



KAPASA MAKASA UNIVERSITY
FACULTY OF APPLIED SCIENCE AND OPEN LEARNING
DEPARTMENT OF AGRICULTURE AND AQUATIC SCIENCES
CHINSALI, MUCHINGA PROVINCE
POULTRY, PIG AND RABBIT PRODUCTION - AS 350
END OF YEAR FINAL SESSIONAL EXAMINATION

5TH NOVEMBER 2024

INSTRUCTIONS TO CANDIDATES

1. Time allowed is **THREE (3) HOURS**
2. Remember to write your student identity number (SIN) on the provided answer sheets
3. All questions carry equal marks (20 Marks)
4. Question one is **COMPULSORY**
5. Attempt a total of **FIVE** questions

CELLPHONES AND OTHER RELATED GAGETS ARE NOT ALLOWED IN THE EXAMINATION ROOM

DO NOT TURN THIS PAGE UNTIL YOU HAVE BEEN TOLD TO DO SO BY THE CHIEF INVIGILATOR

QUESTION ONE

1. A farmer in Mulakupikwa village owns a piggery unit with 6 Sows; he wishes to construct a piggery unit so that he can improve the production levels. As a graduate in animal science you are requested to give advice on the number of pens he can construct. Assume the common practices that successful farmers do such as:

- The sow is taken to the farrowing pen 1 week before farrowing date
- Piglets are left in pen for 7 days after weaning
- The period for cleaning and disinfecting takes 2 weeks
- The length of lactation is 6 weeks, and
- Weaning- to- first service is estimated at 21 days.
- Following average gestation period 115days

Using the information provided above calculate the following: **(show your work)**

- A. The average farrowing interval for the sows. *178 days (2)* **(4 marks)**
- B. Calculate the number of farrowing per sow per year. *$\frac{365}{178} = 2.05$* **(4 marks)**
- C. Determine the number of farrowing pens needed for 6 sows per year. **(4 marks)**
- D. Explain the critical factors that would determine the production efficiency of pig production on this farm. **(8 marks)**

QUESTION TWO

2.

- A. Describe the management Practices needed for successful brooding management of broiler day-old chicks up to 2 weeks. **(12 marks)**
- B. Comment on the feeding requirements for the following classes of poultry
- i. Layers **(4 marks)**
 - ii. Pullets **(4 marks)**

QUESTION THREE

3.

- A. Briefly describe various conditions that make a rabbit susceptible to diseases.

(6 marks)

wet litter
dry - feeder
over counter

- B. Explain the meaning and importance of Caecotrophy in rabbits? (6 marks)
- C. List the signs of kindling? (4 marks)
- D. Outline the stages you would follow sexing rabbits? (4 marks)

QUESTION FOUR

- 4. Briefly write short notes on the following practices in pig production.
 - A. Young Boar should not be over used in first 6 months of breeding (4 marks)
 - B. Feeding of colostrum (5 marks)
 - C. Steaming up and flushing in sows. (6 marks)
 - D. Teeth clipping operations in piglets. (5 marks)

QUESTION FIVE

- 5. Briefly explain the meaning and when the following practices are performed in poultry production.
 - A. Candling (5 marks)
 - B. De-beaking in layers (5 marks)
 - C. Brooding (5 marks)
 - D. Culling (5 marks)

QUESTION SIX

- 6.
 - A. What do you understand by integrated system in pig production. (8 marks)
 - B. Outline the types of pens in pig housing (4 marks)
 - C. Explain the reasons for providing different housing structures for pigs. (4 marks)
 - D. Outline the predisposing factors to piglet mortality (4 marks)

QUESTION SEVEN

- 7.
 - A. Discuss the general principles of poultry housing in tropical conditions under the following headings:
 - i. Orientation of building (4 marks)
 - ii. Height of building (4 marks)

B. What is induced molting and why is molting important in layers? (4 marks)

C. Explain the optimum requirements and the importance of the following during incubation of eggs:

i. Temperature (4 marks)

ii. Humidity (4 marks)

END OF THE EXAMINATION, BEST WISHES.



KAPASA MAKASA UNIVERSITY

CHINSALI, MUCHINGA PROVINCE

BACHELOR OF SCIENCE IN FISHERIES AND AQUACULTURE

INTRODUCTION TO AQUACULTURE – AS 331

END OF YEAR FINAL SESSIONAL EXAMINATION

31ST OCTOBER 2024 (09:00 HRS)

INSTRUCTIONS TO CANDIDATES

1. Time allowed is **THREE (3) HOURS**
2. Remember to write your student identity number (SIN) on the provided answer sheets
3. All questions carry equal marks (**20 Marks**)
4. Question one is **COMPULSORY**
5. Attempt a total of **FIVE** questions. One compulsory question and **FOUR** other questions.
6. Do **NOT** write in pencil (except for graphs and diagrams).
7. The marks shown against the requirement(s) for each question should be taken as an indication of the expected length and depth of the answer.
8. All workings must be done in the answer booklet.
9. Present legible and tidy work.

CELLPHONES AND OTHER RELATED GAGETS ARE NOT ALLOWED IN THE EXAMINATION ROOM

DO NOT TURN THIS PAGE UNTIL YOU HAVE BEEN TOLD TO DO SO BY THE CHIEF INVIGILATOR

QUESTION ONE

1. Pond fertilization plays a vital role in extensive and semi-intensive aquaculture systems by supplying essential live food sources, such as phytoplankton and zooplankton. The use of fertilizers, both inorganic and organic, has distinct advantages and disadvantages that must be considered to optimize pond productivity. Discuss the advantages and disadvantages of using inorganic and organic fertilizers in pond fertilization. **(20 marks)**

QUESTION TWO

2.
 - A. List four (4) commonly used aquaculture facilities in intensive aquaculture? **(4 marks)**
 - B. Provide a detailed description of the process you would use to select a site for an aquaculture facility of your choice. **(16 marks)**

QUESTION THREE

3. A comprehensive understanding of optimal conditions is essential for fish farmers to achieve high production levels and ensure economic viability. Discuss any five water quality parameters that are critical in aquaculture. **(20 marks)**

QUESTION FOUR

4.
 - A. In your own words, define the following terms used in aquaculture:
 - i. Conditioning of fingerlings **(4 marks)**
 - ii. Acclimatization of fingerlings in a production pond **(4 marks)**
 - B. Explain the external features that would help you to differentiate male and female tilapia fish. **(12 marks)**

QUESTION FIVE

5. Describe how you would administer a sex-reversal hormone such as 17 α -methyltestosterone (MT) in the Kafue Bream (*Oreochromis andersonii*) which is one of the commonly cultured fish species in Zambia. **(20 marks)**

QUESTION SIX

6.

- A.** Explain what you understand by aquaponic systems. **(4 marks)**
- B.** Integration of Agriculture and Aquaculture one of the most effective strategies for enhancing the productivity of small-scale farming in rural areas with limited resources. Discuss any two forms of IAA you are familiar with. **(16 marks)**

QUESTION SEVEN

- 7.** You recently attended an interview for the position of farm manager at Yalelo Zambia Limited. The company contacted you to confirm that you were successful, and you have been given the job. As a recent graduate from Kapasa Makasa University who had studied and understood the course Introduction to Aquaculture, your first task at work was to share your knowledge on the characteristics of good quality broodstock with the general workers at the fish farm. Describe the characteristics or attributes which they should have looked for in the tilapia broodstock for the breeding season that was starting at the end of August. Provide clear explanations for each of your points. **(20 marks)**

THE END OF EXAMINATION, WISHING YOU ALL THE BEST!!!!!!



KAPASA MAKASA UNIVERSITY
FACULTY OF APPLIED SCIENCE AND OPEN LEARNING
DEPARTMENT OF AGRICULTURE AND AQUATIC SCIENCES
CHINSALI, MUCHINGA PROVINCE
ANIMAL NUTRITION - AS 310
END OF YEAR FINAL SESSIONAL EXAMINATION

21ST OCTOBER 2024

INSTRUCTIONS TO CANDIDATES

1. Time allowed is **THREE (3) HOURS**
2. Remember to write your student identity number (SIN) on the provided answer sheets
3. All questions carry equal marks (**20 Marks**)
4. Question one is **COMPULSORY**
5. Attempt a total of **FIVE** questions

CELLPHONES AND OTHER RELATED GAGETS ARE NOT ALLOWED IN THE EXAMINATION ROOM

DO NOT TURN THIS PAGE UNTIL YOU HAVE BEEN TOLD TO DO SO BY THE CHIEF INVIGILATOR

QUESTION ONE

1. The farmer in Isoka district realise that his cattle take years to reach market weight under extensive management. The farmer wishes to start supplementing the steers with formulated feed to improve on weight gain. As animal science graduate formulate a ration for steers to help the farmer, the ration must include;

- 13.5% DCP
- 73%TDN
- 15% Silver leaf
- 12% Maize bran
- 7% Sugar cane molasses
- 6% Soya bean straw
- 2% Mineral premix
- 1% Salt
- 1% Di-calcium phosphate

Other main plant sources available on dry matter basis include;

	DM	DCP	TDN
Maize	89	10	88
Groundnut meal	92	53.8	83
Groundnut haulms	91	10.9	58
Leucaena	90	18.4	57

Assume that you are making 100 kg of complete feed ration, present your answers in a table to balance the DCP and TDN.

(20 marks)

QUESTION TWO

2.

- A. Outline two roles of microbes in the rumen. **(4 marks)**
- B. What is the importance of using urea leaks when feeding ruminants? **(4 marks)**
- C. Give two advantages of feeding molasses in livestock. **(4 marks)**
- D. List two effects of feeding untreated soya beans in animals? **(4 marks)**
- E. Give two reasons why the use of oil sources is restricted to 15% in feed formulation? **(4 marks)**

QUESTION THREE

3. Mr. Kabwe harvested maize Stover from the farm which he uses to feed his goats. Before feeding he realizes that Mwansa is a student at KMU doing a BSc. Animal Science who can advise well. Mwansa quickly remembers that he should first know the digestible nutritional values of maize Stover, after checking through the book he finds values for proximate analysis in maize Stover conducted during lab sessions, which can be used to determine the TDN and ME before he can comment. As a friend doing the same course assist Mwansa to calculate the following assuming the proximate values are as shown;

Serial No	Nutrient	g/kg
1	DCP	20
2	DEE	6
3	DCF	127
4	DNFE	246

- A. Calculate the TDN and comment to advise Mr. kabwe (4 marks)
- B. Estimate the dry matter intake (DMI) if the steers weigh 360kg (formula; $DMI=0.025W$). (4 marks)
- C. Calculate ME (MJ/Kg DM) (formula; $0.0152DCP + 0.0342DEE + 0.0128DCF + 0.0159DNFE$) (4 marks)
- D. Calculate total the ME for the DMI value in (iii) above. (4 marks)
- E. Calculate the net energy in maize Stover, if the net energy is estimated at 70% metabolisable Energy. (4 marks)

QUESTION FOUR

- 4.
- A. Formulate 150kg broiler grower feed for chickens in broiler starter feed with protein level of 21%CP in diet. The ingredients to be used include, Maize meal has 8.5% CP, sorghum meal with 6%CP to be used at predetermined rate of 10%, and Soya bean cake with 40% CP. The allowance for premix vitamin, DCP, limestone, salt, lysine and methionine are estimated at 3.5%.
- I. Construct a table to show the balances on crude protein requirement of the animal and total quantity of feed. (14 marks)
- B. Give the reasons why the following are added to the feed;
- I. Limestone (2 marks)
- II. Lysine and methionine (2 marks)

III. Vitamin Premix

(2 marks)

QUESTION FIVE

5.

- A. Outline four factors that can affect the feed quality in storage. (4 marks)
- B. Outline four precautionary measures to be taken while fumigation is done in a storage house. (4 marks)
- C. What are anti-nutritional factors? Explain their effects using a suitable example(s). (6 marks)
- D. Discuss the classification of carbohydrates, minerals and vitamins and please give examples. (6 marks)

QUESTION SIX

6.

- A. Explain the processing method used for:
 - I. Conditioning the grains to raise moisture. (6 marks)
 - II. Increasing the density of ground grains. (6 marks)
- B. Explain the meaning of the following methods in feed processing. Giving practical examples.
 - I. Exploding (4 marks)
 - II. Extrusion (4 marks)

QUESTION SEVEN

7.

- A. Outline the partition of energy as utilized in the body of an animal (10 marks)
- B. Briefly explain the various steps involved in feed compounding (10 marks)

END OF EXAMINATION, BEST WISHES.



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DEPARTMENT OF AGRICULTURE AND AQUATIC SCIENCES
CHINSALI, MUCHINGA PROVINCE
ANIMAL BREEDING – AS 301
END OF YEAR FINAL SESSIONAL EXAMINATION

28TH OCTOBER 2024

INSTRUCTIONS TO CANDIDATES

1. Time allowed is **THREE (3) HOURS**
2. Remember to write your student identity number (SIN) on the provided answer sheets
3. All questions carry equal marks (**20 Marks**)
4. Question one is **COMPULSORY**
5. Attempt a total of **FIVE** questions

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QUESTION ONE

1. The following information was recorded from the dam milk yield and daughter milk yield at Mr. Mulenga's farm.

ID	1	2	3	4	5
Dam milk yield (x)	5	7	10	8	6
Daughter milk yield(y)	10	5.5	9	10	5

- A. Estimate the narrow sense heritability using correlation between the dam milk yield and daughter milk yield. **(10 marks)**
- B. State (2) differences between heritability and repeatability **(4 marks)**
- C. Write three (3) limitations of using repeatability? **(6 marks)**

QUESTION TWO

2.

- A. Animal selection is based on estimated breeding value (EBV) of the animal. Explain the concept of estimated breeding value? **(5 marks)**
- B. The average milk yield of daughters of a bull A is 255liters and for Bull B is 250 liters in lactation. The herd mean is 200lit for Bull A and 220lit for bull B. show your working clearly.
- I. Predict the EBV of the milk yield for the bulls if the heritability is 0.51 for both animals. **(8 marks)**
- II. Which Bull A or Bull B would you choose for breeding? Give a reason for the answer. **(2 marks)**
- III. Estimate the genetic potential (performance) of the male progeny for bull A, if the EBV on record for a cow mated with Bull A was found to be 10 liters. **(5 marks)**

QUESTION THREE

3.

- A. Define animal breeding. **(4 marks)**
- B. What is the difference between selective breeding and natural breeding? **(6 marks)**
- C. The question in breeding goal looks at which traits should be improved in the next generations.

- I. Explain the difference between qualitative and quantitative traits in animal breeding. **(6 marks)**
- II. State two Qualitative traits to consider in cattle breeding **(2 marks)**
- III. State any two quantitative traits to consider in poultry breeding **(2 marks)**

QUESTION FOUR

4.

- A. Gregory Mendel is father of genetics; state the meaning of the following principles by Mendel.
 - I. The principle of segregation **(3 marks)**
 - II. The principle of independent assortment **(3 marks)**
- B. Consider that cattle can be horned or polled. The horns trait is recessive, if a bull is heterozygous and cow is homozygous dominant for the genes mated,
 - I. What would be the genotypic and phenotypic ratios for this cross in first generation? **(5 marks)**
 - II. If female offspring that heterozygous is back crossed with the male, estimate the genotypic and phenotypic ratios in the second generation (F₂). **(5 marks)**
 - III. Which situation would a dihybrid cross is used. **(2 marks)**
 - IV. Explain the difference between Phenotype and genotype? **(2 marks)**

QUESTION FIVE

5.

- A. In breeding program, relevant information on traits should be collected from records such individual records, pedigree records, progeny records and family/ sibs records. State when and why we use information from:
 - I. Progeny **(4 marks)**
 - II. Pedigree **(4 marks)**
 - III. Sib **(4 marks)**
 - IV. Individual selection/performance testing **(4 marks)**
- B. State the meaning of the following methods used in selecting multiple traits:
 - I. Tandem **(2 marks)**
 - II. Selection index **(2 marks)**

QUESTION SIX

6.

- A. Describe gene action affecting a genotype:
- I. Additive gene action. **(3 marks)**
 - II. Epistasis gene action. **(3 marks)**
- B. If GG animals weigh 40 kg, and gg animals 36 kg. Calculate the body weight of the heterozygous offspring of the two homozygous animals if the two alleles have an additive effect in co-dominance. **(5 marks)**
- C. GG animals weigh 40 kg, Gg animals 42 kg and gg animals 36 kg. The body weight of the heterozygous animal is higher than the average of the two homozygous animals and even higher than the value of the highest homozygous parent. Explain the cause of this effect in crossing of alleles. **(3 marks)**
- D. If alleles G and g are worth 1 and -1 respectively assume the additivity of GG, Gg, and gg. **(6 marks)**

QUESTION SEVEN

7.

- A. Breed 1 is producing 96 eggs per year and breed 2 is producing 94 eggs per year. Cocks of breed 1 are mated to hens of breed 2. Their offspring with genotype Aa is expected to produce 95 eggs per year, the average of the two parent breeds, but they do produce 100 eggs per year.
- I. Calculate the heterosis percentage. **(6 marks)**
 - II. Heterosis is one of the reasons to apply crossbreeding of breeds or lines. State any other two (2) reasons for crossbreeding. **(4 marks)**
- B. Inbreeding is the mating of animals more closely related to each other than the average.
- I. State two advantages and two disadvantages of inbreeding. **(4 marks)**
 - II. State the commercial use of inbreeding in livestock. **(2 marks)**
- C. What is genetic diversity? Outline two (2) causes of genetic diversity in animal breeding. **(4 marks)**

END OF THE EXAMINATION



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FACULTY OF APPLIED SCIENCE AND OPEN LEARNING
DEPARTMENT OF AGRICULTURE AND AQUATIC SCIENCES
CHINSALI, MUCHINGA PROVINCE
FORAGES AND PASTURES - AS 341
END OF YEAR FINAL SESSIONAL EXAMINATION

21ST OCTOBER 2024

INSTRUCTIONS TO CANDIDATES

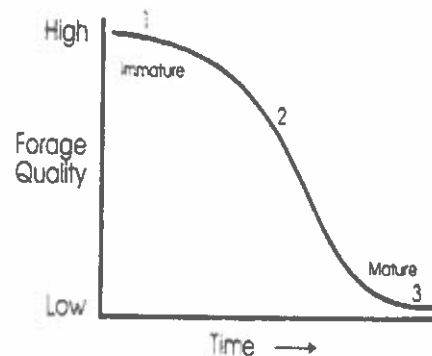
1. Time allowed is **THREE (3) HOURS**
2. Remember to write your student identity number (SIN) on the provided answer sheets
3. All questions carry equal marks (**20 Marks**)
4. Question one is **COMPULSORY**
5. Attempt a total of **FIVE** questions

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QUESTION ONE

1. Study the graph below for grass pasture and answer the questions below.



- A. From the graph at which stage would you expect forage to be of high quality? Give reasons for your answer. **(5 marks)**
- B. Explain the quantity and digestibility forage at stage 3. **(5 marks)**
- C. Between which stages would be suitable to harvest hay and to harvest silage for animals? Give reason(s) for your answer. **(5 marks)**
- D. Name and describe a common disorder of feeding to much legume pasture in stage 1 and suggest the measure to correct the disorder you have mentioned. **(5 marks)**

QUESTION TWO

2.

- A. State five (4) differences between legume and grass pastures. **(4 marks)**
- B. State (4) differences between native and improved pastures. **(4 marks)**
- C. Using local and scientific names, list six (6) native pastures and six (6) improved pastures given to animals. **(12 marks)**

QUESTION TWO

3.

- A. Explain the following methods of sowing pasture as applied in pasture establishment
- Under sowing **(4 marks)**
 - Sod sowing **(4 marks)**
- B. What is vegetative propagation? List any two plant material that you would use under vegetative propagation to plant grass pastures. **(6 marks)**

- C. Briefly describe the procedure during land preparation for pasture establishment. (6 marks)

QUESTION FOUR

- 4.
- A. Why is it important to make hay and silage for animals? (4 marks)
 - B. Give two characteristics of good hay? (2 marks)
 - C. What is conditioning in hay making process? (4 marks)
 - D. What is the importance of fermentation in silage making? (4 marks)
 - E. Give two characteristics of good silage. (2 marks)
 - F. Outline two methods of harvesting grass pasture seeds. (4 marks)

QUESTION FIVE

- 5.
- A. Forage anti-quality is the reduction of quality in forage. List and explain any three (3) factors that can cause reduction in the quality of forage. (6 marks)
 - B. Animal response to toxins may vary; explain how the following factors may affect the animals in response to toxic substances.
 - i. Condition of the animal matters. (4 marks)
 - ii. Amount of plant consumed. (4 marks)
 - C. What is grass tetany? What measures would you put in place to avoid the problem. (6 marks)

QUESTION SIX

- 6.
- A. Explain four (4) factors affecting the Biological Optimum of Stocking Rate. (8 marks)
 - B. Explain the meaning of the following terms;
 - i. Carrying Capacity of Pasture (4 marks)
 - ii. Stocking Rate (4 marks)
 - iii. Stocking density (4 marks)

QUESTION SEVEN

7. Explain the meaning of the following grazing systems;
- A. Communal Grazing (4 marks)

- B. Rotational Grazing (4 marks)**
- C. Continuous Grazing (4 marks)**
- D. Deferred Grazing (4 marks)**
- E. Strip Grazing (4 marks)**

END OF EXAMINATION, BEST WISHES.



KAPASA MAKASA UNIVERSITY
SCHOOL OF APPLIED SCIENCE AND OPEN LEARNING

BACHELOR OF SCIENCE IN ANIMAL SCIENCE

AS321: FUNDAMENTALS OF MICRO AND MACRO ECONOMICS

SESSIONAL EXAMINATION

WEDNESDAY 16TH OCTOBER 2024

TIME: 3 HOURS

INSTRUCTIONS TO CANDIDATES

1. Write your Student Identification Number on the Answer Booklet provided. Your name must NOT appear anywhere on your answer booklet
2. You have FIVE (5) minutes of reading time. Use it to study the examination paper carefully to understand what to do in each question.
3. This paper consists of seven (7) questions:
4. Answer 5 questions and question 1 is compulsory.
5. Do NOT write in pencil (except for graphs and diagrams).
6. The marks shown against the requirement(s) for each question should be taken as an indication of the expected length and depth of the answer.
7. All workings must be done in the answer booklet.
8. Present legible and tidy work.
9. Cell Phones are NOT allowed in the Examination Room.

DO NOT TURN THE PAGE UNTIL YOU ARE TOLD TO DO SO

Question 1 COMPULSORY

- (a) Suppose that in the economy under consideration has the following autonomous consumption = 500, marginal propensity to consume = 0.8, Y is national income, T is taxes: Also given that Taxes (T): T=200, Government Spending (G): G =400; Investment (I): I=300; Net Exports (X-M): =100.
Calculate the aggregate demand (AD). [4 Marks]
- (b) firm has the following total revenue and total cost functions:
 $TR = 60,000 + 120x - x^2$
 $TC = 10,000 - 10x + x^2$
Where x is the number of units of the products, (in thousands).
Required:
Find:
- (i) The profit function [4 Marks]
 - (ii) The level of output at the breakeven point [4 Marks]
 - (iii) The actual amount of profit at the breakeven point [4 Marks]
- (c) State and Explain two major functions of money in an economy [4 Marks]

Question 2

- (a) At Chinsali Main Market the quantity (Q) and the price (P) of the commodity Y is given below .

$$2P = 7 - Q$$

$$P = 3Q$$

Compute the equilibrium price and equilibrium quantity traded for the commodity Y in the following equations: [5 Marks]

- (b) This commodity has a price elasticity of demand PED=-2 and income elasticity of demand YED=+0.1 Briefly explain; the nature of the product [3 Marks]
- (c) At Nakonde Market the same commodity Y as the demand and supply equations as follows

$$Q_d = 300 - 3P$$

$$Q_s = 100 + 5P$$

Where Q is the quantity and P is the price:

- i. Calculate the equilibrium price and quantity for this good. [2 Marks]
- ii. Suppose that an increase in the consumer income resulted in the new demand equation $Q_d = 420 - 3P$. What is the new equilibrium price and quantity for this good. [4 Marks]
- iii. Suppose the government enacts legislation that imposes a price ceiling equivalent to the original equilibrium price, what is the result of the legislation [2 Marks]

[Total: 20 marks]

Question 3

In modern economies, most economic activities take place in markets, where buyers and sellers come together to strike bargains. A simple model called demand and supply does an excellent job of describing how markets work. This model reasonably separates buyers from sellers and then summarises each group’s behaviour with a single line graph. For example, in the market for **Chickens** the model can show how buyers and sellers interact to determine how much will be sold and at what price.

Using demand and supply analysis, illustrate graphically and explain the effects of each of the following events on equilibrium price and equilibrium quantity on the market for Chickens:

Required:

- i. Decrease in the price of Chickens [5 Marks]
- ii. Increase in the cost of chemicals and feed used in Chicken production [5 Marks]
- iii. Discovery of a new uses for Chickens [5 Marks]
- iv. Increase in minimum wages paid to farm workers [5 Marks]

[Total: 20 Marks]

Question 4

Consider the total product plan of a firm operating in a perfectly competitive market below:

Labor (Workers per week)	Output (Q)	Fixed cost (K)	Variable cost	Total Cost	Marginal cost	Revenue	Marginal revenue	Profit/loss
0	0							
5	50							
10	90							
15	140							
20	180							
25	210							
30	230							
35	240							

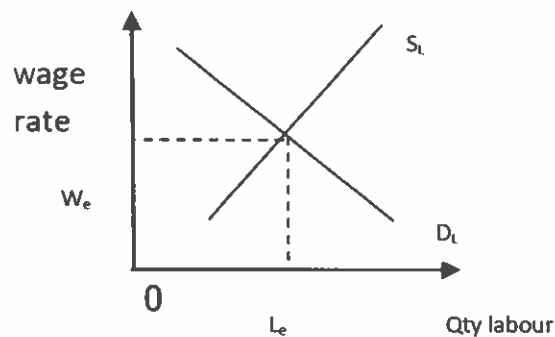
- a. If the firm hires workers, each is paid K700, and a firm is Paying K1,000 per week for the space it has occupied. The selling price of each well-produced product is K300
Fill in the table above by calculating the cost functions of the firm [16 Marks]
- b. Compare the column for marginal product and the column for marginal cost and explain the relationship [2 Marks]
- c. Compare the column for average total cost and the column for marginal cost and explain the relationship [2 Marks]

[Total: 20 Marks]

Question 5

- (a) Distinguish between stagflation and hyperinflation. **[4 Marks]**
- (b) Describe how fiscal policy can be used to deal with rising inflation. **[6 Marks]**
- (c) Assume the following data for a country: total population, 500; population under 16 years of age, 120; not in labor force, 140; unemployed, 36; part-time workers looking for full-time jobs, 10.
- Calculate the size of the labor force **[2 Mark]**
 - Determine the official unemployment rate **[2 Mark]**
- (d) Assume the labor market is represented by the graph below. Illustrate what happens to the wage rate, quantities of labor supplied and demanded, as the economy goes into recession and demand for labour falls; (assume sticky wages) **[3 Marks]**

Labour Market Equilibrium



- (e) State the Effects of un Employment in a country like Zambia **[3 Marks]**
[Total: 20 Marks]

Question 6

The ICT sector is one of the most dynamic economic segments globally. Given its dynamism, it is being considered as an enabler of growth in almost all countries, Zambia included. Over the years, the sector has become increasingly important in supporting growth as governments and enterprises go digital in an attempt to increase their market size while cutting operational costs. Zambia's ICT sector is dominated by the service providers with other components playing a relatively smaller role. The telecommunication sector is among the service providers that have dominated the ICT sector in Zambia with its performance in terms of competition, profitability and market penetration increasing over the years.

Required:

- From your economic knowledge of market structures, under which market structure does the telecommunication sector in Zambia fall? **[1 Mark]**
- Outline any five (5) features of the market structure you have stated in (a) above. **[10 Marks]**
- Explain price determination in this industry. **[3 Marks]**
- Describe the three (3) fundamental economic problems faced by firms under the telecommunication sector and how these problems are solved. **[6 Marks]**

[Total: 20 Marks]

Question 7

The Finance; Minister Situmbeko Musokotwane on 27TH September 2024 Presented a 2 Billion Kwacha budget on which its objective is fiscal discipline reducing inflation and raising revenue through taxation. In Paragraph 11, he said “On inflation madam speaker, the country has experienced pressure over the past year, registering 15.6% in September 2023. The main drivers are linked to the drought which resulted in increased food prices. To moderate inflationary pressure, the Bank of Zambia tightened its monetary policy. The government of Zambia has been using monetary policy to influence the economy.

- a. Outline any four (4) reasons why Governments impose tax **[4 Marks]**
 - b. Explain how the following tools can be used to reduce the rate of inflation.
 - ii. Fiscal policy; and **[3 Marks]**
 - iii. Monetary Policy. **[3 Marks]**
 - d. Explain what a budget deficit means. **[2 Marks]**
 - e. Briefly describe the following terms:
 - i. Debt-sustainability **[2 Marks]**
 - ii. GDP **[2 Marks]**
 - f. Adam Smith outlined four (4) canons of taxation in his book “The Wealth of Nations”, which are still applicable today. Briefly explain the four (4) canons of taxation. **[4 Marks]**
- [Total: 20 Marks]**

The End of Examination