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Qualification name: 7457-33 Level 3 Diploma in Small Animal Veterinary Nursing

Exam name: Level 3 Synoptic Knowledge Test Paper 2

Exam Version Name: June 2021

1	State the maximum permissible exposure limit to ionising radiation for an adult employee aged 18 or over in a single calendar year. (1 mark)		
	Acceptable answer(s)	Guidance	Max marks
	20 mSv	Reference: Ionising Radiation Regulations 2017 Must have unit for mark.	1

2	a) Describe the physical property of Milliampere-second (mAs) in relation to X-rays. (1 mark)		
	b) Give one example of the effect Milliampere-second (mAs) has on a radiographic image. (1 mark)		
	Acceptable answer(s)	Guidance	Max marks
	(a) <i>One mark for the following</i> <ul style="list-style-type: none">• Quantity/amount of x-rays produced (1) (b) <i>Any of the following for 1 mark</i> <ul style="list-style-type: none">• The degree of blackening (1)• The amount of blackening (1)• The Degree of radiographic density (1)	Similar wording is acceptable	2

3	<p>In relation to diagnostic imaging:</p> <p>a) Give two advantages of using Computed Tomography (CT) over digital radiography. (2 marks)</p> <p>b) Give two disadvantages of using Computed Tomography (CT) over digital radiography. (2 marks)</p>		
	Acceptable answer(s)	Guidance	Max marks
	<p><i>(a) Any two advantages to a total of two marks</i></p> <p>Advantages</p> <ul style="list-style-type: none"> • Internal anatomy viewed in greater detail (1) • Range of different tissue types clearly (1) • Tissue contrast greater (1) • Solid and fluid tissues distinguished (1) • Can construct three dimensional (3D) images (1) • Rapid acquisition of images (1) • Views large portions of the body (1) <p><i>Any other acceptable answer</i></p> <p><i>(b) Any two disadvantages to a total of two marks</i></p> <p>Disadvantages</p> <ul style="list-style-type: none"> • High doses of radiation (1) • Large designated area needed for machine (1) • Less portable (1) • Less available (1) • Large/obese patients may not be accommodated (1) • Time consuming (1) • Cost to run machine/buy (1) • Only suitable for certain tissues (1) <p><i>Any other acceptable answer</i></p>	<p>Do not accept: "Patient required to be completely still" as a disadvantage.</p>	4

4	<p>In relation to a Urine Specific Gravity measurement on a refractometer used in veterinary laboratory diagnostics:</p> <p>a) State one condition that results in a high reading. (1 mark)</p> <p>b) State one condition that results in a low reading. (1 mark)</p>		
	Acceptable answer(s)	Guidance	Max marks
	<p><i>(a) One mark for any condition that results in a low reading</i></p> <p>High reading</p> <ul style="list-style-type: none"> • Dehydration (1) • Shock (1) • Cardiac disease (1) • Acute renal failure (1) • Diabetes mellitus (1) <p><i>Any other acceptable answer</i></p> <p><i>(b) One mark for any condition that results in a high reading</i></p> <p>Low reading</p> <ul style="list-style-type: none"> • Diabetes insipidus (1) • Chronic renal failure (1) • Hyperadrenocorticism (Cushing's disease) (1) • Hypoadrenocorticism (Addison's disease) (1) • Liver failure (1) <p><i>Any other acceptable answer</i></p>	<p>Similar wording is acceptable</p> <p>Do not accept symptoms of condition e.g Polydipsia.</p>	2

5	Name one anticoagulant used for the preservation of blood samples and the diagnostic testing with which it is associated. (2 marks)		
	Acceptable answer(s)	Guidance	Max marks
	<p><i>Any one from the following</i></p> <ul style="list-style-type: none"> • Ethylenediamine tetra-acetic acid (EDTA) (1) – Haematology (1) • Lithium Heparin (Lith Hep) (1)– Biochemistry (1) • Sodium citrate/ Lithium citrate (1) – Clotting Profiles (1) • Fluoride oxalate (Ox F) (1) – Glucose estimation (1) <p><i>Any other acceptable answer</i></p>	<p>Accept the following abbreviations: e.g. EDTA heparin citrate fluoride etc</p>	2

6	<p>a) State one type of warming device that can be safely used in an operating theatre. (1 mark)</p> <p>b) State one type of warming device that is not appropriate to be used in an operating theatre. (1 mark)</p>		
	Acceptable answer(s)	Guidance	Max marks
	<p><i>Any one of the following, to a total of 1 mark</i></p> <ul style="list-style-type: none"> • Warm air blankets/ Bair Hugger™/Hot Dog (1) • Thermostatically controlled heat pads (1) • Heated operating table (1) • Microwavable heat discs/bottles/ SnuggleSafe (1) • Bubble wrap (1) • Panel heating (1) • Underfloor heating (1) • Hot Hands (1) <p><i>Any other suitable answer</i></p> <p>(b)</p> <ul style="list-style-type: none"> • Fan heater (1) • Radiators (1) • Vet beds/material blankets (1) • Climate control units (1) • Hot water bottle (1) <p><i>Any other suitable answer</i></p>		2

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7	<p>a) State two reasons why a suction unit may be used during surgery. (2 marks)</p> <p>b) State one example of a suction tip. (1 mark)</p>		
	Acceptable answer(s)	Guidance	Max marks
	<p><i>a) Any two of the following, to a total of 2 marks</i></p> <ul style="list-style-type: none"> • Resuscitation to clear oropharynx (1) • Fluid aspiration (1) • Aid tissue visualisation (1) <p>Any other suitable answer</p> <p><i>b) Any one of the following</i></p> <ul style="list-style-type: none"> • Yankauer (1) • Poole (1) • Frazier (1) 	Do not accept different types of fluid aspiration.	3

8	<p>Name one volatile anaesthetic agent and an agent or drug that may be given in combination to reduce the amount of anaesthetic agent required. (2 marks)</p>		
	Acceptable answer(s)	Guidance	Max marks
	<p><i>Any one of the following volatile agents to a total of 1 mark</i></p> <ul style="list-style-type: none"> • Isoflurane (1) • Sevoflurane (1) <p><i>Any one of the following agents or drugs to a total of 1 mark</i></p> <ul style="list-style-type: none"> • Nitrous oxide (1) • Analgesic or example of an analgesic e.g. buprenorphine or methadone (1) • Local anaesthetic agent or an example of a LA agent e.g. Lidocaine (1) • Sedatives or examples of sedatives e.g. phenothiazines, benzodiazepines, Alpha 2 agonists - Midazolam, Acepromazine, Xylazine, Medetomidine (1) <p>Any other suitable answer.</p>	Do not accept trade names.	2

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9	State one example of a non-depolarising neuromuscular blocking agent. (1 mark)		
	Acceptable answer(s)	Guidance	Max marks
	<i>Any one of the following</i> <ul style="list-style-type: none">• Atracurium (1)• Cisatracurium (1)• Vecuronium (1)• Pancuronium (1)• Rocuronium (1)	Generic or trade name accepted	1

10	<p>a) State two advantages of using a rebreathing anaesthetic system. (2 marks)</p> <p>b) State two disadvantages of using a rebreathing anaesthetic system. (2 marks)</p>		
	Acceptable answer(s)	Guidance	Max marks
	<p>One mark for any of the following, to a total of 2 marks</p> <p>a. Advantages</p> <ul style="list-style-type: none"> • Low fresh gas requirements/ reducing medical gas costs (1) • Decreased use of expensive volatile agents (1) • Less environmental contamination (1) • Reduced patient heat loss (1) • Inspired gases moistened (1) <p><i>Any other suitable answer</i></p> <p>One mark for any of the following, to a total of 2 marks</p> <p>b. Disadvantages</p> <ul style="list-style-type: none"> • Canister needs filling with a CO₂ absorbent to guidelines (1) • Canisters can be sources of gas leaks (1) • Systems needs checking before every use – maintenance time and skill (1) • Co₂ absorbent creates resistance (1) • Co₂ absorbent dust can be inhaled if care is not taken • Systems can be relatively expensive to purchase (1) • Water might collect in tubing needs to be allowed to dry out fully (1) • Can be unsuitable for hyperthermic or large breed dogs through excessive heat generation (1) • Only efficient system/use of gas when used with patients over 10kg (1) <p><i>Any other suitable answer</i></p>		4

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11	<p>In relation to the American Association of Anaesthesiologists (ASA) anaesthetic risk assessment:</p> <p>a) Define a Class 4 patient risk. (1 mark)</p> <p>b) State one condition graded in this class. (1 mark)</p>		
	Acceptable answer(s)	Guidance	Max marks
	<p>(a) <i>1 mark for the following definition</i> A patient with severe systemic disease and constant threat to life (1)</p> <p>(b) <i>Any of the following, to a total of 1 mark</i></p> <ul style="list-style-type: none"> • Cardiac arrhythmia (1) • Decompensated heart disease (1) • Severe dehydration (1) • Uraemia (1) • Brachycephalic with moderate/severe respiratory (1) • Shock (1) • Anaemia (1) • Toxaemia (1) • Pyrexia (1) <p><i>Any other acceptable answer</i></p>	<p>(a) the threat to life must be included for mark. e.g can accept life threatening disease.</p> <p>Reference: ASA Physical Status Classification System</p> <p>https://www.asahq.org/standards-and-guidelines/asa-physical-status-classification-system</p>	2

12	<p>A Registered Veterinary Nurse administered POM-V medication whilst not under the direction of a Veterinary Surgeon.</p> <p>State two Acts of Parliament that the Veterinary Nurse breached under criminal law. (2 marks)</p>		
	Acceptable answer(s)	Guidance	Max marks
	<p><i>1 mark for each of the following to a total of 2 marks</i></p> <ul style="list-style-type: none"> • The Veterinary Surgeons Act (1966) (1) • The Veterinary Medicines Regulations (1) 	<p>Accept without the years.</p>	2

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13	State three features of professional status. (3 marks)		
	Acceptable answer(s)	Guidance	Max marks
	<i>Any of the following, to a total of 3 marks</i> <ul style="list-style-type: none">• Education (1)• Accountability (1)• Autonomy (1)• Public regard (1) Any other suitable answer.		3

14	Give one attribute required of a suitable person to seek informed consent from a client. (1 mark)		
	Acceptable answer(s)	Guidance	Max marks
	<i>Any of the following, to a total of 1 mark</i> <ul style="list-style-type: none">• Suitably trained (1)• Sufficient knowledge of proposed procedure/treatment (1)• Understands the risks involved (1)• Someone specifically delegated by the veterinary surgeon responsible (1)• Suitable level of communication skill (1) Any other suitable answer	Similar wording may be acceptable	1

15	<p>A post-operative patient is being discharged following a thyroidectomy.</p> <p>Explain two specific pieces of information that would be given to a client relating to monitoring the patient after this surgery. (4 marks)</p>		
	Acceptable answer(s)	Guidance	Max marks
	<p><i>Any two of the following, to a total of 4 marks</i></p> <ul style="list-style-type: none"> • Monitoring the patient for signs of reduced calcium (1) such as twitching/collapse/lack of coordination/trembling/seizures (1) • Monitoring the patient’s water intake (1) to ensure that it returns to normal (1) • Appetite should decrease (1) to normal levels (1) • The patient’s demeanour should become calmer (1) and easier to handle (1) • Avoid use of collars (1) as tis would interfere with the wound site (1) <p><i>Any other suitable answer</i></p>	<p>Do accept answers about general post-op care, must relate to condition.</p>	4

16	State one advantage and one disadvantage of clipping the hair from a patient pre-induction, as opposed to clipping under general anaesthesia. (2 marks)		
	Acceptable answer(s)	Guidance	Max marks
	<p><i>One advantage and one disadvantage from any of the following, to a total of 2 marks</i></p> <p><i>Advantages;</i></p> <ul style="list-style-type: none"> • Shorter GA time (1) • Asepsis improved by shedding hair before prep (1) • Theatre/prep room efficiency allows for quicker turnover (1) <p><i>Any other suitable answer</i></p> <p><i>Disadvantages:</i></p> <ul style="list-style-type: none"> • Relies on patient cooperation (1) • Increased patient stress (1) • Clipping more than 12hrs pre-surgery may lead to bacterial profile (1) • Possible heat loss early in the procedure (1) <p><i>Any other suitable answer</i></p>		2

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17	a) Name two clinical signs of post-operative pain in a dog. (2 marks) b) State one recognised method of pain measurement. (1 mark)	
	Acceptable answer(s)	Guidance
	<p>a) <i>Any of the following, to a total of two marks</i></p> <ul style="list-style-type: none"> • Change in temperament/demeanour (1) • Aggression (1) • Anorexia (1) • Hunched or favoured abdominal position (1) • Reluctance to interact (1) • Favouring a limb (1) • Excessive licking/rubbing/chewing/worrying area (1) • Reduced movement (1) • Reluctance to being handled (1) • Teeth grinding (1) • Squinting (1) • Limping (1) • Gait change (1) • Vocalisation (1) <p>Accept any other suitable answers</p> <p>b) <i>Any one of the following</i></p> <ul style="list-style-type: none"> • Pain scoring (See guidance) (1) <p><i>Any other suitable answer</i></p>	Any recognised method of pain scoring would be accepted e.g. <ul style="list-style-type: none"> • Glasgow Composite Pain Scale • Colorado State Acute Pain Scale
		Max marks
		3

18	Describe two post-operative nursing requirements for a patient that has undergone cataract surgery. (2 marks)		
	Acceptable answer(s)	Guidance	Max marks
	<p><i>One mark for any of the following, to a total of 2 marks</i></p> <p>Post-operative nursing requirements</p> <ul style="list-style-type: none"> • Pain management (analgesia) (1) • Lubricate eye (1) • Protect from trauma (1) • Foot bandages (protect from trauma) (1) • Elizabethan collar (1) • Avoid emetics (1) • Place food and drink where patient can locate (1) • Reassurance (1) • Sternal recumbency (1) • Avoid situations that will increase IOP (1) • Low lighting (1) • Periods of lights off (1) • Clean eyes before applying topical medication (1) <p><i>Any other suitable answer.</i></p>		2

19	Explain the difference between enteral and total parenteral feeding. (2 marks)		
	Acceptable answer(s)	Guidance	Max marks
	<p><i>One mark for each of the following, to a total of 2 marks</i></p> <p>Enteral feeding - Food which has been provided through the digestive system/gastrointestinal tract (1)</p> <p>Parenteral feeding - Intravenous nutrition/food which has been provided intravenously (1)</p>	Similar wording acceptable	2

20	<p>A 16-year-old cat with chronic renal failure has been hospitalised with anorexia. The plan is to address her inappetence through assisted feeding.</p> <p>a) State two methods of assisted tube feeding. (2 marks)</p> <p>b) State two factors that would influence the choice of tube. (2 marks)</p>		
	Acceptable answer(s)	Guidance	Max marks
	<p><i>(a) Any of the following to a total of 2 marks</i></p> <ul style="list-style-type: none"> • Nasogastric (1) • Naso-oesophageal (1) • Oesophagostomy (1) • Pharyngostomy (1) • Gastrotomy tube (1) • PEG tube/ Percutaneous Endoscopic Gastrostomy Tube (1) <p><i>(b) Any of the following to a total of 2 marks.</i></p> <ul style="list-style-type: none"> • Location of injury (1) • Tolerance to general anaesthesia (1) • Type of diet to be feed (1) • Tolerance to the tube (1) • Length of time for assisted feeding (1) • Experience of person fitting tube (1) • Availability of equipment (1) • Home care compliant (1) <p>Any other suitable answer.</p>	<p>(a) Do not accept Jejunostomy</p>	4

21	<p>The veterinary surgeon has provided a terminal diagnosis for an eight-year-old dog with Lymphoma. They have discussed options for palliative care and euthanasia with the owner.</p> <p>The owner has opted to spend time at home with the patient before reaching a final decision and you have been asked to discharge the patient.</p> <p>Explain how to facilitate effective home palliative care for the patient and include support of the owner in preparation for the loss of their pet. (12 marks)</p>		
	Acceptable answer(s)	Guidance	Max marks
	<p>Band 1 (1 – 4 marks)</p> <p>A limited range of considerations with a mostly descriptive answer showing clear gaps in knowledge and limited understanding. Candidate attempts to use technical language infrequently.</p> <p>To access the higher marks in the band</p> <p>The candidate demonstrates a wider range of considerations with superficial explanations, which may not all be valid. Attempted to provide some explanations, but may not all be relevant.</p> <p>Band 2 (5-8 marks)</p> <p>The candidate considered a range of aspects of the topic with a developed discussion showing clear knowledge and understanding with some gaps. Technical terminology is used frequently.</p> <p>To access the higher marks in the band</p> <p>Discussion is supported with relevant explanation(s) with clear and valid links to the topic.</p> <p>Band 3 (9-12 marks)</p> <p>Candidate considered a wide range of aspects of the topic with a comprehensive discussion showing thorough knowledge and understanding. Technical terminology is used correctly and appropriately throughout.</p>	<p>Indicative content</p> <ul style="list-style-type: none"> • Importance of assessing owner circumstances and their understanding of the patient’s illness and engagement with supportive/palliative treatment aims • Quality of life assessment to provide continuity of patient care and handling of animal • Ethics of palliative care • In-home hospice provision • Frequency of follow-up • Client concordance • Points of contact • Home care recording • Providing client support • Effective communication • empathic approach • Preparing and supporting clients with grief and loss including <ul style="list-style-type: none"> ➤ services available to assist clients to cope with loss ➤ after death body options 	12

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	<p>To access the higher marks in the band</p> <p>The discussion is supported using a broad range of highly relevant links to the topic with clear and detailed justifications.</p>		
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