1) A Germany tourist arrived in Kenya with euros 4500. He changed all his Euros to Kenyan shillings paying a bank charge of 1%. He spend shs. 130,000 during his stay in Kenya and changed his stay in Kenya and changed his remaining cash to Euros again. How may Euros did he receive.

Buy sell

1 Euros 97.6779 97.9372 (5 mks)

b) Find out the value of the machinery costing 125,000 at the end of 5years if depreciation is charged at 15%p.a on reducing basis.(4MKS)

C) Plot the graph of y=x²+3x+1 -5≤x≤2 describe the turning point. ((4mks)

d)Describe the procedure of finding a determinant of three by three matrix using an example (7mks)

e)Differentiate with respect to x

1) y=x^2(x+2)(x-2) /x

2) y= (x^4-x^2)/x (5mks)

QUESTION TWO (15mks)

4x+y-5z=8

-2x+3y+z=12

3x-y+4z=5

QUESTIONS THREE (15mks)

A firm has analysed the operating condition, prices and cost and came up with the following functions

Revenue(r) =400q-4q²

Cost © =q²+10q+30

Where Q is the number of units sold. The firm wishes to maximize profits.

a) What quantity should be sold?(4mks)

b) At what price should they sell?(4mks)

c) What would be the amount of profit?(4mks)

d)Find the point of maximum value of the revenue function. (3mks)

QUESTION FOUR (15mks)

a) Discuss the main reasons for holding stock in an organization (5mks)

b) Enumerate the various costs associated with holding stock.

c) Giving examples discuss the costs associated with running out of stock.(5mks)

QUESTION FIVE (15 mks)

a) Find and investigate the stationary point of

Y=xᶟ-5x²-8x+10

b)The height of 30 broad bean plantswere measured correct to the nearest centimeter, 6 weeks after planting. The frequency distribution is given below. Construct the cumulative frequency curve and use it to estimate the number of plants that were less than 10cm tall.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Height | 3-5 | 6-8 | 9-11 | 12-14 | 15-17 | 18-20 |
| Frequency | 1 | 2 | 11 | 10 | 5 | 1 |