

**ANAESTHESIOLOGY**

PAPER – I

ANS/J/17/01/I

Time : 3 hours  
Max. Marks : 100

**IMPORTANT INSTRUCTIONS**

- *This question paper consists of 10 questions divided into Part 'A' and Part 'B', each part containing 5 questions.*
- *Answers to questions of Part 'A' and Part 'B' are to be strictly attempted in separate answer sheet(s) and the main + supplementary answer sheet(s) used for each part must be tagged separately.*
- *Answers to questions of Part 'A' attempted in answer sheet(s) of Part 'B' or vice versa shall not be evaluated.*
- *Answer sheet(s) of Part 'A' and Part 'B' are not to be tagged together.*
- *Part 'A' and Part 'B' should be mentioned only on the covering page of the respective answer sheet(s).*
- *Attempt all questions in order.*
- *Each question carries 10 marks.*
- *Read the question carefully and answer to the point neatly and legibly.*
- *Do not leave any blank pages between two answers.*
- *Indicate the question number correctly for the answer in the margin space.*
- *Answer all the parts of a single question together.*
- *Start the answer to a question on a fresh page or leave adequate space between two answers.*
- *Draw table/diagrams/flowcharts wherever appropriate.*

Write short notes on:

**PART A**

1. a) What is minimum alveolar concentration (MAC)? 1+2+3+4  
b) What is the MAC of desflurane in O<sub>2</sub> and N<sub>2</sub>O?  
c) What are the unique properties of desflurane?  
d) Functioning of a desflurane vaporizer.
2. a) What is oxygen flux? 2+3+4+1  
b) Draw a labeled diagram of the oxygen dissociation curve (ODC).  
c) What are the factors that cause a shift of the ODC?  
d) What is the partial pressure of oxygen at the level of the mitochondria?
3. a) What is the principle of a jet ventilator? 3+(3+2+2)  
b) Clinical indications, advantages and precautions to be followed during jet ventilation.
4. a) What is Glasgow Coma Scale? 3+7  
b) Various methods of reducing intracranial pressure in the peri-operative period.
5. A 26 year old, ASA grade I male weighing 75 kg was posted for surgery for fracture shaft of femur. His pre-operative Hb was 13 gm% and he bled 850 ml during the surgery: 2+2+6  
a) What should be the transfusion trigger hematocrit for blood transfusion in this patient?  
b) How would you calculate allowable blood loss in this patient?  
c) What are the methods of reducing intra-operative blood loss?

**P.T.O.**

**ANAESTHESIOLOGY**

PAPER – I

**Please read carefully the important instructions mentioned on Page ‘1’**

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- *Answers to questions of Part ‘A’ attempted in answer sheet(s) of Part ‘B’ or vice versa shall not be evaluated.*

**PART B**

6. a) Why is an infant more prone to hypothermia than an adult? 4+3+3  
b) What are the consequences of inadvertent intra-operative hypothermia in an infant?  
c) Various methods of prevention of intra-operative hypothermia.
7. a) Enumerate the causes of hyponatremia. 3+3+4  
b) Signs and symptoms of hyponatremia with respect to serum sodium levels.  
c) Management of hyponatremia.
8. A patient develops gangrene of the fingers after right radial artery cannulation. 2+4+4  
a) What can be the possible explanation for this?  
b) Modified Allen’s test and its interpretation.  
c) What are the other complications/ side effects of radial artery cannulations?
9. A 55 year old smoker is posted for oesophagectomy requiring one lung ventilation. 4+3+3  
a) Outline the changes in respiratory mechanics during one lung ventilation and pre-operative evaluation of this patient.  
b) Various methods used to optimize oxygenation during one lung ventilation.
10. a) Minimum monitoring standards in Anesthesia. 5+5  
b) Standard deviation and standard error in case of quantitative data.

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