



education

Department:
Education
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

**AGRICULTURAL SCIENCES P2
PREPARATORY EXAMINATION 2008
MEMORANDUM 2008**

MARKS: 150

TIME: 2 hours

This memorandum consists of 9 pages.

QUESTION 1.1

1.1.1	A	B	C✓✓	D
1.1.2	A	B✓✓	C	D
1.1.3	A✓✓	B	C	D
1.1.4	A.	B	C	D✓✓
1.1.5	A	B✓✓	C	D
1.1.6	A✓✓	B	C	D
1.1.7	A✓✓	B	C	D
1.1.8	A	B✓✓	C	D
1.1.9	A✓✓	B	C	D
1.1.10	A	B	C✓✓	D

(10 x 2) (20)

QUESTION 1.2

1.2.1	E✓✓
1	
1.2.2	C✓✓
1.2.3	D✓✓
1.2.4	A✓✓
1.2.5	B✓✓

(5 x 2) (10)

QUESTION 1.3

1.3.1 Neutralisation✓✓

1.3.2 Glycogen✓✓

1.3.3 Indigenous
knowledge✓✓1.3.4 Gross Domestic
Product✓✓

1.3.5 Land Redistribution✓✓

(5 x 2) (10)

QUESTION 1.4

1.4.1 inbreeding✓

1.4.2 Pearson square✓

1.4.3 interest✓

1.4.4 prepotency /hereditary✓

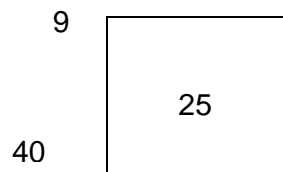
1.4.5 dissociation/ionisation
/hydrolysis✓

(5 x 1) (5)

TOTAL SECTION A: 45

SECTION B**QUESTION 2****2.1 ALIMENTARY CANAL**

- 2.1.1 Fig.1 Jersey✓ (1)
 Fig.2 Landrace✓ (1)
 Fig.3 Leghorn✓ (1)
- 2.1.2 A rumen/large stomach✓ (1)
 M liver✓ (1)
 L cloaca/vent ✓ (1)
- 2.1.3 K gizzard/ventriculus/muscular stomach✓ (1)

2.2

- 2.2.1 For feed A: $40 - 25 = 15$ ✓
 For feed B: $25 - 9 = 16$ ✓ (2)
- 2.2.2 Total $15 + 16 = 31$ ✓
 Maize $15/30 \times 100$ ✓
 $= 48,4\%$ ✓ (3)
- 2.2.3 Supply the animals with sufficient nutrients for growth, production and reproduction. (1)

2.3 INFLUENCE OF ENVIRONMENTAL FACTORS ON PRODUCTION

- nutrition ✓
 disease ✓
 internal and external parasites ✓
 vegetation ✓ (4)

2.4 SCENARIO ON INDIGENOUS KNOWLEDGE

- 2.4.1 manure as fertilizer✓
 skins and hides for clothing ✓ (2)
- 2.4.2 Creation of wealth✓
 Use for lobola✓
 Use for bartering✓
 For making rituals✓
 For making feast✓
 Feeding families✓ (any 2) (2)

2.5 MANGEMENT PRINCIPLES

- 2.5.1 Step 1 = planning✓
 Step 2 = organization of resources✓
 Step 3 = implementation✓
 Step 4 = control✓
 Step 5 = evaluation of work✓ (5)
- 2.5.2 use of credit/loan✓
 production✓ (2)

2.6 VARIATION IN LIVESTOCK

- climate✓
feeding✓
exercise✓
diseases✓
topography✓
light intensity✓ (any 3) (3)

2.7 STRUCTURES OF MONOSACCHARIDES

- 2.7.1 A yes✓ (1)
 B carbohydrate /has many carbon atoms /carbon used in
 respiration reaction✓ (1)
- 2.7.2 12. ✓✓ (2)
- [35]**

QUESTION 3**3.1 NORMAL PARTURITION**

- 3.1.1 Rhythmic contractions of the muscles of the uterus✓ (1)
- 3.1.2 Foetus moves to the normal birth position✓ (1)
- 3.1.3 The membranes break and the amniotic fluid flows from the vulva (1)
- 3.1.4 Head and front legs of the foetus emerge/expelled from the vulva✓ (1)
- 3.1.5 Expulsion of the foetus✓ (1)
- 3.1.6 The placenta is expelled✓ (1)

3.2 REPRODUCTIVE STRUCTURES OF FARM ANIMALS

- 3.2.1 B = ovary✓
C = epididymis✓
D = ovum✓
E = middle piece✓ (4)
- 3.2.2 Fertilization✓ (1)
- 3.2.3 pituitary gland/hypophysis/mastergland✓ (1)
- 3.2.4
 - Exchange of nutrients✓
 - Exchange of gases✓(2)
- 3.2.5
 - Storage of sperms✓
 - Maturity of sperms✓
 - Mobility of sperms✓
 - Transportation of sperms✓
 - Secrete buffer which protects sperms from the acid secretion of male sex organ✓
 - When the diluted sperm suspension leaves the testis, water is absorbed and the suspension therefore becomes more concentrated. ✓(any 3) (3)

3.3 NUTRITIONAL DISEASE

- 3.3.1 dipeptide – product formed by two amino acids✓
polypeptide – product formed by more than two amino acids✓ (2)
- 3.3.2 kwashiokor✓✓ (2)
- 3.3.3 supply proteins✓ (1)

3.4 ANIMAL BREEDING

3.4.1 100%✓ (1)

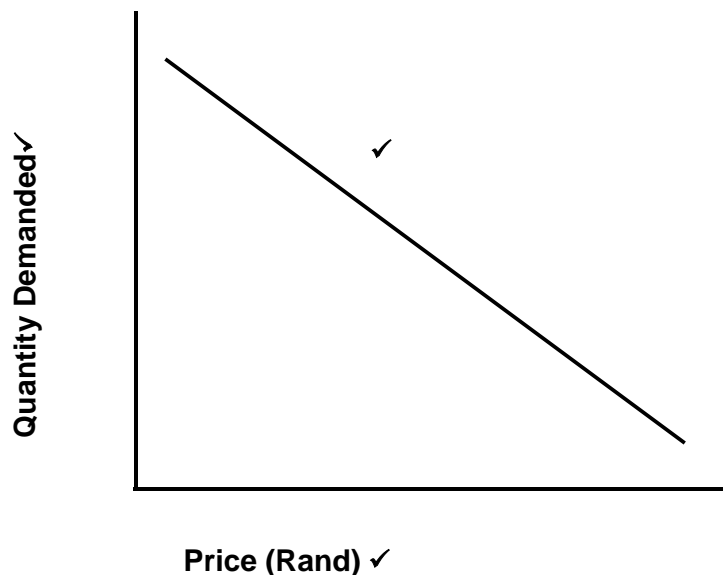
3.4.2 black✓ (1)

3.5 DEMAND AND SUPPLY

3.5.1 30 items✓ (1)

- 3.5.2
- The higher the price, the lower the demand✓.
 - The lower the price, the greater the demand✓.
- (2)

3.5.3



(3)

3.6 IMPACT OF HIV/AIDS ON FARMING

- 3.6.1
- Dying of farm workers✓
 - Decrease in number of farm workers✓
 - Loss of skills and experience✓
 - Absenteeism from work✓
 - Healthy workers have to work over-time✓
- (any 1) (1)

- 3.6.2
- Introduce an AIDS awareness programme✓
 - Ensure that the infected staff access government programmes that make anti-retroviral drugs available✓
 - Encourage healthy living lifestyle (eating healthy and exercising)
 - Ensure easy accessibility to condoms✓
 - Make use of increased mechanization✓
- (any 2) (2)

- 3.6.3 A: Infection rate
 B: Farm labour output / productivity

(2)
[35]

QUESTION 4**4.1 ORGANIC COMPOUNDS**

- 4.1.1 CH₃OH✓
- 4.1.2 (OH) Hydroxyl group✓
- 4.1.3 CH₃COOH✓
- 4.1.4 (COOH) Carboxyl group✓ (4)

4.2 GENETIC MODIFICATION

- 4.2.1
 - It is faster✓
 - More precise✓
 - It is not limited to species that can interbreed✓ (3)

4.3 PRICING STRATEGIES

- psychological pricing (a) ✓
- optional product pricing (c) ✓ or (e) ✓ (any 1)
- captive product pricing (g) ✓
- product bundle pricing (f) ✓ (4)

4.4 a. CHARACTERISTICS OF A MANAGER/OWNER/ENTREPRENEUR

- financial skills
- human resource skills (2)

b. CHARACTERISTICS OF A FARM LABOURER

- Technically orientated
- Work individually
- Work with your hands (2)

4.5 LAND REFORM PROGRAMME

- Land restitution✓
- Land redistribution✓
- Tenure reform✓
- Communal land rights✓
- Upgrading of land tenure rights ✓
- Extension of security tenure act✓

(any 3) (3)

4.6 TRADITIONAL WAYS OF TREATING FARM ANIMALS

- Cheap✓
- Easily available✓
- Useful when conventional medicine is not available✓

(3)

4.7 PROTECTION AND TREATMENT OF FARM ANIMALS

- Prevention of bush fires✓
- Conservation of forests✓
- Education and training✓
- Conservation of heritage✓

(any 3) (3)

4.8 DEFICIENCY DISEASE IN FARM ANIMALS

- 4.7.1 A = curled toe paralysis✓
B = rickets✓

(2)

- 4.7.2 A = Vitamin B1✓
B = Vitamin D✓

(2)

4.9 METHODS OF SUPPLEMENTING NUTRIENTS

- 4.8.1 soil sods✓

(1)

- 4.8.2 cafeteria style/free choice✓

(1)

4.10 ARTIFICIAL INSEMINATION

- Controls sexual transmitted diseases✓
- Increase commercial value of the herd✓
- Calving percentage is better✓
- Used where natural mating is not possible✓
- Semen from a variety of bulls may be used ✓
- Semen may be frozen and used after the bull's death✓
- Bulls from overseas may be used without transporting them✓

(any 5) (5)

[35]**TOTAL FOR SECTION B: 105****GRAND TOTAL: 150**