



Australian and New Zealand College of
Veterinary Scientists

Veterinary Emergency and Critical Care
Sample Multiple Choice Questions

Paper 1

Answer all five (5) multiple choice questions in this section

This section is worth 5 marks. Each question is worth one (1) mark. There is no negative marking.

1. Which of the following is the primary site and mechanism of action of maropitant?
 - a. Neurokinin-1 antagonism in the chemoreceptor trigger zone
 - b. Serotonin antagonism in the vomiting centre
 - c. Neurokinin-1 antagonism in the vomiting centre
 - d. Serotonin antagonism in the chemoreceptor trigger zone

2. What is the mechanism of toxicity of metaldehyde?
 - a. Altering of neuronal sodium channels causing repetitive firing
 - b. Inhibition of acetylcholinesterase at the neuromuscular junction
 - c. Disruption of Gamma-aminobutyric acid within the CNS
 - d. Inhibition of postsynaptic glycine receptors in the spinal cord

3. During the first 4 minutes post cardiac arrest, which of the following phases of cardiac ischaemia is the heart experiencing?
 - a. Circulatory phase
 - b. Metabolic phase
 - c. Fibrillatory phase
 - d. Electrical phase

4. Which of the following is the mechanism of action of aminoglycoside antibiotics?
- a. Inhibition of bacterial RNA polymerase
 - b. Inhibition of protein synthesis
 - c. Inhibition of the DNA Supercoiling
 - d. Inhibition of peptidoglycan cross-linking
5. Which of the following is the effect of the peptide hormone cholecystokinin?
- a. Stimulation of gastric acid secretion
 - b. Relaxation of the gall bladder
 - c. Contraction of the gall bladder
 - d. Inhibition of bile secretion

Paper 2

Answer all five (5) multiple choice questions in this section

This section is worth 5 marks. Each question is worth one (1) mark. There is no negative marking.

1. The ECG below exhibits which of the following findings?



- a. Atrial fibrillation
 - b. 2nd degree AV block
 - c. Electrical alternans
 - d. Sinus tachycardia
2. For the following patient, what is the effective osmolality?
(Round to the nearest whole number).

Parameter	Unit	Result	Reference range
Na	Mmol/L	145	142-156
K	Mmol/L	4.2	3.9-5.2
Cl	Mmol/L	113	115-128
Glucose	Mmol/L	52	3.7-9.3
HCO ₃	Mmol/L	14.8	15-21
BUN	Mmol/L	22.4	7-11

- e. 373 mmol/L
- f. 350 mmol/L
- g. 301 mmol/L
- h. 309 mmol/L

3. For a 15 kg dog with a sodium of 172 mmol/L what is the calculated free water deficit?

NB – for calculating free water deficit use 150 mmol/L as the ‘normal’

Parameter	Abbreviation	Unit	Result	Reference range
Na		Mmol/L	172	140-150

- a. 0.85 L
 - b. 1.15 L
 - c. 1.32 L
 - d. 10.32 L
4. Which of the following is a negative prognostic indicator in immune mediated thrombocytopaenia?
- a. Gastrointestinal bleeding
 - b. Development of epistaxis
 - c. Severe neutrophilia
 - d. Severity of ecchymoses
5. Which of the following is a common comorbidity in cats with diabetic ketoacidosis?
- a. Gastro enteritis
 - b. Urinary tract infections
 - c. Inflammatory bowel disease
 - d. Hepatic lipidosis