



JUNE XXXX

INTERMEDIATE LEVEL

Subject Title	BUSINESS MATHEMATICS
Subject Code No.	5020
Paper No.	Paper 2

Two and a half hours

Answer **FIVE** questions. Section A is compulsory. Answer any other **THREE** questions from section B.

All questions carry equal marks. Show all necessary calculations

Calculators are allowed

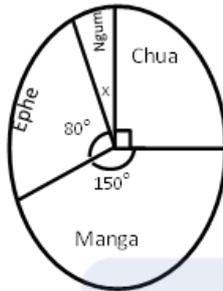
You will be provided with graph papers

Turn Over

SECTION A
ANSWER BOTH QUESTIONS

1. (a) A bag contains red and white balls. The probability of selecting red ball is $\frac{5}{12}$ and that of selecting a white ball is $\frac{7}{12}$. Determine
- The total number of balls in the bag. **(3 marks)**
 - The probability of selecting two white balls without replacement. **(4 marks)**
 - The probability of selecting a red and a white ball with replacement. **(4 marks)**

b) Study the pie chart below and answer the questions that follows:



- Calculate Ngum's angle. **(3 marks)**
 - If 1,620,000 FCFA was shared to four of them, calculate each person's share. **(4 marks)**
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2. a) Four partners want to start up a business with their contributions in the ratio 3:5:6:2. Given that the value of a share is 200,000 FCFA
- What will be the total contribution of the four partners? **(4 marks)**
 - How many shares will a partner who contributes 2,400,000 FCFA have? **(4 marks)**

b) Consider the table of bills below.

Bill number	Face value	Duration in days	Discount
1	660,000	90	12375
2	X	120	
3	1,200,000	Y	
Total discount			42375

Given that all the bills are discounted at 7.5% and the discount of bill 2 is three times that of bill three.

Calculate:

- The total discount for bill 2 and 3. **(2 marks)**
 - The discount for bill 2. **(3 marks)**
 - The face value of bill 2. **(4 marks)**
 - The duration of bill 3. **(3 marks)**
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SECTION B
ANSWER THREE QUESTIONS

3. a) An inheritance is shared amongst four brothers Joseph, Tom, John and Mark such that Mark received 720,000 FCFA. Given that the sharing was done in the ratio $\frac{5}{4} : \frac{2}{3} : \frac{4}{1} : \frac{3}{5}$
- (i) Determine the total inheritance (6 marks)
 - (ii) the amount received by Joseph, Tom and John (6 marks)
- b) A scholarship of 900,000 FCFA is awarded to four students such that the first receives four times the last; the second half of the first and the third 200,000 FCFA
- (i) Give the equation of the sum of part (2 marks)
 - (ii) Express the first and second share in function of the last (3 marks)
 - (iii) Calculate the other three shares (3 marks)

4. a) During the end of year TCT Ltd ordered the following items for its employees

ITEM	Description	Quantity	Unit price	Amount
Christmas trees	Tree	4		200,000
Bulbs	Cartons	3	20,000	
Oil	Cartons	30	12,000	
Rice	Bags	50		900,000
Savon	Cartons		16,000	320,000
Tomatoes	cartons	15		
Gross Amount				1,990,000

Calculate the following missing elements from the table

- (i) The total cost of Bulbs, oil and tomatoes. (6 marks)
 - (ii) The unit price of Christmas tree, Rice and tomatoes (6 marks)
 - (iii) The quantity of savon (2 marks)
- b) Macmillan made a trip from Cameroon to Germany spending 3,600,000 FCFA and from Germany to USA spending 2400 Dollars. Given that 1Euro = 720 FCFA and 1 Euro = 1.2 Dollar. How much did the trip cost him in?
- (i) Euro (4 marks)
 - (ii) Dollars (2 marks)
 - (iii) FCFA (2 marks)

5. a) A rectangular piece of land measuring 500 m² as mapped out for a building. The building space is a square portion of 400m². Calculate the total cost of pecking the building if 10m² cost 2,000 FCFA. What is the length of the land if one side of the building is 10m? (8 marks)
- b) An enterprise pays a basic salary of 100,000 FCFA for its entire sales agent and an additional commission of 7.5% on all sales over 300,000 FCFA. During the month of march 2020, the sales of three of its workers were revealed as
- Ntombi = 1,000,000 fCFA
 - Esoh = 250,000 FCFA

➤ Massa = 700,000 FCFA

- (i) Calculate each person earnings for this month (8 marks)
- (ii) How much will a sale agent be expected to sell to have total monthly earning of 167,500 FCFA (4 marks)

6. a) You are an accountant with UBA and are presented with the current account of a customer below

UBA Maroua		Dr= 10%, Cr = 8%		Banna Mac			
30/06/2019				A/c number 40005002-33			
Date	Transaction	Value date	Number of days	Capital		Interest	
				Dr	Cr	Dr	Cr
01/06/19	Balance brought forward	31/05/19			180,000		
03/06/19	Payment of suppliers	06/06/19		100,000			
10/06/19	Encasement from customers	12/06/19			200,000		
15/06/19	Cash withdrawal	15/06/19		50'000			
18/06/19	Check remittance	18/06/19			60000		
	Interest balance						
	Capital balance						
	Total			441018	441018		

Given that the bank uses the direct method and closes its account on 30/06/19. Calculate the following

- (i) The number of days for each transaction (5 marks)
- (ii) The debit and credit interest (5 marks)
- (iii) The interest balance (3 marks)
- (iv) The capital balance
(Round off all your answers to the nearest whole number) (3 marks)

- b) Complete the current account table. (4 marks)

7. a) The distance between Mamfe and Kribi is 1575 km. a truck left Mamfe at 6:00 am and arrived Kribi t 7:00 am. The next day after resting for two and a half hours. Calculate

- (i) the total time taken (2 marks)
- (ii) the total time the truck was moving (3 marks)
- (iii) the speed of the truck (3 marks)

- b) David covered a distance 150 km in 2 hours and Jonathan took 3 hours to cover the same distance. Determine

- (i) Their respective speed (5 marks)
- (ii) The time David will use to cover 750 km (2 marks)
- (iii) The distance Jonathan will cover in 4 hours (2 marks).

- c) Calculate the mark-up on sales for goods at 200,000 FCFA if the mark up on cost is 25%? (4 marks)

8. a) An investment of 100,000 FCFA is deposited in a saving account at a rate of 12% monthly. You are asked to

- (i) Express the interest in function of time (5 marks)
- (ii) Determine the interest for $0 \leq t \leq 20$. (use 2cm = 5 months) (5 marks)
- (iii) Draw the graph of simple interest (4 marks)

- b) Determine the capital invested at compound interest at 6% for 3 years that will give an acquired value of 2,977,540 FCFA. (6 marks)

