. What is his left ventricular ejection fraction?</p> <p>A. 35%</p> <p>B. 40%</p> <p>C. 50%</p> <p>D. 55%</p> <p>E. 60%</p>	6.	<p>A patient on treatment for chronic atrial fibrillation, presents following warfarin overdose. Blood results show prothrombin time is prolonged. Which of the following combinations of clotting factors could contribute to this abnormal clotting?</p> <p>A. Clotting Factors II, IV, VIII, IX</p> <p>B. Clotting Factors II, VII, IX, X</p> <p>C. Clotting Factors VIII, IX, XI, XIII</p> <p>D. Clotting Factors II, VIII, X, XII</p> <p>E. Clotting Factors II, V, XII, XIII</p>
2	<p>Which of the following best describes the intra-arterial cannula used for invasive blood pressure measurement? It should be:</p> <p>A. short, wide, stiff with parallel walls.</p> <p>B. short, narrow, tapered at the end.</p> <p>C. short, wide, stiff and transparent</p> <p>D. made of polyurethane</p> <p>E. made of teflon</p>	7.	<p>A patient admitted for acute abdomen is given 1 Litre of normal saline (NS) over 30 min. Which one of the following statements best describes NS distribution in the intravascular compartment (IV), Interstitial compartment (Int), extracellular compartment (EC)?</p> <p>A. 150 ml will remain in the IV compartment.</p> <p>B. 500 ml will remain in the IV compartment</p> <p>C. 1000 ml will be distributed in EC compartment</p> <p>D. 500 ml will be distributed to Int compartment</p> <p>E. 850 ml will be distributed to Int compartment</p>
3	<p>A chronic heavy smoker is scheduled for a laparotomy. Which one of the following physiological changes is most likely to occur in this patient due to smoking?</p> <p>A. Reduced FEV1</p> <p>B. Reduced closing capacity</p> <p>C. Low airway resistance</p> <p>D. Reduced TLC</p> <p>E. Increase in FEV1/FVC ratio.</p>	8.	<p>Concurrent administration of midazolam 5mg and propofol 150mg produces a hypnotic effect which is greater than the expected combined effect of the two drugs. This phenomenon is best described by:</p> <p>A. Summation</p> <p>B. Potentiation</p> <p>C. Agonistic action</p> <p>D. Synergism</p> <p>E. Antagonism</p>
4	<p>A 65 yr female with chronic renal failure (S.Cr =5mg/dL) is shifted to ICU post-op. Which one of the following analgesics is most appropriate for postop pain relief in this patient?</p> <p>A. Morphine</p> <p>B. Diclofenac</p> <p>C. Fentanyl</p> <p>D. Tramadol</p> <p>E. Remifentanil</p>	9.	<p>A 42 yr female is admitted with subarachnoid haemorrhage. Which one of the following drugs would be most effective in the prevention and treatment of ischaemic neurological deficits in this patient?</p> <p>A. Nifedipine</p> <p>B. Amlodipine</p> <p>C. Nicorandil</p> <p>D. Nimodipine.</p> <p>E. Nicardipine</p>
5	<p>A patient has Hb of 10g/dL and his SpO₂ is 100%. The oxygen carrying capacity is?</p> <p>A. 20.8ml/dL</p> <p>B. 11.1ml/dL</p> <p>C. 13.4ml/dL</p> <p>D. 16.6ml/dL</p> <p>E. 10ml/dL.</p>	10.	<p>Which one of the following has the greatest effect on plasma colloid osmotic pressure?</p> <p>A. Albumin</p> <p>B. α-1 globulin.</p> <p>C. α-2 globulin.</p> <p>D. β globulin.</p> <p>E. Gamma globulin.</p>



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***Recheck: (1) You have put your Roll number on each answer sheet especially this page.
(2) Answers are Numbered correctly & written in appropriate section.***

ROLL No:- _____

SECTION D Answers:

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