

GENERAL CERTIFICATE OF EDUCATION BOARD
Technical and Vocational Education Examination

JUNE 2021

INTERMEDIATE LEVEL

Specialty Name (Specialty Code)	Commercial Specialties
Subject Title	BUSINESS MATHEMATICS
Subject Code No.	5020
Paper No.	2

Duration: Two and a half hours

This Paper has two Sections: A and B

Section A is Compulsory

Answer any THREE Questions in SECTION B

All Questions carry equal marks

Show all the necessary workings

Calculators are allowed

You are reminded of the necessity for good English and orderly presentation in your answers.

SECTION A: ANSWER BOTH QUESTIONS

1. (a) The number of cars and the quantity of fuel in litres consumed in a certain locality is given in the table below:

Quantity of fuel in litres	Number of cars
[0 – 10]	100
[10 – 20]	60
[20 – 30]	75
[30 – 40]	50
[40 – 50]	60

- i) Calculate the average consumption (10 marks)
 ii) Draw the Histogram (4 marks)

- (b) Give the mode and the median for the set of numbers 10, 11, 9, 10, 11, 12, 10, 9. (6 marks)

2. (a) Two capitals X and Y were saved in different banks at 7.5% and 10% for a period of 3 years respectively and produced the same interest. Given that the total capital saved is 1,050,000 FCFA. You are asked to determine:

- i) The value of each capital (X and Y). (10 marks)
 ii) The interest. (4 marks)

- b) A worker is paid a fixed salary of 125,000 FCFA per month and commissions for all profit realised above 400,000 FCFA at 7.5%. Calculate the worker's total salary for the month of December 2020 if the total profit realised was 800 000 FCFA. (6 marks)

SECTION B: ANSWER ANY THREE QUESTIONS

3. (a) FIBEN, DOPAL and SEKWA are in partnership. At the end of each year, the profit of 2,350,000 FCFA was realised and distributed as follows:

- Reserves: 20%
- Administrative bonus 40% of the balance to be shared in the ratio $\frac{4}{5} : \frac{2}{3} : \frac{5}{3}$.
- The remainder to be shared equally among the partners.

You are asked to calculate:

- i) The profit to be shared (2 marks)
 ii) The administrative bonus received by each partner (10 marks)
 iii) The balance to be shared equally (3 marks)

- (b) Determine the capital that will be compounded at 3% for 2 years whose acquired value is 2,121,800 FCFA (5 marks)

4. (a) A bill of 870,000 FCFA that matures on the 30/11/2020 is discounted on the 17/10/2020, under the following conditions:

- Discount rate 9% plus 1 banking day
- Endorsement commission 1%
- Manipulation commission 1,500 FCFA
- VAT (19.25%).

Determine the:

- i) Net amount to be received (8 marks)
 ii) Real rate of discount (3 marks)

(b) The table below summarises the replacement of two bills by a single bill at 8% on the 01/03/2020.

Bills	Nominal Values	Due dates
NV	NV	28/08/2020
NV1	150 000 FCFA	30/06/2020
NV2	120 000 FCFA	30/05/2020

Determine the nominal value of the single bill. (9 marks)

5. (a) Given the two sets $X = (A, 108, 36)$ and $Y = (80, 120, C)$.
- i) Express the proportionality between the set (2 marks)
 ii) Determine the coefficient of proportionality (2 marks)
 iii) Determine the values of A and C (3 marks)

(b) A train left KUMBA to MBANGA at a speed of 40 km/hr. $2\frac{1}{2}$ hours later, its speed increased to 55 km/hr. and it covered the remaining distance in in 2 hours. If the train arrived at 1:25 pm, calculate the distance between KUMBA and MBANGA. (5 marks)

(c) The exchange rate between the FCFA and the Japanese YEN is 1YEN = 350 FCFA. A trader left Cameroon for Japan with 12,000,000 FCFA to buy mobile phones. Given that he bought 120 mobile phones at 3,600 YEN per dozen with a trade discount of 8%. If he incurred expenses of 680 YEN, Calculate:

- i) The total expenditure in YEN (5 marks)
 ii) The balance in FCFA (3 marks)

6. (a) BIYOKA Ltd operates a current account number 00310464 with AFRILAND FIRST BANK KUMBA. Afriland uses a debit interest rate of 12% and a credit interest rate of 10%. During the month of March 2020, the following transactions were carried out.

Date	Transactions	Amount	Value date
28/02/2020	Credit balance brought forward	400,000	01/03/20
02/02/2020	Payment of invoice N0 9 to PATY	200,000	04/03/2020
06/03/2020	Payment from customer GALLY	100,000	07/03/2020
12/03/2020	Cash deposit	200,000	15/03/2020

Establish the current account for BIYOKA ltd showing all the details given that the bank closes its account on 30/03/2020. (Round off your answers to the nearest whole number). (10 marks)

(b) A company pays its sales agents' commissions from 500,000 FCFA and above at 15%. During the month of May, the sales for five of its agents were as follows

Sales agent	Total sales
KEKWA	800,000
JOCHI	1,000,000
BEPAD	750,000
FRUDAL	1,200,000
TUKWA	400,000

Calculate the total commission to be paid out by the company. (10 marks)

7. (a) A company at the end of the year has a motivation allowance of 2,100,000 FCFA to share to three of its top management staff proportionately to the ratios following the conditions below:

- Their salaries: 20: 24: 28.
- Their longevity: 10: 15; 10.
- Their productivity: 5: 5:5.

How much will each manager receive? (Use all the three conditions to come out with a single ratio)? **(12 marks)**

(b) MARK and SPENCER are dealers in kitchen utensils. In a particular order, they decide to order Blenders and Juicers as reflected on the table below:

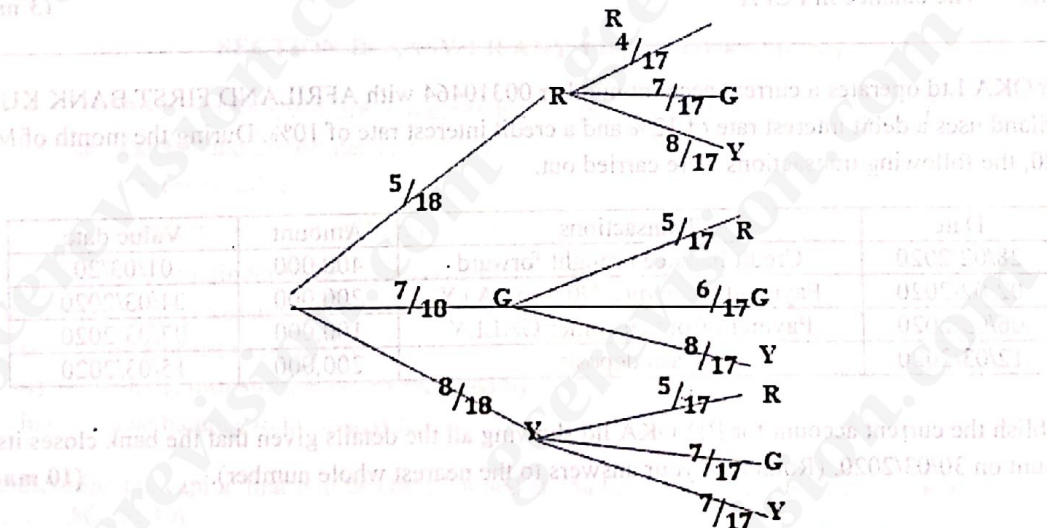
	Quantity of Blenders	Quantity of Juicers	Total amount
MARK	30	20	950,000 FCFA
SPENCER	15	25	850,000 FCFA

Determine: the unit cost of each of the items. **(8 marks)**

8. (a) A carton of fish that weighs 20kgs costs 20 000 FCFA. Given that a retailer sells a kilogram at 1,612 FCFA, calculate:

- i) The total profit realised. **(5 marks)**
- ii) The mark-up on cost price. **(3 marks)**
- iii) The multiplier coefficient. **(2 marks)**

(b) From the probability tree below representing three letters of the alphabet R, G and Y, answer the question that follow:



- i) What is the sample space? **(2 marks)**
- ii) Is the selection of letters with or without replacement? Explain **(2 marks)**
- iii) Calculate the probability of choosing letters R and Y. **(6 marks)**