

BUSINESS DATA ANALYSIS

BLOCK REVISION QUESTIONS

QUESTION ONE

ABC Ltd. Production Manager wishes to establish the relationship between the total cost of production and the number of units produced. The Production Manager also believes that the relationship between the total cost of producing “Nilan” and the number of units produced is linear in nature.

The Production Manager has gathered the following data on the production for the last 8 months:

Month	Units produced “000”	Total cost of production Sh.“000”
December 2021	675	6,900
January 2022	630	6,480
February 2022	825	6,990
March 2022	645	7,200
April 2022	900	8,560
May 2022	600	6,720
June 2022	510	6,300
July 2022	550	5,250

Required:

- (i) Estimate the total cost function using the ordinary least squares method. (7 marks)
- (ii) Estimate the fixed and variable cost using high low method (5 marks)

QUESTION TWO

- a) R Ltd. is considering a project with the following cash flows

Year	Cost of plant Sh. "000"	Running costs Sh. "000"	Savings Sh. "000"
0	10,000	-	-
1	-	4,000	12,000
2	-	5,000	14,000

R Ltd.'s cost of capital is 9%,

Required:

- (i) Determine the sensitivity of the project to changes in the levels of cost of plant, running costs and savings (Considering each factor at a time) and assuming each factor is varied adversely by 10%.
- (ii) Comment on the factor which is most sensitive to adverse variations.

b) Nyakati Limited intends to invest in a four-year mini project whose initial outlay is Sh.32,000,000. The project is expected to generate the following cash flows at the end of each year:

Year	1	2	3	3
Cash flows (Sh. "000")	12,000	15,000	9,000	6,000

The cost of capital is 12%

Ignore taxation

Required

Advice the management on whether to undertake the project using internal rate of return(IRR) method (5marks)

QUESTION THREE

(a) The following information relates to Tsuma Enterprises Ltd. for the four months given below:

Sales	Sh."Million"
September	60
October	60
November	70

December 90

All sales will be made on credit.

Half of the debtors are expected to pay within the month of sale and are also expected to claim a 2% cash discount. The remaining debtors are expected to pay by the beginning of the following month.

Raw materials purchases Sh."Million"

September	20
October	40
November	40
December	30

The firm plans to pay its creditors in full in the month following that of purchase.

Wages and salaries: Sh."Million"

September	12
October	15
November	17
December	13

Additional information:

- i. All employees are paid in the month in which the wage or salary is earned.
- ii. Rent of Sh. 10 million for each quarter is paid in March, June, September and December.
- iii. Other cash overheads of Sh.2 million per month are payable.
- iv. A new plant due for delivery in September will be paid in November at a cost of Sh.25 million.
- v. On 1 October, the firm plans to have Sh. 10 million in the bank.

Required:

A cash budget for the three months ending in December. (10 marks)

b) Peterson Chacha borrowed Sh.5,000,000 from XYZ commercial bank at an interest rate of 14% per annum. The loan is to be repaid in equal annual instalments over a period of 4 years. Interest on the loan is to be paid on a reducing balance basis.

Required:

- i) Calculate monthly repayment (2marks)
- ii) Prepare a loan amortisation schedule. (8 marks)

QUESTION FOUR

- a) Kipande Ltd., a manufacturing company intends to invest in a new product line. This requires an investment of Sh. 10 million in plant and machinery. The production is expected to last for five years and will have a salvage value of Sh.2 million at the end of this period.

Additional information:

1. The annual contribution from the product will be Sh.4,600,000.
2. Fixed operating costs excluding depreciation would amount to Sh.950,000 per annum.
3. As a result of the expansion of the product line, working capital is expected to increase by Sh.1,500,000 at the start of production and will be released at the end of the economic life of the project
4. The company employs a straight line depreciation policy.
5. The corporate tax rate is 30% per annum.
6. The company's cost of capital is 12% per annum.

Required:

Using the Net Present Value (NPV) approach, advise Kipande Ltd. on whether to invest in the new product line.(10 marks)

- b) Baney Ltd. is a private company engaged in the business of manufacturing and selling toys. The company started operations in February 2021 after incurring the following costs:

	Sh.
Factory land and building	22,600,000
Plant and machinery	8,200,000
Labour quarters	3,600,000
Computers	480,000
Furniture and fittings	950,000
2 Saloon cars (each at Sh.2,600,000)	5,200,000
Duplicating machines	620,000
Generator	350,000
Photocopying machine	280,000
Conveyor belts	720,000
Delivery van	1,900,000

Additional information:

1. A godown was constructed and utilised with effect from 1 October 2021. The total construction cost was Sh.1,200,000.
2. Factory land and building included Sh. 1 0,000,000 as the cost of lai.d.
3. On 1 October 2021, the following assets were acquired:

	Sh.
Laptop	180,000
Heavy duty forklift	1,400,000
Trailer for the tractor	460,000

Required:

Investment allowances due to Baney Ltd. for the year ended 31 December 2021. (12 marks)

- c) Halima Ali is a resident individual employed as a finance manager at Motech International Ltd.

She provided the following information relating to her income for the year ended 31 December 2018:

1. Her employment contract indicated the following:

	Sh.
Basic monthly salary	250,000
Monthly hardship allowance	45,000
Monthly responsibility allowance	50,000
Monthly commuter allowance	25,000

2. During the year, she received Sh.90,000 as a bonus for the previous years' reported profits.
3. She made a donation of Sh.50,000 to the National Kidney Fund during the year.
4. She was provided with a fully furnished apartment by the employer. The employer paid a monthly rent of Sh.80,000 and the cost of furniture was Sh.320,000.
5. The employer paid her monthly medical insurance premiums of Sh.5,000 during the year.
6. PAYE deducted from her monthly salary was Sh.68,000.
7. The company provided her with a 2,500cc saloon car on 1 October 2018 for official and private use. The car had been purchased for Sh.1,800,000.
8. She contributed Sh.15,000 per month towards a registered pension scheme.
9. She obtained a mortgage loan for the purpose of constructing her residential house from the National Savings Bank. The loan amount was Sh.4,000,000 with a monthly repayment of Sh.232,000. During the year, the total interest paid on the loan was Sh.144,000.
10. The company has a medical scheme for its managers. She was reimbursed Sh.380,000 during the year in respect of medical bills.

11. During the year, she was voted as the best employee and the company rewarded her with a cash of Sh.60,000.
12. The company paid her son's college fees amounting to Sh.120,000 during the year. This amount was treated as an allowable expense in the company's books of account.

Required:

- (i) Taxable income of Halima Ali for the year ended 31 December 2018. (10 marks)
- (ii) Tax liability (if any) from the income computed in (c)(i) above.