



NATIONAL OPEN UNIVERSITY OF NIGERIA
PLOT 91, CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESSWAY, JABI, ABUJA
FACULTY OF MANAGEMENT SCIENCES
DEPARTMENT OF FINANCIAL STUDIES
2019_2 EXAMINATION

COURSE CODE: MBF 843

CREDIT UNIT: 3

COURSE TITLE: CAPITAL INVESTMENT AND FINANCIAL DECISIONS

TIME ALLOWED: 2 1/2 HRS

INSTRUCTIONS:

- 1. Attempt Question One (1) and any other three (3) questions.**
 - 2. Question 1 carries 25 marks, while the other questions carry 15 marks each.**
 - 3. Present all points in coherent and orderly manner.**
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QUESTION 1

(a) Mosigomu Ltd has the options of investing in any of the following three projects which are associated with the following cash flows:

Year	Project I Cash Flow	Project II Cash Flow	Project III Cash Flow
	₦'000	₦'000	₦'000
0	(30,000)	(30,000)	(30,000)
1	12,000	8,000	6,000
2	10,000	10,000	10,000
3	8,000	12,000	8,000
4	-	-	6,000
5	-	-	4,000
6	-	-	2,000

Required: Advise the company on which of the three projects to invest in using the payback period approach. **5 Marks**

(b) Wesho Go Out Plastic Ltd. is considering investment in two mutually exclusive projects A and B, each having a life span of 5 years and no residual value.

	Project A	Project B
	₦	₦
Initial Investment	750,000	960,000
Net Cash Inflows:		
Year 1	240,000	210,000
Year 2	180,000	225,000
Year 3	195,000	240,000
Year 4	210,000	255,000
Year 5	225,000	255,000

Required: Using the Accounting Rate of Return on average capital employed, present necessary calculations to show whether the above projects A and B are acceptable to the company or not.

The rate should not be less than 15%.

5 Marks

- (c) Edidawunmu Engineering co. is about to decide which which type of machine tool to buy, of the two types available. Type A costs ₦50,000,000 and the net annual income from the first three years of its life will be ₦15,000,000, ₦20,000,000 and ₦25,000,000 respectively. At the end of this period, it will be worthless except for scrap value of ₦5,000,000. To buy a type A tool, the company would need to borrow from a Finance Group at 9%. Type B will last for three years too, but will give a constant net annual cash flow of ₦15,000,000. It costs ₦30,000,000 but credit can be obtained from its manufacturer at 6% interest. It has no ultimate scrap value.

Required to:

Evaluate the above investment projects using the Net present value (NPV) and indicate which investment would be the more profitable. **(10 Marks)**

- (d) (i) State the advantages and disadvantages of Accounting Rate of Return. **(2¹/₂ marks)**
 (ii) What are the merits and demerits of the payback period method? **(2¹/₂ marks)**

QUESTION 2

(a) Mosiguba has been looking for a suitable investment which will give a target internal rate of return of 17 to 20%. An investment adviser has offered the company a project, the details of which are given below: Initial investment outlay involving the purchase of machinery for ₦1, 800,000 and installation expenses of ₦310, 000. The plant can produce ₦100,000 cartons of pineapple squash per annum, during the first two years, rising to 125,000 cartons per annum, for the next three years. Cost of production of each carton, excluding depreciation costs is ₦21 and the selling price will be ₦27. The plant will be scrapped at the end of the 5th year and is expected to have negligible scrap value.

Required to: calculate the actual internal rate of return of the above project. Ignore tax effect.

(13 marks)

(b) What are the advantages of Net present value method of investment appraisal? **(2 Marks)**

Question 3

Oseka Ltd is considering five different investment projects. The company's cost of capital is 12%. Data on these projects under consideration are given below:

Project	Investment	PV at	NPV	IRR	Profitability
	₦'000	12%	₦		Index
		₦'000	₦'000		
a.	70,000	78,650	8,650	16	
b.	40,000	45,860	5,860	15	
c.	50,000	54,906	4,906	14	
d.	20,000	21,708	1,708	18	
e.	18,000	17,498	(502)	11	

Required to: (i) Compute the profitability index of the above projects **(5 marks)**

- (ii) Rank the above five projects in descending order of preference, according to: NPV, IRR and profitability index. **(6 marks)**
- (iii) Which ranking would you prefer? . **(2marks)**
- (iv) Based on your answer in part 2, which projects would you select if ₦110,000,000 is the limit to be spent? . **(2 marks)**

Question 4

- (a) What are the methods of incorporating risk and uncertainty into project investment decisions? **(6 marks)**
- (b) Write short notes on:
 - (i) Single discounting
 - (ii) Two stage discounting
 - (iii) Money cash flows
 - (iv) Real cash flows
 - (v) Single period capital rationing
 - (vi) Multi- period capital rationing **(9 marks)**

Question 5

OSAYINRO Ltd is contemplating investing in a project and the following tentative estimates have been made.

Cash outlay	-	N100,000	}(in year 0)
Sales price/unit	-	N30	}
Unit cost	-	N20	}
Discount rate			10% p.a.
Life span of project			3 yrs.
Year			Sales volume
1			4000 units
2			6000 units
3			3000 Units

Required to: Calculate the maximum tolerable unfavourable change in each of the areas (as a percentage of the original estimated value) in: (i) Sales unit; (ii) Unit cost; (iii) Sales volume; (iv) Initial outlay; and (v) Project File. Comment on the results.

Discounting factor at 10%

Year	0	1.000
	1	0.909
	2	0.826
	3	0.751

(15marks)

Question 6

(a)

Oseka Ltd has a cost of capital of 10% and has a limit of ₦2,000,000 available for investment in the current period. Capital is expected to be freely available in future periods.

The following projects are being considered:

Initial Projects	Investments	NPV at 10%
	₦	₦
A	700,000	350,000
B	800,000	450,000
C	1,300,000	760,000
D	860,000	630,000
E	460,000	180,000

You are required to calculate the optimal investment plan:

- (i) Where there are no alternative investments available for any surplus funds. (7¹/₂ marks)
- (ii) Where surplus funds can be invested to produce 12% perpetuity. (7¹/₂ marks)