FACULTY	HEALTH SCIENCES AND VETERINARY MEDICINE		
SCHOOL	VETERINARY MEDICINE		
SUBJECT	VETERINARY DIAGNOSTIC IMAGING		
SUBJECT CODE	V3721CD		
DATE	9 JUNE 2026		
DURATION	2 HOURS	**MARKS**	100

FIRST OPPORTUNITY EXAMINATION

Examiner: Dr. L. Hepplestone
Internal Moderator: Dr. L. De Villiers
External Moderator: Dr A. Celliers

Student name and surname: _____

Student no.: _____

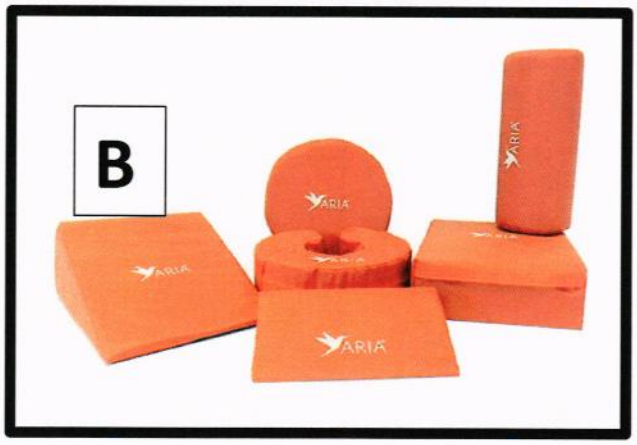
INSTRUCTIONS

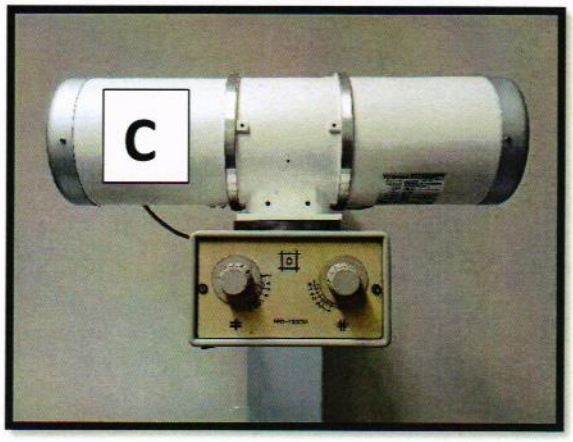
1. Please answer ALL the questions. Total 100 marks.
2. All answers to be written on this examination paper provided.
3. Write your student number clearly on each page.
4. Any form of malpractice will result in action taken by the University.
5. This paper consists of 9 (NINE) questions, and is 11 (ELEVEN) pages in total, including the cover page.

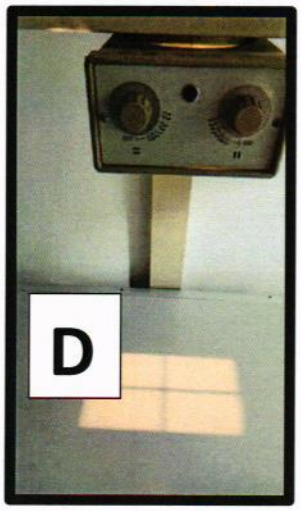
QUESTION 1. [21 marks]

Evaluate the following photographs of radiographic equipment and answer the questions below.









1.1.1 Identify and describe the main function(s) of the radiographic equipment in photos A and D, respectively. (4 marks)

1.1.2 Identify the radiographic equipment in photos B and C (2 marks)

1.1 Besides the item in photo A, list 4 (FOUR) ways to further improve radiation safety of workers in the room. (4 marks)

1.2 Name the components of photo C. (3 marks)

1.4 Name and explain the 2 (TWO) radiography exposure factors. (4 marks)

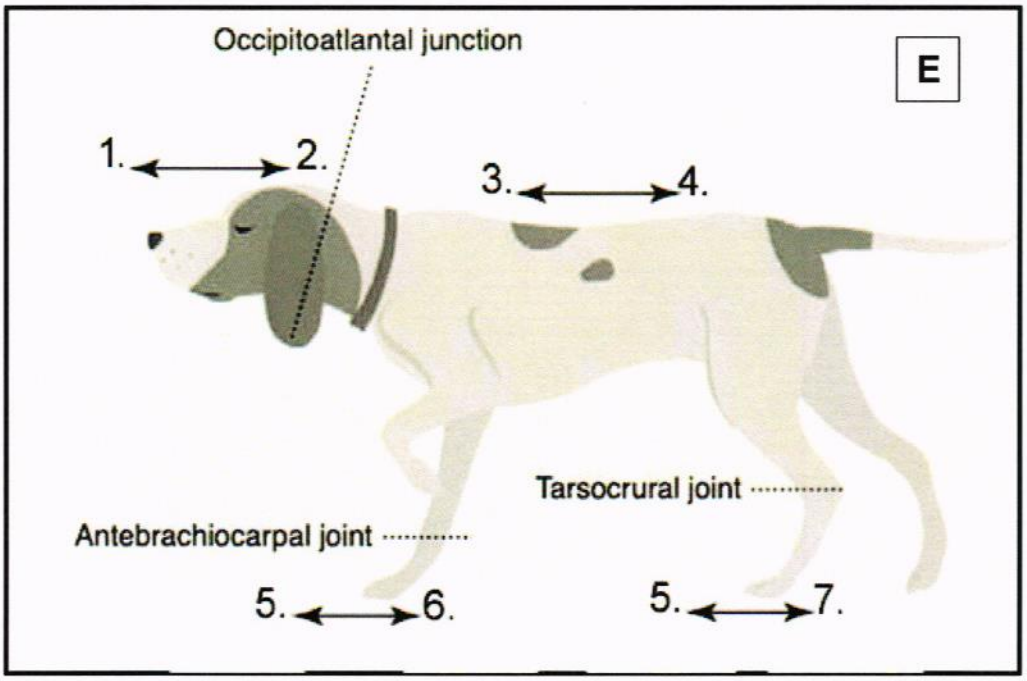
1.5 Define **A.L.A.R.A.** (1 mark)

1.6 A.L.A.R. A pertains to radiation safety. Notwithstanding protective clothing, list 3 (THREE) radiographic techniques to this end. (3 marks)

QUESTION 2 [18 marks]

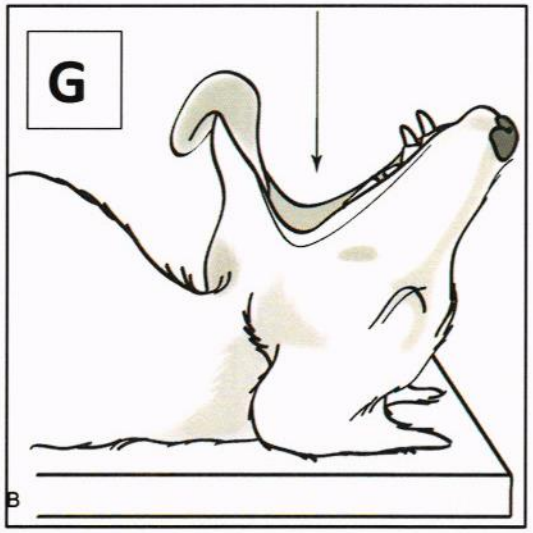
2.1 Label the following numbered (1-7) views in diagram E, below. (7 marks)

1.
2.
3.
4.
5.
6
7.



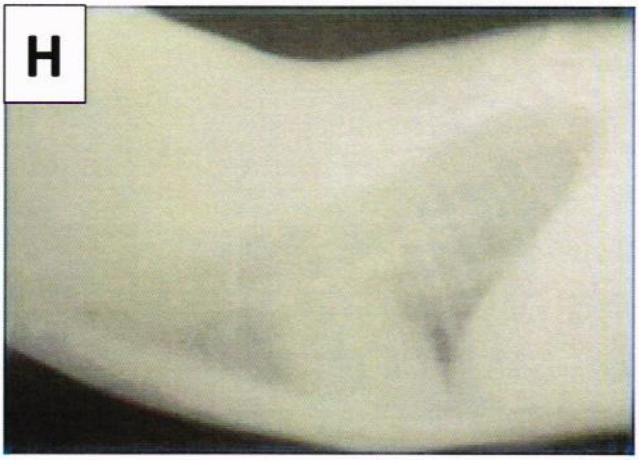
2.2 Name these two radiographic views. (4 marks)





2.3 What is the main point-of-interest commonly investigated from the view in picture G? (1 mark)

2.4 Evaluate the radiograph image H below and answer the following questions:



2.4.1 Describe the exposure of this radiograph and explain the description in simple terms. (2 marks)

2.4.2 Name the view of this radiograph. (½ x 2 = 1 mark)

2.4.3 What scale contrast is required for this body-part view? (1 mark)

2.4.4 Explain the associated exposure factors to this choice. (1 mark)

2.4.5 How could the exposure of the radiograph be corrected? (1 mark)

QUESTION 3 [5 marks]

Evaluate the radiograph (**image I**) below and answer the following questions:



3.1 Name the view and main body part in this radiograph. (½ x 2 = 1 mark)

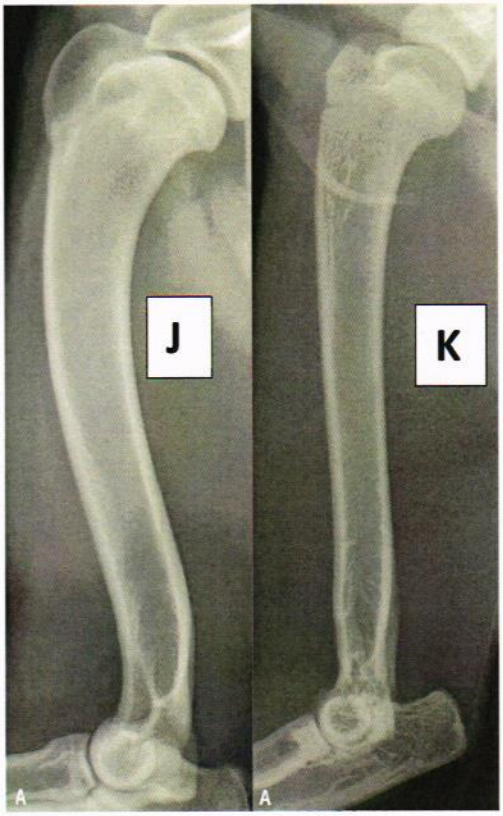
3.2 Comment on the exposure of this image and justify your answer. (2 marks)

3.3 What procedure was performed on this patient, and what product was used to contribute to this diagnostic technique? (2 marks)

QUESTION 4 [5 marks]

Compare the images J and K below.

Identify the long bone in these radiographs, the species associated in J and in K respectively and justify your answer. (5 marks)



QUESTION 5 [17 marks]

5.1 Name the components of Ultrasonography (3 marks).

5.2 Briefly explain how ultrasonography differs from radiography in how an image is created. (2 marks)

5.3 Define A-POCUS and T-POCUS, respectively. (½ x 4 = 2 marks)

5.4 When (3 marks) and why (3 marks) would POCUS be utilized? (6 marks)

5.5 Name the 4 (FOUR) views of A-POCUS. (4 marks)

QUESTION 6 [10 marks]

6.1 Is a glide sign present, or absent, in the presence of a pneumothorax? Explain. (3 marks)

6.2.1 Which 2 (TWO) elements are present to create ring-tail-comets in a T-POCUS? (½ x 2 = 1 mark)

6.2.2 Is this a normal finding? Justify the answer. (1 mark)

6.3 What are the 5 (FIVE) basic movements used when handling an ultrasound probe? (5 marks)

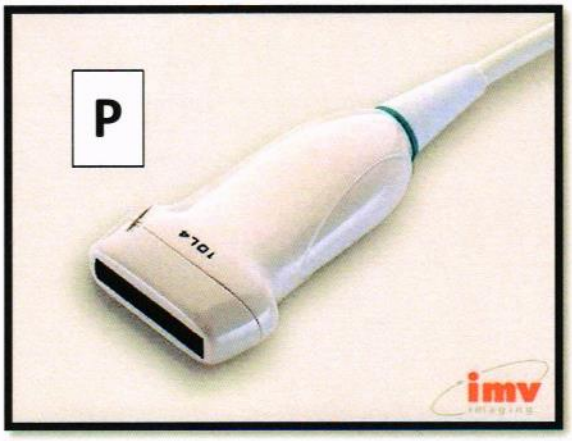
QUESTION 7 [6 marks]

7.1 Explain ultrasonographic artifacts (4 marks)

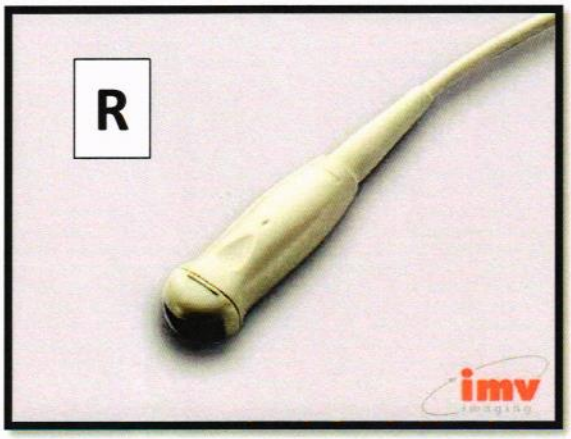
7.2. Name 2 operator-induced ultrasound artifacts that are controllable prior to imaging. (2 marks)

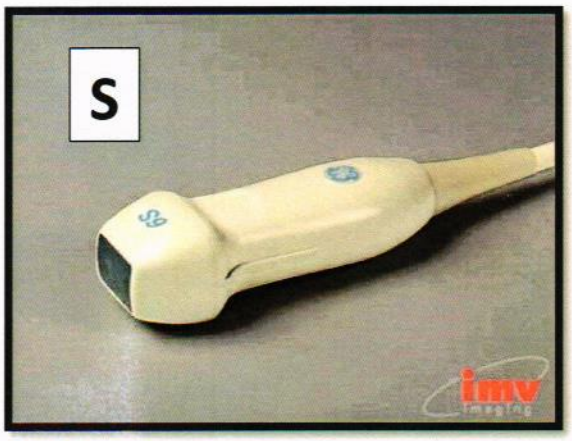
QUESTION 8 [6 marks]

Answer the following questions on the images P, Q, R, and S.









8.1 Give the collective name for these diagnostic instruments above. (1 mark)

8.2 Specifically name any 2 (TWO) of the four instruments above. (2 marks)

8.3. Name which of the above four instruments would be appropriate for:

(i) high frequency and resolution, but poor penetration? (1 mark)

(ii) low frequency and resolution but high penetration? (1 mark)

(iii) deep penetration through an acoustic window? (1 mark)

QUESTION 9 [9 marks]

9.1 Which mode in echocardiography displays real-time blood-flow? (1 mark)

9.2 Name the 2 (TWO) different classifications of this mode. (2 marks)

9.3 What is the Law of BART in echocardiography? (1 mark)

9.4 Name the 2 (TWO) main advantages of CT/MRI imaging compared to radiography. (2 marks)

9.5 Technetium-99M is the radioisotope used for/in which imaging modality? (1 mark)

9.4 Describe 1 (ONE) advantage and 2 (TWO) clinical applications for the use of CT as an imaging modality of choice. (3 marks)

9.5. Which **clinical application** is MRI used for commonly and practically in Southern Africa? (1 mark)

9.6. The images below represent a horse that had been kicking the stable door for months, and no nerve blocks blocked out the lameness. Name the imaging modality (as shown by these photographs) that diagnosed the pathology. (1 mark)



TOTAL 100 MARKS

END OF PAPER