

Candidate's No

AMTRA MARKETING AUTHORISATION HOLDERS
REPRESENTATIVES SCHEME EXAMINATION

(date)

Paper I

CANDIDATE'S AMTRA NO

CANDIDATE'S NAME IN FULL (BLOCK CAPITALS - SURNAME FIRST)

.....

CANDIDATE'S SIGNATURE

DATE.....

Instructions to Candidates

1. Candidates must complete all details required above.
2. Enclose all rough work.
3. Duration of examination: 2 hours
You may not leave the examination during the first 30 minutes or the last 10 minutes.
4. Candidate's name or number must be put on the top right hand corner of each page.
5. ALL questions to be attempted.
6. Incorrect answers to multiple choice questions will carry a small penalty mark.
(You are advised not to guess).

EXAMINERS MARK	TOTAL
Paper I	
Paper II	
Oral	
Overall Mark	

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In questions 1-17 put the correct letter in the box provided.

1) What type of cell is shown in Figure 1 below?

- A. Red blood cell
- B. White blood cell
- C. Muscle cell
- D. Intestinal epithelial cell

 (1)

Figure 1

2) Chemical energy is released in which one of the following components of a cell?

- A. Plasma membrane
- B. Nucleus
- C. Mitochondria
- D. Vesicles

 (1)

3) The main organs concerned with the breakdown of red blood cell are the:

- A. Liver and spleen
- B. Liver and kidney
- C. Kidney and spleen
- D. Pancreas and liver

 (1)

4) New blood cells are formed in the:

- A. Plasma
- B. Spleen
- C. Liver
- D. Bone marrow

 (1)

5) The upper chambers of the heart are called:

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- A. Atria
- B. Ventricles
- C. Arterioles
- D. Venules

 (1)

6) Which one of the following statements is correct?

- A. The heart rate of a cow is 80-100 beats/minute
- B. Larger animals have slower heart rates
- C. The size of the animal has no effect on heart rate
- D. The heart rate is higher when the animal is resting

 (1)

7) Which one of the following statements is correct?

- A. Lymph is circulated by means of a pump similar to the heart
- B. Lymph can pass from the lymphatic vessels into the jugular vein
- C. Lymph carries glucose and oxygen to the cell, but waste products are transported from the cell by an alternative route
- D. Lymph nodes remove oxygen and glucose from the lymph

 (1)

8) Starting with the **largest** and finishing with the smallest, put the parts of the respiratory system in order of size:

- A. Bronchi, bronchioles, alveoli, trachea
- B. Trachea, bronchioles, bronchi, alveoli
- C. Trachea, bronchi, bronchioles, alveoli
- D. Bronchi, trachea, bronchioles, alveoli

 (1)

9) Which one of the following is **not** part of the large intestine?

- A. Ileum
- B. Caecum
- C. Rectum
- D. Colon

 (1)

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- 10) In the pig, in which part of the large intestine does microbial fermentation take place?
- A. Caecum
 - B. Colon
 - C. Rectum
 - D. Anus
- (1)
- 11) Which of the following statements is **incorrect**?
- A. During swallowing, the epiglottis closes off the trachea
 - B. During swallowing, the pharynx closes off the nasal cavity
 - C. The tongue directs food to the back of the mouth
 - D. The process of peristalsis propels food down the oesophagus
- (1)
- 12) The pH in the stomach is around 2. This is due to the presence of which acid?
- A. Hydrochloric
 - B. Acetic
 - C. Sulphuric
 - D. Butyric
- (1)
- 13) What is the term for the finger-like projections in the small intestine?
- A. Villi
 - B. Cilia
 - C. Ileum
 - D. Acini
- (1)
- 14) What is the main process occurring in the colon?
- A. Microbial fermentation
 - B. Water re-absorption
 - C. Fat digestion
 - D. Faecal storage
- (1)

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15) Which of the following statements is **incorrect**?

- A. Breathing is controlled by the diaphragm and intercostal muscles
- B. The resting breathing rate of a cow is 15 breaths per minute
- C. Breathing out is an active process which occurs when the muscles contract
- D. Breathing out is called expiration

(1)

16) Which of the following statements is correct?

- A. Bone is harder than enamel
- B. Sixty six percent of enamel is minerals
- C. Dentine is harder than bone
- D. The outer layer of the tooth is dentine

(1)

17) What is phagocytosis?

- A. Passive immunity
- B. A protein passed to the young animal through colostrum
- C. Body defence cells that engulf foreign material
- D. Body response to worms in the intestine

(1)

18) What are the end products of digestion of the following food components?

i) Proteins.....
.....

ii) Fats.....
.....

(2)

19) Which **TWO** cavities are found within the body of a mammal?

i).....
.....

ii).....
.....

(2)

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20) a) Explain the purpose and functioning of the semi-lunar valves in the veins

.....
.....
.....
..... (2)

b) Where in the body would the veins be expected to have such valves?

.....
..... (1)

21) a) What is the process called in which O₂ and CO₂ molecules pass across the respiratory surface in the lungs?

.....
..... (1)

b) What is the main problem associated with this process?

.....
..... (1)

c) Give **THREE** adaptations of the respiratory surface to counteract this problem?

i).....
.....

ii).....
.....

iii)..... (3)

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22) Give **TWO** ways colostrum benefits a young animal

i).....

.....

ii).....

..... (2)

23) What is the most important component of a vaccine?

.....

..... (1)

24) Give **TWO** differences between a red blood cell and a white blood cell

i).....

.....

ii).....

..... (2)

25) What is the function of mucus in the stomach?

.....

..... (1)

26) What is meant by certain teeth having 'open roots'?

.....

..... (1)

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27) i) Give **ONE** example of fibrous carbohydrate

.....
..... (1)

ii) What is it that makes them so difficult to digest?

.....
.....
..... (2)

28) Explain what is meant by the following terms:

i) Oestrus.....

.....

ii) Ovulation.....

..... (2)

29) What is the function of muscle tissue?

.....

.....

..... (1)

30) What are the **THREE** main categories of white blood cells (leucocytes) and their function?

i).....

.....

ii).....

.....

iii).....

..... (3)

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31) What are symbiotic microbes and give an example?

.....
.....
.....
..... (2)

32) Name **THREE** functions of the liver

i).....
ii).....
iii)..... (3)

33) Explain what is meant by the following abbreviations and who may supply the product

i) POM-V

.....
.....
..... (2)

ii) AVM-GSL

.....
.....
..... (2)

34) What is meant by term 'withdrawal period'?

.....
..... (1)

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- 35) What is an MRL?
..... (1)
- 36) Give 1 way in which you could recognise a particular product had received authorisation for use as a veterinary medicine
.....
..... (1)
- 37) What is the main characteristic of a suppurative type of inflammation?
..... (1)
- 38) Which is the most common antibody found circulating in the blood?
..... (1)
- 39) What is the function of the B lymphocytes?
..... (1)
- 40) What is meant by 'innate immunity' and give an example?
.....
..... (2)
- 41) Which route of administration of a drug gives the most rapid effect?
..... (1)
- 42) Name 2 factors which may affect the absorption of an orally administered drug
i).....
ii)..... (2)

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43) What is meant by the half life of a drug?
..... (1)

44) Why is co-ordination by hormones ideally suited to processes such as reproduction, whereas nerves are used to control reflex actions?
.....
.....
..... (1)

45) What does the term 'infectious disease' mean?
.....
.....
..... (1)

46) What do you understand by the term 'therapeutic drug resistance'?
.....
.....
..... (2)

47) Inflammation is a body defence mechanism. Explain why the inflammatory process may not always be desirable
.....
.....
..... (1)

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48) Name 2 hormones produced by the adrenal gland

.....
..... (1)

49) Name 4 routes by which vaccines are given

i).....
ii).....
iii).....
iv)..... (2)

50) What is a zymogen?

.....
..... (1)

51) Why is the production of a zymogen advantageous to an animal?

.....
..... (1)

52) What is meant by a 'non-essential' amino acid?

.....
..... (1)

53) Give 2 functions of calcium within the animal body

i).....
ii)..... (2)

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54) Name 2 trace (micro) elements

- i).....
- ii)..... (2)

55) What is meant by the term 'parasite?'

-
- (2)

56) In terms of their life cycles, what is the main difference between a typical roundworm and a typical tapeworm?

-
- (1)

57) Not all disease is infectious. Give 3 general categories of disease not caused by micro-organisms or parasites and name a specific example of each

- i).....
-
- ii).....
-
- iii).....
- (3)

58) Name 4 symptoms of a typical roundworm infestation

- i).....
- ii).....
- iii).....
- iv)..... (2)

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59) Give an example of a fungal disease

i).....

Give an example of a protozoal disease

ii)..... (2)

60) Name 2 differences between viruses and bacteria

i).....

.....

ii).....

..... (2)

61) What are the 2 main groups of lice and on what do they feed?

i).....

ii)..... (2)

62) What are the 2 main regions of the skin called

i).....

ii)..... (2)

63) What is implantation and why does it occur?

.....

.....

..... (2)

64) Name 1 process that is occurring inside the epididymis

..... (1)