For Performance Measurement

ZIMBABWE SCHOOL EXAMINATIONS COUNCIL

General Certificate of Education Advanced Level

ANIMAL SCIENCE 6028/1

PAPER 1 Multiple Choice

SPECIMEN PAPER 1 hour

Additional materials:
Multiple Choice answer sheet,
Soft clean eraser,
Soft pencil (type B or HB is recommended),
Electronic calculator.

TIME 1 hour

INSTRUCTIONS TO CANDIDATES

Do not open this booklet until you are told to do so.
Write your name, Centre number and candidate number on the answer sheet in the spaces provided unless this has already been done for you.

There are **forty** questions in this paper. Answer **all** questions. For each question there are four possible answers, **A**, **B**, **C** and **D**. Choose the **one** you consider correct and record your choice in **soft pencil** on the separate answer sheet.

Read very carefully the instructions on the answer sheet.

INFORMATION FOR CANDIDATES

Each correct answer will score one mark.

Any rough working should be done in this booklet.

This question paper consists of 9 printed pages and 3 blank pages.

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1 Which hormone controls the release of bile from the gall-bladder in a monogastric animal?

A Somatostatin
B Amylase
C Cholecystokinin
D Gastrin

2 The highest percentage of protein in feed classified as energy is

A 18%.
B 20%.
C 23%.
D 25%.

3 Where is the heartbeat initiated?

A atrio – ventricular node (AVN)
B sino – atrial node (SAN)
C carotid body
D Medulla oblongata

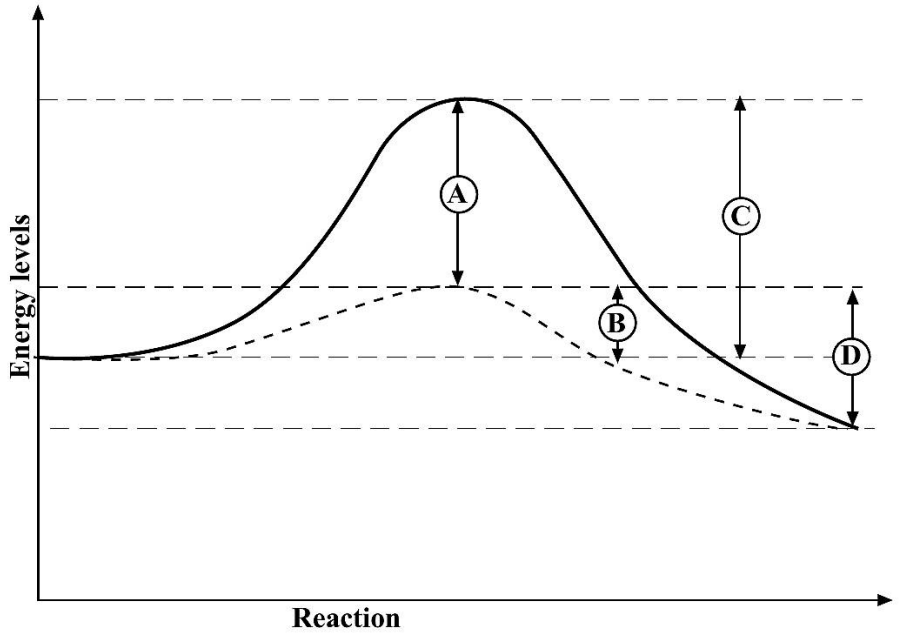
4 The depression on the concave side of the kidney is called the

A hilus.
B pelvis.
C medulla.
D cortex.

5 The presence and distribution of fat in a cut of meat is described as

A marbling.
B condition.
C yield.
D finish.

6 The graph below shows the activation energy of an enzyme-catalysed reaction and the same reaction without a catalyst.

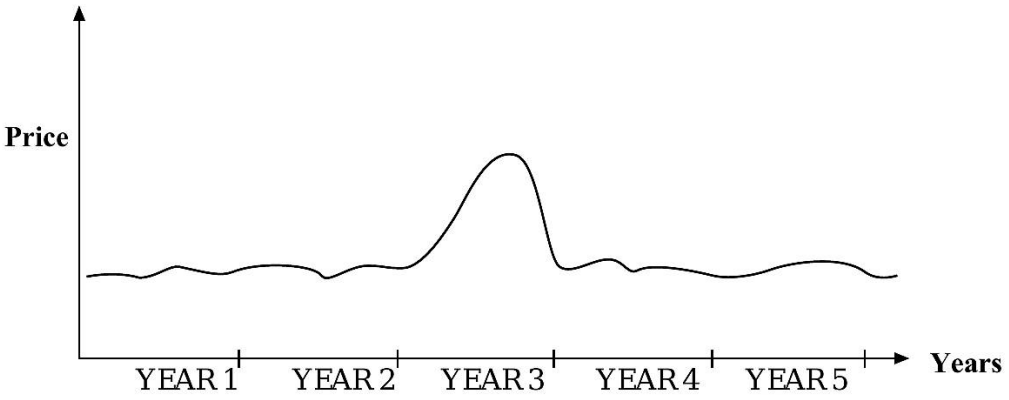


Which arrow shows the activation energy of an uncatalysed reaction?

7 Which internal parasite is correctly matched to its symptom?

A Roundworm – Presence of gravid segments in faeces
B Liver fluke – Hard brittle dung passed with difficulty
C Tapeworm – Anaemia
D Conical fluke – White mucous membranes

8 The graph below shows how the price of pork has fluctuated over a five year period



What is the most likely cause of the price change shown during year 3?

A Importing more of the commodity.
B Unseasonal weather condition in a major production area.
C Normal seasonal variation in availability of the commodity.
D A significant increase in consumer demand for the commodity.

9 Which of the following plant based protein meals contains an aflatoxin of a fungus Aspergillus flavus?

A sunflower meal
B cotton seed meal
C groundnut meal
D soya-bean meal

10 Interferons is a group of proteins produced by animal cells in response to the presence of

A viruses.
B bacteria.
C fungi.
D infections.

11 Which type of reaction takes place when starch molecules are converted into reducing sugars during digestion?

A condensation
B hydrolysis
C polymerisation
D synthesis

12 What is the main source of ruminant animal feeds in Zimbabwe?

A conserved fodders.
B cereals and cereal by-products.
C oil seeds and grain legumes.
D grasslands and forages.

13 During which trimester of pregnancy are the nutritional needs of a reproducing female animal greatest?

A first trimester
B second trimester
C third trimester
D all trimesters

14 The practice of feeding a ration for 10 days to two weeks before breeding and two weeks after breeding that causes an ewe to gain weight rapidly is known as

A lactating.
B flushing.
C gestation feeding.
D breeding.

15 The most crucial problems associated with production of agricultural animals in humid tropics include extreme heat stress and

A crop failure resulting in inadequate feed supply.
B parasites /diseases.
C the scarcity of information on proper herd management techniques.
D excess rainfall.

16 The unique way in which a farmer combines his product, price, promotion and place strategies to appeal to his customers is called the

A marketing mix.
B marketing process.
C merging strategies.
D the 4 Ps.

17 A lethal condition in which an organism is missing a chromosome is called

A monosomy
B allopolyploidy
C polyploidy
D heteroploidy

18 The situation in which the expression of one gene is influenced by the presence of another gene at a different locus is

A mutation.
B epistasis.
C co-dominance.
D polygene.

19 What name is given to the ability of an animal to initiate, sustain and support reproduction?

A breeding
B gestation
C parturition
D fertility

20 The mechanism used by ruminants to remove gas from the rumen is called

A anaerobic fermentation.
B venticulisation.
C eructation.
D coprophagy.

21 Which of the following is **not** a function of salivation?

A Stimulation of taste nerves.
B Disinfection of bacteria in the mouth.
C Buffering acids produced by micro-organism in the rumen.
D Saliva drool in females is a sign that estrus is imminent.

22 The following events take place during the cardiac cycle but not necessarily in that order

(i) wave of excitation reaches AVN
(ii) stimulation of SAN
(iii) wave travels along purkinje fibres
(iv) wave of excitation produced at the bundle of His
(v) ventricular systole

Which of the following is the correct order of events?

A (i) → (ii) → (iii) → (iv) → (v)
B (ii) → (iii) → (i) → (iv) → (v)
C (ii) → (i) → (iv) → (iii) → (v)
D (i) → (ii) → (iv) → (iii) → (v)

23 Which statement is true about the functions of some biological molecules in membranes?

A Sugars in some membranes function as informational molecules.
B Proteins and nucleic acids in membranes are the only informational molecules.
C Fluidity decreases with decreasing length of fatty acid tails of phospholipids.
D More proteins make the membranes more fluid.

24 What is the recommended course of action for a sow having difficulty in farrowing?

A Give the sow a shot of antibiotic.
B Give the sow a shot of oxytocin.
C Let nature take its course.
D Call a veterinarian for assistance.

25 What was the major reason for the lift of ban on ivory trade by the convention on International Trade in Endangered Species (CITES) in Zimbabwe?

A It allowed other species to benefit from the removal of elephants.
B Elephant population had exceeded the carrying capacity of the environment.
C The elephants were destroying crops in the villages.
D It allowed the local community to benefit from the ivory trade.

26 Which of the following diseases is caused by rickettsial organisation?

A anthrax
B heart water
C foot and mouth
D lumpy skin

27 Which of the following is a reason for low animal productivity in developing countries?

A Unfavourable environment
B Prevalence of diseases
C Lack of access to technology
D Lack of money

28 Which statement explains the difference between blood and lymph?

A Blood has white blood cells while lymph has red blood cells.
B Blood has white blood cells and red blood cells while lymph has no cells.
C Blood has red blood cells and white blood cells while lymph has only white blood cells.
D Blood has dissolved salts while lymph has no dissolved salts.

29 Which of the following will cause beef products demand curve to shift to the left?

A Rise in production cost.
B Fall in price
C Subsidy granted to producers.
D Successful advertising.

30 Adding urea to corn silage that is fed to dairy cows is generally done to

A inhibit the overgrowth of bacteria in the cow's digestive traits by decreasing the pH of gastric juices.
B increase the nitrogen available to the bacteria that synthesise amino acids in the cow's rumen.
C prevent growth of moulds and fungi that may make the silage palatable to the cow.
D add high quality carbohydrates to the silage to increase the amount of digestible nutrients in the feed.

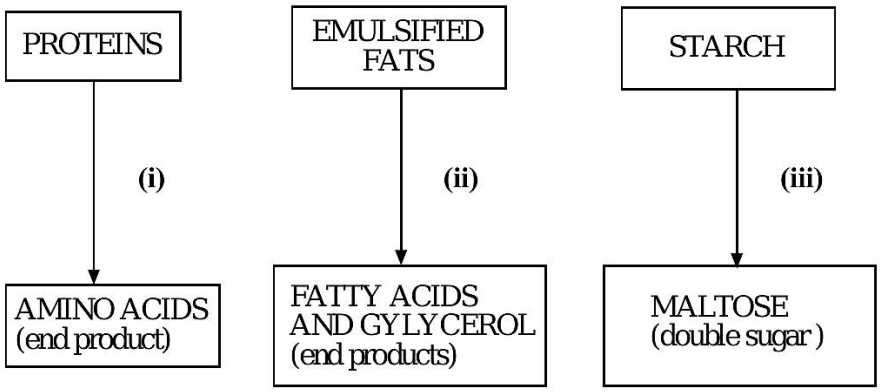
31 What do you understand by the term genotype in animals breeding?

A genes that are only affected by psychological traits
B only the genes affected by physical traits
C the expression of an animal's genes
D all the genes an animal has

32 Outbreeding increases the variability of the genome by

A reducing the number of homozygous genotypes and increasing heterozygous genotypes.
B reducing heterozygous genotypes and increasing homozygous genotypes.
C combining different characteristics of purebreds.
D increasing the heterotic effects.

33 The following diagram is a representation of what happens in the duodenum.



Identify enzymes involved at stages **(i)**, **(ii)** and **(iii)**.

A trypsin, lipase, amylase
B amylase, trypsin, lipase
C lipase, amylase, trypsin
D trypsin, amylase, lipase

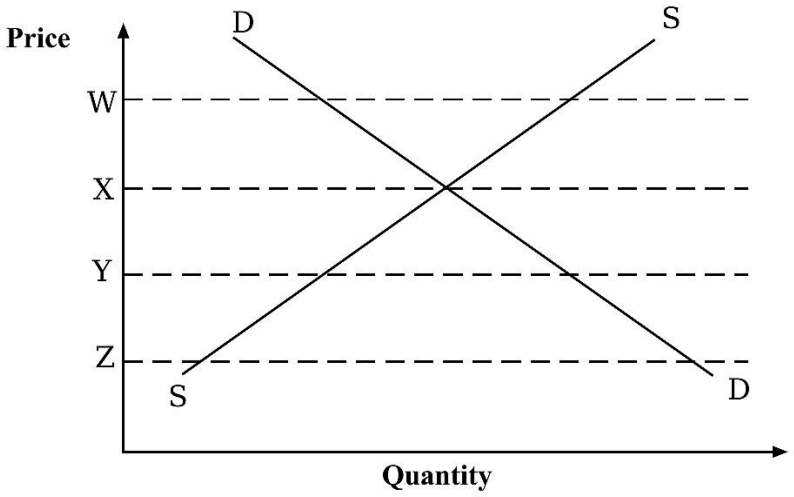
34 To which of the processes shown does mitosis make a contribution

	genetic variation	increase in the number of cells	replacement of damaged cells
A	x	√	√
B	√	x	x
C	√	√	x
D	x	x	√

35 Vigorous exercise on muscular tissue results in

	Glycogen	ATP	Lactose	pH
A	decreased	decreased	increased	decreased
B	decreased	increased	increased	increased
C	increased	decreased	decreased	increased
D	increased	decreased	decreased	decreased

36 The graph below shows the supply and consumer demand curves for goat meat.



Which letter corresponds to the price at which both the producer and consumer would be satisfied?

A W
B X
C Y
D Z

37 What is the physiological sign of a gilt on heat?

A The vulva shrinks and reddens
B Discharge of mucous from the vulva
C Continuous grunting
D It stands still when mounted

38 In dairy cows, polled condition is dominant over horned and red condition is dominant over brown. In a cross between heterozygous parents with polled and red colour, what is the probability of producing horned and brown coloured offspring?

A $\frac{1}{16}$

B $\frac{3}{16}$

C $\frac{9}{16}$

D $\frac{3}{4}$

39 In a herd of cattle 100 cows were exposed to a Bull for mating. The results showed that 96 cows conceived, 2 cows had dead calves at parturition and 92 cows had live calves at parturition. What is the calving rate?

A 92%
B 93%
C 94%
D 95%

40 An animal requires **24%** digestible protein daily. Available for formulation of feed are cotton seed cake concentrate (**36% DP**) and maize grain **8,0% DP**. Use the Pearson's square method to determine the proportions of maize and cotton seed cake to mix in order to form a supplement.

A 12 parts cottonseed cake and 16 parts maize grain.
B 16 parts cottonseed cake and 12 parts maize grain.
C 1 part cottonseed cake and 2 parts maize grain.
D 3 parts cottonseed cake and 2 parts maize grain.

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