JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF BUSINESS AND ECONOMICS

UNIVERSITY EXAMINATION FOR THE DIPLOMA IN BUSINESS ADMINISTRATION

YEAR ONE, FIRST SEMESTER 2020/2021 ACADEMIC YEAR

MAIN CAMPUS

COURSE CODE: BBM 2112

COURSE TITLE: Business Mathematics

DATE: **EXAM SESSION:**

TIME: 1 ½ HOURS

Instructions

1. **Answer Question One (compulsory) and any other 2 questions**
2. **Show all your calculations in the booklet**
3. **Candidates are advised not to write on the question paper**
4. **Candidates must hand in their answer booklets to the invigilator while in the examination**

QUESTION ONE (COMPULSORY)

1. (A) Define the following terms giving examples in each case
   a) Present Value (PV)   (4mks)
   b) The future Value (FV)   (4mks)
   c) Interest Rate   (3mks)
   d) payment amount (PTM)   (4mks)

(b) A certain project requires an initial cash flow of 250,000. The cash flows for 6 years are expected to be 50,000-year 1, 80,000 year 2, 100,000 year 3, 120,000 year 6.

Determine the payback period and advice the viability of the project given that management target period is 31/2 years.(15mks)

QUESTION TWO

(a).Consider the 2 projects stated below

State of Nature	A	B	Probability
	CF	CF	
Ceptimistic	900,000	600,000	0.2
Moderate	600,000	600,000	0.6
Pessimistic	300,000	400,000	0.2

On the basis of the expected monetary value which project should be selected (10 marks)

(b) What are the advantages and disadvantages of the following terms in decision making?

   i.   Payback period(4 marks)
   ii.   Net present value(3 marks)
   iii. ARR(3 marks)

QUESTION THREE

a) Find the NVP of a project that requires initial investment of kes 243,000 and is expected to generate a net cash flow of kes 50,000 per month for 12 months .The target rate of return is 12%. (10 mks)

b) Explain the meaning of the following terms:

   (i)   Annuity
   (ii)   Fixed annuity
   (iii) Variable annuity
   (iv)   Differed annuity
   (v)   Immediate annuity   (10mks)

QUESTION FOUR

(a) With the aid of a well labelled diagram, explain the meaning of the term 'Time Value of money. (10 marks)

(b). Explain the following terms

  i.   Risk(2 marks)
 ii.   Return(2 marks)
iii.   Risk aversion(2 marks)
 iv.   Risk seeker(2 marks)
  v.   Indifference to risk(2 marks)

QUESTION FIVE

a)Calculate the present value of kes 10,000 you will receive after investing the money for 4 years .The interest rate per year is 4% (10mks)

b) Determine the common ratios in the following geometric series

  (i)   3+3+3+3   (3mks)
  (ii)   4, 40, 400,4000…………   (4mks)
  (iii)   ½, ¼, 1/8, 1/16 ,1/32 ……...   (3mks)