KABARAK   **UNIVERSITY**

UNIVERSITY EXAMINATIONS

2009/2010 ACADEMIC YEAR

FOR THE CERTIFICATE OF PRE – UNIVERSITY MATHEMATICS

COURSE CODE: BMATH 004

COURSE TITLE: BUSINESS MATHEMATICS

STREAM: BRIDGING

DAY: MONDAY

TIME: 9.00 – 11.00 A.M.

DATE: 26/04/2010

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INSTRUCTIONS:

1. **SECTION A** is compulsory. Answer **ALL** Questions
2. Attempt any **THREE** Questions in **SECTION B**

PLEASE TURN OVER

SECTION A

1. Kelon opened an account with a financial institution on 1st June by depositing Kshs. 85,000 at 6% interest. On 14th August, he made another deposit of Kshs. 58,500. Calculate the interest earned by end of August if interest is compounded daily. **(5 mks)**

2. Esau bought some shirts costing a total of Kshs. 34,400. The amount he paid was inclusive of 18% VAT tax. He also had his car serviced at a cost of Kshs. 28,800 which was also inclusive of 15% service tax. Determine the total tax Esau paid. What was the total amount that he paid? **(5 mks)**

3. Find the exact and ordinary simple interest earned on Kshs. 225,000 at 9% from January 18th to June 17th 2009. **(5 mks)**

4. Lingh wants to borrow some money from his uncle. He will need to pay back the uncle a total of Kshs. 450,000 in two and a half years time. How much should the uncle lend him if interest is 10% compounded semi-annually? **(5 mks)**

5. After deducting a 10% down payment and charging a 15% interest compounded quarterly on unpaid balances to be paid on Hire purchase terms, the total amount to be paid by the customer is Kshs. 17,600. Determine the cash price if the repayment period is 18 months. **(5 mks)**

6. Evans claims a monthly personal relief of Kshs. 1460 and contributes 5% of Gross pay to pension. If he pay a tax of Kshs. 15,000 when the rate is 30% determine his Gross pay. **(5 mks)**

7. A, B & C are partners who agreed to share their profits in the ratio $\frac{1}{2}$: $\frac{1}{3}$: $\frac{1}{6}$ respectively. At the end of the year they shared their profits and C got Kshs. 24,000. What was the total profit to be shared and how much did each of the other partners get? **(5 mks)**

8. Find the total amount of interest paid on a mortgage taken on a house costing Kshs.2, 200 000 with a down payment of 15% and a repayment period of 20 years at 25% interest. Determine the monthly instalment payments. **(5 mks)**

SECTION B

1. Compute the following;
   a) A exceeds B by 5% and A is a quarter of a million. Determine the value of B. **(2 mks)**

   b) An electric burner is sold with a profit of 30%. If the buying price of the burner was Kshs. 4500, what is the selling price. **(2 mks)**

   c) Johnson stores had sales of Kshs.1,290,000 sales returns of Kshs. 98,000, cost of goods sold Kshs. 450,000 and operating expenses Kshs. 270,000.00. Determine the Net profit of the store. **(2 mks)**

   d) A sales agent sold 20 crates of bread at Kshs. 250 each and 12 crates of soda at Kshs.400 each. If he charges 5% sales commission and $1^1/_4$% contingencies, how much proceeds will he get? **(2 mks)**

   e) Allocate 24,000 in the ratio $\frac{3}{5}$: $\frac{5}{8}$: $\frac{2}{3}$ **(2 mks)**

2. a) A company had a total outstanding share capital of 12,000. Its preferred stock was cumulative with a par value of Kshs. 100 with 8% interest rate. No dividends had been paid for 4 years. The common stock were $^2/_3$ of the shares with a par value of Kshs. 50. If dividends were declared this year and the total amount to be distributed is Kshs. 1,200,000
   Determine;
       i)   Dividend per share of common stock
       ii)   Dividend per share of preferred stock **(8 mks)**

   b) Jesse had 1,200 preferential shares in the company. How much dividend share will he get? **(2 mks)**

3. a) Joan opened an account and deposited Kshs.15, 000 each year for 5 years.
       (i) How much did the account have at the end of the 5th year if interest was 8% compounded twice a year. **(5 mks)**

       (ii) Determine the present value of the above deposits. **(3 mks)**

   b) Naomi borrowed Kshs. 184 000 for 10 years at an interest rate of 12% obtain the maturity value and the compound interest when interest is compounded monthly. **(2 mks)**

4. a) An employee received Kshs.112,000 as basic pay, Kshs. 18,000 as honest allowance and Kshs. 30,000 other allowance. He received Kshs 15 000 for utilities. His personal relief is 2% of his total earnings and 1.5% deduction is made for his pension.   He contributes Kshs. 320 for NHIF and 400 for NSSF. Solve for
   a) Total income tax
   b) Net pay

Income group	Tax rate	
First 10,160	10%	
Next 9,120	15%	
Next 9,120	20%	
Next 9,120	25%	
Balance	30%	**(8 mks)**

b) Kevin took a loan of Kshs. 98,000 to be repaid in 5 years with an interest rate of 15% compounded quarterly. Determine the effective interest rate that he paid.

(2 mks)