MAIN EXAM

GARISSA UNIVERSITY

SCHOOL OF BUSINESS AND ECONOMIC

DEPARTMENT OF BUSINESS MANAGEMENT

CERTIFICATE IN BUSINESS MANAGEMENT

UNIT CODE CBM 06: FOUNDATION TO BUSINESS MATHS 1

Jan- Apr 2021 SEMISTER

QUESTION ONE

a) Factorise 9X2 +12X+4 (4MKS)

b) P varies jointly as Q and and the cube of R. P=22 when Q=12 and R=15.find R when P=32 and Q=81 (4MKS)

c) find the equation of the normal to the curve Y= X2  + 3X + 4. (5MKS)

d) The volume of a gas varies inversely as its pressure when the temperature is constant.If 20 litres of gas supports 715mm of mercury, calculate

i. volume of the gas when pressure is 760mm. (2MKS)

ii. pressure when volume is 30 litres (3MKS)

e) Given P= 1 2 Q= 2 0 R= 3 0 Find.

0 4 1 3 2 2

1. 2Q – 3P + R (4MKS)
2. 4R + P – 2Q (4MKS)

f) Line one and line two are perpendicular lines. 3Y – 2X = 6 is the equation of line one and line as a point with coordinates (5 ,1).Determine the equation of line two. (4MKS)

QUESTION TWO

1. A businessman wishes to purchase 2 tines of apples , 4 bunches of bananas and 2 baskets of onions. He went to Tawakal traders and found the prices as sh. 310 for a tin of apples,sh. 90 for bunch of banana and sh.220 for a basket of onions.At Sumeya traders the prices were sh.430, sh,78 and sh.198 respectively.
2. Express the businessman requirements as raw matrix. (2MKS)
3. Express the price at each individual trader as column matrix. (3MKS)
4. Use the matrices in i and ii above to find total cost in each trader (10MKS)
5. Find the gradient of a curve Y = 3X2  + X2 at a point where X = 3 and X = 2 (5MKS)

QUESTION THREE

1. Find the integral of 4X3 + 6X2 + 3X + 5 from 3 to 5 (5MKS)

3

1. Evaluate 3X3 + 4X2 + X + 5 (5MKS)

1

1. Find the inverse of A = 4 8 (5MKS)

3 5

1. Make V the subject 1 = 1 - 1

F U V

(5MKS)

QUESTION FOUR

1. A positive two digit number is such that the product of the digits is 12.When the digits are reversed the number formed is greater than the original number by 9.Find the number.

(10MKS)

1. A ball is thrown vertically upwards and its height after T seconds is S metres, where S= 20t - 5t2. Find

1. The greatest height reached and the time when it is reached ( 4MKS)

ii. The time when it returns to the original level (2MKS)

1. Its velocity after 3 seconds (2MKS)
2. Acceleration when t= 1.8 seconds. (2MKS)

QUESTION FIVE

1. Solve the following lenear equestions
2. 3X -2 5X +1 (3MKS)
3. 2X 5X – 7 (3MKS)
4. Use the quadratic formulae to solve (6MKS)

1 X2  - 2X – 2 = 3 (X – 2)

2 4

1. K varies directly as M and inversely as the square root of C. find the percentage change in K when M is decreased by 10% and C increased by 21%. (8MKS)