13. 2067 (II) Q.No. 5

Barun Beverage (BB) is considering the replacement of one of its bottling machines, based on a feasibility survey that cost Rs. 50,000, with a newer and more efficient one. The old machine has a book value of Rs. 500,000 and a remaining life of 5 years. BB does not expect to realize any return from scrapping the old machine in five years, but it can sell the machine now to another firm in the industry for Rs. 300,000. Straight-line depreciation was used on the old machine.

The new machine has purchase price of Rs. 1,100,000, and estimated useful life of 5 years, and an estimated salvage value of Rs. 200,000. It is expected to economize on the electric power usage, labour, and repair costs and to reduce the number of defective bottles. In total, an annual saving of Rs. 250,000 will be realized if the new machine is installed. Additional working capital required is Rs. 50,000. The company is in tax holiday for a 3-year and thereafter the company falls in the 25 percent tax bracket. It has a 10 percent cost of capital, and will use MACRS 5-year class depreciation on the new machines.

i. What is the initial cash outlay required for the new machine?

ii. Should BB purchase the new machine? Support your answer based on NPV method.[5+15]

MACRS depreciation rate:

Recovery year:	1	2	3	4	5	6
MACRS%	20	32	19	12	12	5

Ans: (i) - Rs. 800,000 (ii) Rs. 209,329.825

14. 2067 (II) Old Q.No. 4

Nepal Chemical Company (NCC) is considering to launch Project A. Project A is scheduled to start in Jan. 1, 2005 and involves acquiring land, developing a new plant, operating the plant during the development of a major shale oil project, and then clearing up residue at the site, when the operation is completed. Here is summary of the project's characteristics given (Rs. in million)

A totals of Rs. 20 has been spent to investigate the feasibility f the proess used in Project A. Land was purchased immediately at a cost of Rs. 300. Building will be constructed up to a cost of Rs. 400 at the end of 2005. Equipment will be installed at a cost of Rs. 200 at the end of 2006 and NCC will manage the fund required to finance equipment by mortgaging the land to the bank at an interest rate of 8% per year. An investment tax credit of 3.33% applies to the buildings and equipment. NCC has sent on training to one of his senior staff in Japan at a cost of Rs. 2 who is expected to come back at the beginning of 2008 to handle the operation. Unfortunately he did not attend the company to operate company's operation. NCC will bring in net working capital with a cost of Rs. 100 at the end of 2007 and that working capital will be recovered at the end of 2010.

The plant will commence operations at the beginning of the 2008. Sales will be Rs. 1500 per year, and the cost other than depreciation will be Rs. 600 per year. Cash flows from operations occur at the end of each year. The operation will continue for 3 years starting from 2008 to 2010. Depreciation will be calculated by straight line method will be based on a 3-year useful lie for depreciable assets. The building will have a salvage of Rs. 10, the equipment of Rs. 50. The land will be donated to the Pashupati Trust, and an additional Rs. 500 will have to be spent on the land to clear the site. This donation and expenditure will occur at the end of 2011, on which there is tax saving. NCC's effective tax rate is 40 percent. Cost of capital is 10 percent.

Based on net present value approach, whether the project should be launched or not?

Ans: NPV = Rs. (65.2162)

15. 2066 Q.No. 5

Everest Roofing Materials Ltd. is considering two mutually exclusive projects, each with an initial investment of Rs. 1,500,000. The company's board of directors has set 4 - year discounted payback requirement and cost of capital at 9 percent. The cash inflows associated with the two projects are as follows:

Question Bank Nepal

Year	Project A	Project B
1	Rs. 450,000	Rs. 750,000
2	Rs. 450,000	Rs. 600,000
3	Rs. 450,000	Rs. 300,000
4	Rs. 450,000	Rs. 300,000
5	Rs. 450,000	Rs. 300,000
6	Rs. 450,000	Rs. 300,000

a. Calculate the discounted payback period for each project at 9%.
b. Calculate the net present value of each project at 0 percent and at 9 percent.
c. Derive the IRR of each project. Is it essential to calculate IRR after calculating NPV?
d. Which project would you select? Justify your the recommendation. [4+6+6+4]

Ans: (a) $DPBP_A$ = 4.1441 years and $DPBP_B$ = 3.3542 years (b) NPV at 0%: Rs. 1,200,000 and Rs. 1,050,000; NPV at 9%: Rs. 518,655 and Rs. 511,110 (c) IRR_A = 19.91% and IRR_B = 22.7155% (d) Project A

16. 2066 Partial Q.No. 2

Everest Company Limited is considering two mutually exclusive projects. Project A requires a cash outlay of Rs. 200,000 and Project B requires a cash outlay of Rs. 300,000. Both the projects have five years life with zero book value. At the end of the life, Project A will have Rs. 8,000 cash salvage value and Project B will have Rs. 28,000 cash salvage value. Project A and Project B require cash running expenses of Rs. 70,000 and Rs. 40,000 per year respectively. The company pays tax at the rate of 50 percent and its required rate of return is 10 percent. Assume straight line depreciation and no tax on salvage value.

a. Which project is accepted? [8]
b. We assumed no tax on salvage value. If there were tax on salvage value, how does it affect the decision? Explain. [2]

Ans: (a) NPV_A = – Rs. 251,893.3; NPV_B = –Rs. 244,707.8
(b) NPV_A = – Rs. 254,378.40; NPV_B = –Rs. 253,399.4

17. 2065 (I) Q.No. 4

You are a financial analyst for medium sized Electronics Company. The director of capital budgeting has asked you to analyze two proposed capital investments, project X and project Y. Each project has a cost of Rs. 100 lakhs and the required rate of return for each project is 12 percent. The company applies the straight-line method of charging depreciation to recover its investment in four years. The expected cash salvage value of each project at the end of the 4th year is expected to be Rs. 5 lakhs. Assume the applicable tax rate is 25 percent. The expected cash flows before depreciation and tax are as follows:

	CFBDT (Rs.)	
Year	Project X	Project Y
1	82,00,000	40,00,000
2	35,00,000	40,00,000
3	35,00,000	40,00,000
4	5,00,000	40,00,000

Required:

i. Calculate each project's payback, NPV and IRR.
ii. Which project should be accepted if they are mutually exclusive?
iii. Is there any conflict in evaluation criteria? Why such conflict occurs? Explain.

Ans: (i) PBP: 1.9923 years & 2.7586 years; NPV: Rs. 1,827,460 & Rs. 1,248,887.50;
IRR: 23.0259% & 17.7246% (ii) Project X (iii) Yes.

18. 2065 (II) Q.No. 5

Consider the cash flows of the following projects being revaluated by Naya Nepal Ltd.

Year	0	1	2	3	4	5
Expected cash flows from Peace Project	Rs. (20,000)	2,000	6,000	6,000	13,000	18,000
Expected cash flow from Progress Project	Rs. (20,000)	8,000	8,000	8,000	8,000	8,000

Question Bank Nepal

i. Calculate the payback period and net present value for both projects. If Naya Nepal has a policy of accepting all those independent projects with positive net present value and less than 3 years payback period, which project (s), if any, will be selected? Assume that the cost of capital for each project is 12 percent. [4+6+2]

ii. Assume that Peace Project and Progress Project are mutually exclusive, Which project, if any, will you select on the basis of NPV's calculated in requirement (i)? [2]

iii. Calculate the IRR for Progress project. Is the Progress project acceptable for Naya Nepal Ltd.? [4]

iv. When NPV and IRR criteria produce conflicting results, which criteria would be best and why? [2]

Ans: (i) PBP = 3.46 yrs and 2.5 yrs; NPV = Rs. 9,315 and Rs. 8,838 (ii) Peace (iii) 28.65%

19. 2064 Q.No. 5 a

You have been asked by the president of your company to evaluate the proposed acquisition of a new spectrometer for the firm's R and D department. The equipment's basic price is Rs. 70,000 and it would cost another Rs. 15,000 to modify it for special use by your firm. The spectrometer, which falls into the MACRS 3-year class, would be sold after 3 years for Rs. 30,000. Use of the equipment would require an increase in net working capital (spare parts inventory) of Rs. 4,000. The spectrometer would have no effect on revenues, but it is expected to save the firm Rs. 25,000 per year. The firm's marginal tax rate is 40 percent.

(i) What is the net cost of the spectrometer?

(ii) What are the net operating cash flows in Years 1, 2, and 3?

(iii) What is the additional (non-operating) cash flow in Year 3?

(iv) If the project's cost of capital is 10 percent, should the spectrometer be purchased?[10]

Ans: (i) Rs. (89,000) (ii) CFAT: Year 1 Rs. 26,332.2; Year 2 Rs. 30,113; Year 3 Rs. 20,035.4 (iii) Rs. 24,519.4 (iv) NPV Rs. (6,702)

20. 2063 Q.No, 5 a

The Gandaki Sugar Factory is considering the purchase of a new machine tool to replace and obsolete one. The machine being used for the operation has both a tax book value of zero, it is in good working order and will last physically, and operate efficiently. The company engineers estimate that there will be cost saving of Rs. 6,500 a year and that include labour, material, and other direct cost of the operation if it is installed. The proposed machine costs Rs. 30,000 delivered and installed, and its economic life is estimated to be 10 years, with zero salvage value. The company expects to earn 12 percent on its investment after taxes (12 percent is the cost of capital). The tax rate is 40 percent. The depreciation value of new machine from year 1 through 8 would be calculated as 14.29 percent, 24.49 percent, 17.49 percent, 12.49 percent, 8.93 percent, 8.92 percent and 4.46 percent of the cost of the asset.

a. Should the company buy the new machine?

b. Assume that the tax book value of the old machine is Rs. 6,000, that the annual depreciation charge is Rs. 400, and that the machine has no market value. How do these assumptions affect your answer? Do you think that the new machine is worth buying? [10]

Ans: (a) NPV = Rs. 208 (b) NPV = Rs. 2,031

21. 2062 Q.No. 4 b

The ABC Company purchased a machine 5 years ago at a cost of Rs. 100,000. It had an expected life of 10 years at the time of purchase and an expected salvage value of Rs. 10,000 at the end of the 10 years. It is being depreciated by the straight line method.

A new machine can be purchased for Rs. 150,000 including installation cost. Over its 5-year life, it will reduce cash operating expenses by Rs. 50,000 per year. Sales are not expected to change. At the end of its useful life, the machine is estimated to be worthless. MACRS depreciation will be used, and it will be depreciated over its 3-year class life rather than its 5-year economic life. The old machine can be sold today for Rs. 65,000. The firm's tax rate is 34 percent. The appropriate discount rate is 15 percent.

Question Bank Nepal

(i) If the new machine is purchased, what is the amount of the initial cash flow at Year 0?
(ii) What incremental operating cash flows will occur at the end of Years I through 5 as a result of replacing the old machine?
(iii) What incremental non-operating cash flow will occur at the end of Year 5 (if the new machine is purchased?
(iv) What is the NPV of this project? Should the firm replace the old machine? [10]

Ans: NCO = 88,400, CFAT: Year I = 46,938.30; Year II = 52,609.50; Year III = 37,493.10; Year IV = 33,719.10; Year V = 29,940 – 10,000 = 19,940 and NPV = 46,042.05

22. 2061 Q.No. 5 a

National Paper Company is contemplating the replacement of one of its bottling machines with a newer and more efficient one. The old machine has a book value of Rs. 600,000 and a remaining useful life of five years. The firm does not expect to realize any return from scrapping the old machine in five years, but it can sell the machine now to another firm in the industry for Rs. 265,000. The old machine is being depreciated toward to zero salvage value or by Rs. 120,000 per year, using the straight-line method.

The new machine has purchase price of Rs. 11,75,000, an estimated useful life of five years, and an estimated salvage value of Rs. 145,000. It is expected to economize on electric power usage, labour, and repair costs and to reduce the number of defective bottles. In total, an annual saving of Rs. 255,000 will be realized if the new machine is installed. The company's marginal tax rate is 34 percent and it has a 12 percent cost of capital. The depreciation values of new machine from year 1 through 5 would be calculated as 20 percent, 32 percent, 19 percent, 12 percent, and 11 percent of the cost of the asset.

(i) What is the initial cash outlay required for the new machine?
(ii) Calculate the change in the annual depreciation expense if the replacement is made.
(iii) What are the operating cash flows in Years 1 through 5?
(iv) What is the cash flow from the salvage value in Year 5?
(v) Should the company purchase the new machine? Support your answer. [10]

Ans: (i) NCO = Rs. 796,100 (ii) 115,000; 256,000; 103,250; 21,000; 9,250 respectively (iii) 2,074,100; 255,340; 203,405; 175,440; 171,445; (iv) 291,115; (v) NPV Rs. 14,098.95; Purchase

23. 2060 Q.No. 5 a

Narayani Beverages Ltd. is contemplating the replacement of one of its bottling machines with a newer and more efficient one. The old machine has a book value of Rs. 5;00,000 and a remaining useful life of five years. The firm does not expect to realize any return from scrapping the old machine in five years, but it can sell the machine now to another firm in the industry for Rs. 3,00,000. The straight-line depreciation was used on the old machine.

The new machine has purchase price of Rs.1.1 million, an estimated useful life of five years, and an estimated salvage value of Rs. 2,00,000. It is expected to economize on electric power usage, labour, and repair costs and to reduce the number of defective bottles. In total, an annual saving of Rs. 2,50,000 will be realized if the new machine is installed. The company is in the 40percent tax bracket, and has a 10 percent cost of capital. The depreciation value of new machine from year 1 through 5 would be calculated as 20 percent, 32 percent, 19.2 percent, 11.52 percent of the cost of asset.

i. What is the initial cash outlay required for the new machine?
ii. Should the company purchase the new machine? Support your answer. [10]

Ans: (i) NCO = Rs. 720,000 (ii) Yes, NPV = Rs. 113,141

24. 2059 Q.No. 5 a

Biratnagar Stove Company is considering a new product line to supplements its range line. It is anticipated that the new product line will involve cash investments of Rs. 700,000 at time 0 and Rs. 1.0 million in year 1. After tax cash inflows of Rs. 250,000 are expected in year 2, Rs. 300,000 in year 3, Rs. 350,000 in year 4, and Rs. 400,000 each year thereafter through year 10.

While the product line might be viable after year 10, the company prefers to be conservative and end all calculations at the time.

Question Bank Nepal

i. If the required rate of return is 15 percent, what is the net present value of the project? Is it acceptable?
ii. What is the internal rate of return?
iii. Is the project acceptable if the required rate of return were10 percent? [10]

Ans: (i) NPV = – Rs. 117,646 (ii) IRR = 13.2%, (c) Yes

25. 2058 Q.No. 2 b

A firm has an opportunity to invest in a machine at a cost of Rs. 656,670. The net cash flows after taxes from the machine would be Rs. 210,000 per year and would continue for five years. The applicable cost of capital for this project is 12 percent. What is the internal rate of return for the investment? Should the investment be made? [5]

Ans: IRR = 18%, Yes

26. 2057 Q.No. 2 b

A firm has an opportunity to invest in a machine at a cost of Rs. 656.670. The net cash flows after taxes from the machine would be Rs. 210,000 per year and would continue for five years. The applicable cost of capital for this project is 12 percent. Calculate the net present value for the investment. Should the project be accepted if the internal rate of return 18 percent? [5]

Ans: NPV = Rs. 100,338, Yes

MBA

THEORETICAL QUESTIONS

1. 2039 Q.No. 4

Discuss the various criteria of ranking investment proposals. Illustrate your answer with suitable example. [16]

- **Write short notes on:**

2. 2057 Q.No. 5 c / 2041 Q.No. 5 c

Payback method [8]

3. 2048 Q.No. 5 b

Payback period [8]

4. 2041 Q.No. 5 b

Capital budgeting [8]

PRACTICAL PROBLEMS

5. 2056 Q.No. 2

Two mutually exclusive project have projected cash flows as follows:

Period	0	1	2	3	4
A	Rs. 10,000	5,000	5,000	5,000	5,000
B	Rs. 10,000	0	0	0	30,000

a. Determine the internal rate of return for each project.
b. Assuming required rate of return of 10 percent, determine the net present value for each project.
c. Which Project would you select? What assumptions are inherent in your decision? [16]

Ans: (a) IRR_A = 34.90%; IRR_B = 31.92% (b) NPV_A= 5,850; NPV_B = –10,490

6. 2055 Q.No. 2

A Toy Company currently uses an injection-molding machine that was purchased 2 years ago. This machine is being depreciated on a straight-line basis towards a Rs. 500 salvage value and it has 6 years of remaining life. Its current book value is Rs. 2,600 and it can be sold for Rs. 3,000 at this time. The Toy Company is offered a replacement machine, which has a cost of Rs. 8,000, an estimated useful life of 6 years, and an estimated salvage value of Rs. 800. This machine is to be depreciated as the following rates:

Year	1	2	3	4	5	6
Depreciation (rate)	20%	32%	19%	12%	11%	6%

There is no investment tax credit for the machine. The replacement machine would cause an output expansion, so sales would rise by Rs. 1,000 per year; even so, the new

Question Bank Nepal

machine's much greater efficiency would cause operating expenses to decline by Rs. 1500 per year. The new machine would require that inventories be increased by Rs. 2,000, but accounts payable would simultaneously increase by Rs. 500. The company is in 40% tax bracket and its cost of capital is 15 percent. Should the company replace the old machine? Would your decision change under each of the following condition? [16]

(a) the expected life of the existing machine decreases.

(b) the cost of capital is not constant but is increasing.

Give reasons in general. You need not do the calculations. **Ans: NCO = – 6660, NPV = +1,334.86**

7. 2054 Q.No. 2

Rapti Textiles Company is considering a new product line to supplement its range line. It is anticipated that the new product line will involve cash investment of Rs. 700,000 at time 0 and Rs. 1 million year 1. After tax cash in flows of Rs. 250,000 are expected in year 2, Rs. 300,000 in year 3, Rs. 350,000 in year 4 and Rs. 400,000 each year thereafter through year 10. While the product line might be viable after year 10, the company prefers to be conservative and end all calculations at that time. [16]

a. If the required rate of return is 15 percent, what is the net present value of the project? Is it acceptable?

b. What is the internal rate of return?

c. What would be the case if required rate of return were 10%?

d. What is project's payback period? **Ans: (a) –1,17,646) (b) 13.21% (c) Accept (d) 6 yrs.**

8. 2052 Q.No. 2

XYZ Company has been operating a small cafeteria for its employees. The cafeteria is managed by an employee whose annual salary is Rs. 40,000. Yearly operations of the cafeteria have consistently shown a loss as follows: [16]

Receipts		Rs. 360,000
Expenses for food, supplies etc.	Rs. 370,000	
Salary	Rs. 40,000	Rs. 410,000
Net loss		(50,000)

Mr. Q a caterer, offers to run the cafeteria in the XYZ Company for a period of five years if the company replaces its old furniture by new ones old which is expected to cost Rs. 300,000. The company, however, can sell its old furniture and realize Rs. 20,000 now. The new furniture will have a salvage value of Rs. 200,000 by the end of 5 years period and will be depreciated on a straight line basis: Mr. Q will pay 5 percent of gross receipt to the XYZ company and will bear the entire cost of foods, supplies etc. The gross receipts are expected to increase by Rs. 20,000 every year for the period of 5 year, starting from the first year. The cost of capital and marginal tax rate of the company are 20 percent and 25 percent respectively.

Compute payback period, net present value and internal rate of return and give decision whether the XYZ Company should accept Mr. Q's offer or run the cafeteria by itself. Will your decision change if the gross receipt of the new cafeteria remain same as of now for the entire 5 years period? Show computations.

(Rate/Year)	Present Value of Rs. 1				
	1	2	3	4	5
@ 18%	.847	.718	.609	.516	.437
@ 20%	.833	.694	.579	.482	.402
@ 22%	820	.672	.551	.451	.370

Ans: PBP = 4.208 yrs; NPV = – 31,238; IRR = 16.022%

9. 2051 Q.No. 2

Company X is considering to invest Rs. 200,000 in any or combination of the following projects.

Question Bank Nepal

Year		Projects			
		A	B	C	D
Investment	0	100,000	150,000	50,000	50,000
Cash inflow	1	10,000	40,000	0	0
	2	20,000	40,000	0	20,000
	3	30,000	40,000	0	0
	4 to 7	40,000	40,000	30,000	25,000
Internal rate of return		?	21%	?	16%

The weighted average cost of capital of company X is 16%. [16]

Calculate net present value and internal rate of return (wherever necessary) and rank the projects accordingly. Suggest which project or projects company X should select. Why? Can payback reciprocals be used to approximate internal rate of return of the above projects? Why?

Present Value (Rs. 1)

Rate/Year	1	2	3	4	5	6	7
16%	0.862	0.743	0.641	0.552	0.476	0.410	0.354
17%	0.885	0.731	0.624	0.534	0.456	0.390	0.333
18%	0.848	0.718	0.609	0.516	0.437	0.370	0.314
19%	0.840	0.706	0.593	0.499	0.419	0.352	0.296
20%	0.833	0.694	0.579	0.482	0.402	0.335	0.279

Ans: IRR_A = 19.86%; NPV_A = 14390; NPV_B = 11560; NPV_C = 3760; IRR_C = 17.61%; NPV_D = 9660

10. 2047 Q.No. 3

XYZ Company has recently purchased a machine for Rs. 50,000 that produces a special type of shoes. The life of the machine is 4 years after which the production of this type of shoes would be stopped.

A new machine that is ideally suited for producing this types of shoes and is superior to the machine which XYZ company purchased recently is available in the market for Rs. 44,000. This machine reduces the cost of materials by 10 percent and produces twice as many pairs per hour there by reducing the cost of direct labour and variable overhead by 50 percent. The life of the new machines is 4 years and will have zero disposable value at the end.

Production and sales would continue to be at the rate of 25,000 pairs per year for 4 years annual sales will be Rs. 90,000 the scrap value of the existing machine is now Rs. 5,000 and will be Rs. 2,600 at the end with the existing machine. The company's annual expenses will be

Direct material	Rs. 10,000
Direct labour	20,000
Variable factory overhead	15,000
Fixed factory overhead	7,500
(Exclusive of depreciation) fixed	
Administrative expenses	12,000

The hurdle rate of the company is 18%. Should the replacement be made? Base your answer on pay back period and net present value. [16]

Ans: PBP = 2.11 yrs; NPV = 9432.40, Yes

11. 2045 Q.No. 3

A firm is considering purchasing a replacement machine the existing machine can run for 5 more years producing annual revenues of Rs. 60,000 with cash expenses of Rs. 30,000 its current book value is Rs. 20,000 and it is being depreciated at Rs. 4,000 per year down to a zero book value. The machine could be sold today to net Rs. 8,000 it could be sold in 5 years to net Rs. 5,000. The replacement machine will cost Rs. 50,000 plus an additional Rs. 20,000 to transport it to the factory and install it. It will generate revenues of Rs. 90,000 but will have cash expenses of Rs. 40,000. It will be depreciated using the straight line method over a 5 year period at which time it will have a book value of Rs. 20,000 and a

Question Bank Nepal

cash salvage value of Rs. 25,000. The replacement machine will require additional working capital of Rs. 5,000 to be permanently tied up.
The firm decides to finance the cost of the machine by taking loans and the cost of transportation and installation and the working capital by using its equity. The loan available from a bank at 15% interest rate. The cost of equity of the firm at present is 18% the firm uses weighted average cost of capital to evaluate the investment proposal. The firm is 40% tax bracket the tax on capital gain/loss is same as in the case of ordinary income. Should the firm make the replacement? Base your answer on the payback period, NPV and IRR. [16]

Ans: PBP = Rs. 4.12 yrs. NPV = +2,691.72; IRR = 14.116%

12. 2042 Q.No. 2

From the following data calculate (i) NPV (ii) IRR (iii) payback period for the given project. Assume a required rate of return of 10% and 50% tax rate, firm has a policy of charging depreciation on diminishing balance method. No capital gain taxes are assumed. [16]

	M	N
Initial cash outlay	Rs. 100,000	Rs. 140,000
Salvage value	Nil	20,000
Earning before depreciation and tax (year)		
1	25,000	40,000
2	25,000	40,000
3	20,000	40,000
4	20,000	40,000
5	25,000	40,000
Expected life	5 years	5 years

Based on your calculation, state which project is desirable.

Ans: NPV_M = –15,736; NPV_N = – 1384.16; IRR_M = 2.48%; IRR_N = 9.59%; PBP_M = 4.63 yrs; PBP_N = 4 yrs

5. WORKING CAPITAL MANAGEMENT

A. WORKING CAPITAL

MBS

THEORETICAL QUESTIONS

1. 2070 Q.No. 6b

What is working capital? Why is working capital management important to a firm? [4]

2. 2070 Old Q.No. 3a

"Merely increasing the level of current assets holdings does not necessarily reduce the riskiness of the firm. Rather, the composition of the current assets, whether highly liquid or highly illiquid, is the important factor to consider." Comment. [4]

3. 2069 Q.No. 6b

What are matching and zero working capital approaches in working capital management?[4]

4. 2067 (II) Q.No. 6b

What are the factors affecting the firm's credit policy? Explain. [10]

5. 2066 Q.No. 1

Some firms have small amount of working capital while others have large amount of working capital in relation to fixed assets. Why do firms work with different level of working capital in relation to fixed assets? What are the implications of such different policies on risk and return of firms? [4+6]

6. 2065 (II) Q.No. 4 a

Why is working capital management important in a business firm? Explain different types of working capital policies a firm can follow. [5+10]

- **Write short notes on:**

7. 2071 Q.No. 4a

Importance of working capital management.

Question Bank Nepal

8. 2070 Q.No. 4b/ 2067 (II) Q.No. 4c

Inventory control system [5]

9. 2068 Q.No. 4a

Zero working capital

10. 2067 (I) Q.No. 4b

Monitoring receivable position 5

NUMERICAL PROBLEM

11. 2068 (Old) Q.No. 3b

Golchha House (GH) purchases Kerosene heater from Japan and sells in the Nepalese market in winter season. GH has a storing capacity of 4,000 Kerosene heaters and anticipates annual sales of 30,000 units of heaters in the market. The Kerosene heaters company charges prices as mentioned in the table below for different order sizes of heaters it receives from the GH.

Order size	Price per heater (Rs.)	Discount percentage
0 to 399	3,200	0%
400 to 799	3,200	5%
800 to 1599	3,200	10%
1600 and over	3,200	12%

The purchase order cost is Rs. 400 per order and the storage cost is 20 percent of the price paid for each heater.

What is the optimum number of heaters GH should order to minimize the total inventory cost? [4+6]

Ans: 1,600 units and Rs. 84,938,060

MBA

THEORETICAL QUESTIONS

1. 2052 Q.No. 4 a

Why should a firm usually match the maturities of assets and liabilities? Explain. [8]

2. 2047 Q.No. 5 a

Why is working capital important to a firm? [8]

3. 2041 Q.No. 2

What is working capital? Discuss the various determinants of working capital for an enterprise. [16]

NUMERICAL PROBLEMS

4. 2047 Q.No. 5 b

Company P has the following Balance Sheet.

Balance Sheet

Liabilities	Rs.	Assets	Rs.
Current liabilities	5,000	Current assets	10,000
Long-term fund	35,000	Fixed assets	30,000
	40,000		40,000

Under the present plan, the company's current assets earn 3% current liabilities cost 5%, fixed assets earn 13% and long-term fund cost 10%. The company makes a new plan to shift Rs. 2,000 of current to fixed assets and Rs. 3,000 of long-term funds to current liabilities.

Calculate the differences in the following with respect to the current and the new plans.

(i) Level of the company's net working capital.
(ii) Return of total assets
(iii) Cost of financing
(iv) Current ratio and ratios of current liabilities to total assets
(v) Net profit

Comment on the results from the point of view of risk and return. [8]

Ans: (i) 5,000 and 0 (ii) 4,200 and 4,400 (iii) 3,750 and 3,600 (iv) 1 and 0.20 (v) 450 and 800

Question Bank Nepal

5. 2039 Q.No. 2

XYZ Company owned total assets worth of Rs. 800 million out of its amount current assets as Rs. 500 million and the rest is fixed assets. The equity represents 50% of total assets. The borrowed capital amounted to Rs. 400 million. The expected earnings before interest and taxes is 20% of equity. The cost of short-term borrowing is 8% while it is 12% for long-term borrowing. Assume that tax rate is 50%.

Given above information, show how the balance sheet will look like in case of conservative, aggressive, and average policies. Also prepare income statement under different policies and interpret for such variation. [16]

Ans: B/S total = 800,000,000; EAT = 16,000,000; 20,000,000; 24,000,000

B. CASH MANAGEMENT

MBS

THEORETICAL QUESTIONS

1. 2064 Q.No. 2 a

Discuss the various motives of holding cash. Explain the costs and benefits associated with holding cash. [5]

NUMERICAL PROBLEMS

2. 2070 Old Q.No. 2

The trading company has estimated that the standard deviation of its daily cash flows is Rs. 3,000. The firm pays Rs. 50 in transaction costs to transfer funds into and out of commercial paper that pays 8.0% annual interest. The firm uses the Miller-Orr model to set its target cash balance. Additionally, the firm has decided to maintain a Rs. 20,000 minimum cash balance. Assume 360 days a year.

i. What is the firm's target cash balance?
ii. What are upper and lower limits?
iii. What is the company's decision rule?
iv. What is the firm's average cash balance?
v. Why should company decide to use Miller Orr model instead of inventory model in managing cash? [2×5]

Ans: (i) Rs. 31,494.6367 (ii) Rs. 54,483.9101; Rs. 20,000 (iv) Rs. 35,326.1823

3. 2065 (II) Q.No. 4 b

A firm follows Miller-Orr model for managing cash. The firm's variance of daily cash flow is estimated to be 800 and the cost per transfer is Rs. 25. The firm's opportunity cost is 20 percent. Assume 365 days in a year.

i. Computer cash return point and upper control limit. [3]
ii. What actions would you take if cash balance is (i) Rs. 904 (ii) Rs. 409? [2]

Ans: (i) 904.14

4. 2064 Q.No. 2 b

Nepal Tool Factory expects to have Rs. 2,500,000 in cash outlays for the next year. The firm believes that it will face an opportunity interest rate of 12.5 percent and will incur a cost of Rs. 150 each time it borrows (or withdraws). Cash outlays are expected to be steady over the year.

i. Determine the optimal borrowing or withdrawal lot size for the Nepal Tool.
ii. What is the total cost for the use of cash needed for transactions demanded?
iii. What will be the cash cycle for the firm?
iv. What will be the average cash balance for the firm? [5]

Ans: (i) Rs. 77,459.67 (ii) Rs. 9,682.46 (iii) 11.31 days (iv) Rs. 38,729.84

5. 2062 Q.No. 5 a

The List Company, which can earn 7 percent on money market instruments, currently has a lock-box arrangement with a New Orleans bank for its southern customers. The bank handles Rs. 3 million a day in return for a compensating balance of Rs. 2 million.

Question Bank Nepal

(i) The List Company, which has discovered that it could divide the southern region into a southwestern region (with Rs. 1 million a day in collections, which could be handled by a Dallas bank for a Rs. 1 million compensating balance) and a south-eastern region (with Rs. 2 million a day in collections, which could be handled by an Atlanta bank for a Rs. 2 million compensating balance). In each case, collections would be one-half day quicker than with the New Orleans arrangement. What would be the annual savings (or cost) of dividing the southern region?

(ii) In an effort to retain the business, the New Orleans bank has offered to handle the collections strictly on a fee basis (no compensating balance.). What would be the maximum fee the New Orleans bank could charge and still retain List's business? [8]

Ans: (i) Rs. 35,000 (ii) Rs. 1,05,000

6. 2059 Q.No. 5 b

Prepare a cash budget for the Birgunj Tools Company indicating receipts and disbursements for May, June and July. The company wishes to maintain a minimum cash balance of Rs. 20,000 at all times. Determine whether or not borrowing will be necessary during the period and if it is, when and for how much. As of April 30, the company has a balance of Rs. 20,000 cash.

Actual Sales		Forecasted sales	
January	Rs. 50,000	May	Rs. 70,000
February	50,000	June	80,000
March	60,000	July	100,000
April	60,000	August	100,000

Account receivable: 50 percent of total sales are for cash. The remaining 50 percent will be collected equally during the following 2 months (the form incurs a negligible bad debt loss)

Cost of goods manufactured: 70 percent of sales, 90 percent of this cost is paid during the first month after incurrence, the remaining 10 percent is paid the following month.

Sales and administrative expenses: Rs. 10,000 per month plus 10 percent of sales. All of these expenses are paid during the month of incurrence.

Interest payments: Semi-annual interest of Rs. 18,000 is paid during July. An annual Rs. 50,000 sinking fund payment is also made at that time.

Dividends: A Rs. 10,000 dividend payment will be declared and made in July.

Capital expenditures: Rs. 40,000 will be invested in plant and equipment in June.

Taxes: Income tax payments of Rs. 1000 will be made in July. [10]

Ans: Borrowing Rs. Nil; Rs. 27,800 and Rs. 66,800; Closing balance Rs. 26,000; Rs. 20,000 and Rs. 20,000

6. 2058 Q.No. 5 a

Warrior Industries projects that annual cash usage of Rs. 3.75 million will occur uniformly throughout the forthcoming year. Warrior plans to meet these demands for cash by periodically selling marketable securities from its portfolio. The firm's marketable securities are invested to earn 12 percent, and the cost per transactions of converting funds to cash is Rs. 40.

(i) Use the Baumol model to determine the optimal transaction size for transfer from marketable securities to cash.

(ii) What will be Warrior's average cash balance?

(iii) How many transfers per year will be required? [10]

Ans: (i) Rs. 50,000 (ii) Rs. 25,000 (iii) 75 times

MBA

THEORETICAL QUESTIONS

1. 2057 Q.No. 4

Explain how would you manage cash in a business firm. [20]

2. 2054 Q.No. 1

What is the purpose of a cash budget? Explain its major sections. [16]

Question Bank Nepal

3. 2045 Q.No. 2

Why does a firm hold cash? How can it improve its cash flows? Explain in detail. [16]

7. 2039 Q.No. 3 a

Highlight briefly the motives for holding cash. [8]

- **Write short notes on:**

4. 2050 Q.No. 5 c

Disbursement float [8]

5. 2045 Q.No. 5 b

Cash Budgeting [8]

6. 2040 Q.No. 5 c

Cash Budget. [6]

NUMERICAL PROBLEMS

7. 2056 Q.No. 3

Prepare a cash budget for the Birgunj Tools Company indicating receipts and disbursements for May, June and July. The company wishes to maintain a minimum cash balance of Rs. 20,000 at all times. Determine whether or not borrowing will be necessary during the period, and if it is, when and for how much. As of April 30, the company had a balance of Rs. 20,000 cash.

Actual sales		Forecasted sales	
January	Rs. 50,000	May	Rs. 70,000
February	50,000	June	80,000
March	60,000	July	100,000
April	60,000	August	100,000

Account receivable: 50 percent of total sales are for cash. The remaining 50 percent will be collected equally during the following 2 months (the form incurs a negligible bad debt loss)

Cost of goods manufactured: 70 percent of sales, 90 percent of this cost is paid during the first month after incurrence, the remaining 10 percent is paid the following month.

Sales and administrative expenses: Rs. 10,000 per month plus 10 percent of sales. All of these expenses are paid during the month of incurrence.

Interest payments: Semi-annual interest of Rs. 18,000 is paid during July. An annual Rs. 50,000 sinking fund payment is also made at that time.

Dividends: A Rs. 10,000 dividend payment will be declared and made in July.

Capital expenditures: Rs. 40,000 will be invested in plant and equipment in June.

Taxes: Income tax payments of Rs. 1000 will be made in July. [16]

Ans: 226,750; 258,500; 162,750; 102,000; 137,500 and 103,000

8. 2055 Q.No. 3 a

Everest Oil Corporation appoints oil dealers in Kathmandu valley for distributing oil products. All payments by oil dealers for oil product are by cheque, which average in total Rs. 420,000 a day. At present, the overall time between a cheque being mailed by the dealers to the Everest Oil and the corporation having available funds at its bank is 6 days.

(i) How much money is tied up in this interval of time?

(ii) To reduce this delay, the corporation is considering daily pickups from the stations. In all two cars would be needed and two additional people hired, the cost would be Rs. 93,000 annually. This procedure would reduce the overall delay by 2 days. Currently the opportunity cost of funds is 9% that being the interest rate on marketable securities. Should the corporation in augurate the pickup plan?

(iii) Rather mail cheques to its banks the corporation could deliver them by messenger service. This procedure would reduce the overall delay by one day and the cost Rs. 10,300 annually. Should the corporation undertake this plan? [8]

Ans: (a) 2,520,000 (b) 75,600 (c) undertake

Question Bank Nepal

9. 2048 Q.No. 3

Prepare a cash budget for the AM company indicating receipts and disbursement for June and July, the firm wishes to maintain at all times a minimum cash balance of Rs. 20,000. Determine whether or not borrowing will be necessary during the period and if it is when and for how much. As of April 30, the firm had a balance of Rs. 20,000 in cash.

Actual Sales		Forecasted Sales	
Jan	Rs. 50,000	May	Rs. 70,000
Feb	50,000	June	80,000
March	60,000	July	100,000
April	60,000	Aug	100,000

Will be collected equally during the following 2 months (the firm incurs a negligible bad-debt loss) Cost of good manufactured: 70% of sales; 90% of this cost is paid during the first month after incurrence, the remaining 10% is paid the following month. Sales and administrative expenses Rs. 10,000 per month plus 10% of sales. All of these expenses are paid during the month of incurrence.

Interest payments: Semi annual interest of Rs. 18,000 is paid during July. And annual Rs. 50,000 sinking fund payment is also made at that time.

Dividends: A Rs. 40,000 will be invested in plant and equipment in June.

Taxes: Income tax payments of Rs. 10,000 will be made in July. [16]

Ans: 26,000; 27,800 and 66,800

10. 2042 Q.No. 4

The ABC Ltd. uses a 3 month time horizon sub dividend into monthly intervals from the given information. Prepare a cash budget for the period Jan-March. ***Rs.in '000***

	Nov.	Dec.	Jan.	Feb.	March
1. Past sales	580	550	–	–	–
2. Estimated sales	–	–	450	500	500
3. Payables payment (50% of current month's sales)	–	–	225	250	250
4. Interest received	–	–	3	3	2
5. Sales of securities	–	–	–	150	–
6. Other cash receipts	–	–	10	15	13
7. Payroll payments	–	–	230	220	240
8. Capital expenditures	–	–	20	10	100
9. Tax payments	–	–	75	–	–
10. Dividend paid	–	–	–	60	–
11. Interest paid	–	–	–	–	4
12. Repayment of loan	–	–	–	–	200
13. Other cash disbursements	–	–	20	20	20

Assume 10% of sales are cash and 90% credit sales. The firm grants 30 days for payment by the customers. 50% of credit sale will be collected during subsequent month.

And the remaining 40% will be collected during third month. The firm gets 30 days credit from its suppliers. The firm must maintain a minimum cash balance of Rs. 10 lakhs. [16]

Ans: 1,000; 1,128 and 1,000

C. ACCOUNT RECEIVABLE MANAGEMENT

MBS

THEORETICAL QUESTIONS

1. 2067 (II) Old Q.No. 3a

What is aging schedules and how can they be used to help the credit manager more effectively manage accounts receivables?

Question Bank Nepal

2. 2063 Q.No. 1b

What do you understand by credit standard? How do you evaluate the effect of changing credit standards? [5]

3. 2059 Q.No. 4

Explain how would you manage receivables of a firm. [10]

NUMERICAL PROBLEMS

4. 2070 Old Q.No. 3b

A trading corporation presently gives terms of net 30 days. It has Rs. 60 million in sales, and its average collection period is 50 days. Bad debt loss is 2 percent. To stimulate sales, the company may give terms of net 60 days. If it does instigate these terms, sales are expected to increase by 20 percent. After the change, the average collection period is expected to be 75 days, with no difference in payment habits between the old and new customers. Under the new proposed term, the bad debt loss is supposed to increase by 2 percent. Variable costs are 80% of the price per unit of Rs. 2 and company's required rate of return is 20 percent. Should the company extend its credit period? Assume 360 days a year. [6]

Ans: Not extent

5. 2067 (II) Old Q.No. 5b

Yamaha Auto Parts has been reviewing its credit policies. The credit standards it has been applying have resulted in annual sales of Rs. 5 million. Its average collection period is 30-days; with a bad debt loss ratio is 2 percent. Because of continuous inflation in the market which has caused deterioration in the financial position of the customers. So Yamaha is considering a reduction in credit standards. By doing so Yamaha is considering a reduction in credit standards. By doing so Yamaha expects incremental sales of Rs. 2 million, on which the average collection period (ACP) would be 60 days and on which bead debt loss ratio would be 3%. The variable cost ratio to Yamaha is 70%. The required return on investment in receivable is 15%. Evaluate the relaxation in credit standards the Yamaha is considering. Use 365 days/year.

Ans: Incremental profit before tax Rs. 505,479.45

6. 2065 (I) Q.No. 5 b

Nepal Oil Distributor makes all sales on a credit basis. Once a year it routinely evaluates the credit worthiness of all its customers. The evaluation procedure ranks customers from 1 to 5, in order to increasing risk. Results of the ranks are given below:

Customers category	Percentage of bad debts	ACP (Days)	Credit decision	Annual sales lost through limited credit
1	none	10	Unlimited credit	none
2	1.0	12	Unlimited credit	none
3	3.0	20	Limited credit	Rs. 360,000
4	10.0	60	Limited credit	Rs. 200,000
5	30.0	90	No credit	Rs. 400,000

The variable cost ratio is 75%. The opportunity cost of investment in receivable is 15%. Should the distributor extend credit to category 5 customers? Use 360 days/ year.

Ans: Distributor should not extend credit to category 5 customer because profit is negative (i.e. Rs. 31,250).

MBA

THEORETICAL QUESTIONS

1. 2055 Q.No. 3 b

Indicate by a +, - or 0 whether each of the following events would probably cause accounts receivable (A/R) sales, and profits to increase, decrease or be affected in an in determinate manner.

Question Bank Nepal

Particulars	A/R	Sales	Profits
(i) The firm tightens its credit standards			
(ii) Terms of trade are changed from 2/10, net 30, to 3/10, net 30			
(iii) Terms of trade are changed from 2/10, net 30, to 3/10, net 40			
(iv) The credit manager gets tough with past due accounts.			

Also give explanations for the above. [5]

- **Write short notes on:**

2. 2056 Q.No. 5 b

Credit Standard [8]

D. INVENTORY MANAGEMENT

MBS

THEORETICAL QUESTIONS

1. 2069 Old Q.No. 4

What is inventory management? Explain how you would manage inventory in a business organization.

2. 2058 Q.No. 4

Explain how would you manage inventories of a firm. [20]

NUMERICAL PROBLEMS

3. 2067 (II) Old Q.No. 2

The Maskey Bread Pvt. Ltd buys and sells (as bread) 30 million kgs of wheat annually. The wheat must be purchased in multiples of 1000 kgs. Ordering costs, which include grain elevator removal charges of Rs. 35,000 are Rs. 50,000 per order. Annual carrying costs are 5 percent of purchase price of Rs. 50 per kg. The company maintains a safety stock of 100,000 kgs. The deliver time is 5 weeks.

i. What is the EOQ?
ii. At what inventory level should an order be placed to prevent withdrawal of the safety stock?
iii. What is the total inventory cost, including the cost of carrying the safety stock?
iv. The wheat supplier agrees to give price discount of 2 percentages if Maskey breads will purchase in quantities of 2,500,000 kgs. Would it be to Maskey Bread's advantage to order this alternative quantity?

Ans: (i) 1,035,445.115≈ 1,035,000 kg (ii) 794,615.3846 kg (iii) Rs. 1,502,988,613.014 (iv) Rs. 1,473,975,000; Yes

4. 2065 (I) Q.No. 2

Muncha House purchases kerosene heater from Japan and sells in the Nepalese market in winter season. He has a storing capacity of 40,000 kerosene heaters. He anticipates annual sales of 32,000 units of kerosene heaters in the market. The kerosene heaters company charges prices as mentioned in the table below for different order sizes of heaters it receives from the Muncha House.

Order size	Price per heater (Rs.)	Discount percentage
0 to 399	3200	0%
400 to 1199	3200	5%
1200 to 5999	3200	8%
6000 and over	3200	9%

The purchase order cost is Rs. 400 per order and the storage cost is 20 percent of the price paid for each heater.

a. What is the optimum number of heaters Muncha House should order?
b. Find the reorder level if lead-time is 40 days. Assume 360 days a year.

Ans: (a) 1,200 units (b) 1,155.56 units

Question Bank Nepal

5. 2063 Q.No. 2

The Himal Bread Company buys and then sells (as bread) 2.6 million kg annually. The wheat must be purchased in multiples of 100 kg. Ordering cost, which includes grain elevator removal charges of Rs. 3,500 is Rs. 5,000 per order. Annual carrying costs are 20 percent of the purchase of Rs. 5 per kg. The company maintains s safety stock of 200,000 kg. The delivery time is 6 weeks.

a. What is economic order quantity?
b. Calculate the cost of quantity ordered.
c. At what inventory level should a reorder be placed to prevent withdrawal of the safety stock?
d. The wheat supplier offered 1 percent discount on total value of wheat purchased if Bread Company buys its total requirement in 4 times a year. Should Bread Company take discount? [10]

Ans: (a) Rs. 161,300 (b) Rs. 361,245 (c) Rs. 338,700 (d) No

6. 2061 Q.No. 2

Bardia Timber Corporation manufactures only one product: planks. The single raw material used in making planks is the dint. For each plank manufactured, 12 dints are required, Assume that the company manufactures 150,000 planks per year, that demand for planks is perfectly steady throughout the year, that it costs Rs. 200 each time dints are ordered, and that carrying costs are Rs. 8 per dint per year.

(i) Determine the economic order quantity of dints.
(ii) What are the total inventory costs?
(iii) How many times per year would inventory be ordered?
(iv) Discuss the significance of results obtained in (a) through (b). What other factors are to be considered while dealing with optimal order quantity? [10]

Ans: (i) 9,487 dints (ii) Rs. 75,895 (iii) 189.73 ≈190 times

7. 2060 Q.No. 2

Nepal Filter Company is a distributor of air filters to retail stores. It buys its filters from several manufacturers. Filters are ordered in lot sizes of 1000 and each order costs Rs. 40 to place. Demand from retail stores is 20,000 filters per month and carrying cost is Rs. 0.10 a filter per month.

(a) What is the optimal order quantity with respect to so many lot sizes?
(b) What would be the optimal order quantity if the carrying costs were Rs. 0.05, a filter per month?
(c) What would be the optimal order if ordering cost were Rs. 10?
(d) Discuss the significance of results obtained in (b) and (c). What other factors are to be considered while dealing with optimal order quantity? [10]

Ans: (a) 4,000 filters (b) 5,567 filters (c) 2,000 filters (d) Periodical demand & discount offered by suppliers

8. 2057 Q.No. 5 b

The following relationships for inventory purchase and storage costs have been established for the Nepal Trading Corporation:

- Order must be placed in multiples of 100 units
- Requirements for the year are 180,000 units (use 50 weeks in a year for calculations)
- The purchase price per unit is Rs. 2
- The carrying cost is 50 percent of the purchase price.
- The cost per order placed is Rs. 400.
- Desired safety stock is 10,000 units (on hand initially)
- One week is required for delivery.

(i) What is most economical order quantity?
(ii) What is the optimal number of orders to be placed?
(iii) At what inventory level should be reorder be made? [8]

Ans: (i) EOQ = 12,000 units; 15 orders (ii) Re-order point = 13,600 units

Question Bank Nepal

MBA

THEORETICAL QUESTIONS

- **Write short notes on:**

1. 2042 Q.No. 5 b

Economic Order Quantity (EOQ) [8]

NUMERICAL PROBLEMS

2. 2056 Q.No. 4 a

Bardia Timber Corporation manufactures only one-product planks: The single raw material used in making planks in the dint. For each plank manufactured, 12 dints are required. Assume that the company manufactures 150,000 planks per year, that demand for planks is perfectly steady throughout the year, that it costs Rs. 200 each time dints are ordered, and that carrying cost are Rs. 8 per dint per year.

a. Determine the economic order quantity of dints.
b. What are total inventory costs?
c. How many times per year would inventory be ordered? [8]

Ans: (a) 9,486.83 times (b) 75,895.32 (c) 189.74

3. 2054 Q.No. 3

A company uses 80,000 gallons of oil each year in its manufacturing process. The oil is used at a constant rate and can be purchased and received within 10 days. The company has sufficient storage capacity for as much as 100,000 gallons. The company has analyzed its inventory costs and has found that its order cost is Rs. 500 per order and its carrying cost is Rs. 4 per gallon per year.

a. Calculate the economic order quantity for the company.
b. Calculate the total cost of the plan suggested by the EOQ.
c. Calculate the company's re-order point in terms of gallon. [16]

Ans: (a) 4,472.14 units (b) 17,888.52 units (c) 2,222.22 units

4. 2053 Q.No. 3

Bheri electronic stores sells on average 20 volt Ohm meters (VOMS) per month. Voms are currently, ordered in lots of forty at a time and the purchase price per VOM is Rs. 25. It costs Rs. 6 to place an order, and annual holding costs are estimated to be 6 percent of average inventory investment, the discount rate for inventory investment is 12 percent per year. The tax rate is 25%.

a. What is the total annual cost of this inventory policy excluding acquisition cost.
b. If any number of Vom's can be ordered at a time what is the least cost number to order? What would be the store's average investment in VOMS assuming no safety stock is maintained?
c. VOMS are package 10 to a case and must be ordered in case lots. How many cases should the store order at a time? **Ans: (a) Rs. 109.50 (b) 47.7375 (c) 52.675** [16]

5. 2051 Q.No. 4 b

XYZ Ltd. requires 45,000 units of parts no 50 used in its final product. The purchase price of the part is Rs. 2 per unit. The carrying cost is estimated to be 10 percent of the purchase price whereas the cost per order placed is Rs. 28. The desired safety stock is 10,000 units. The company supplying part no 50 requires one week for delivery and accepts order every in multiples of 100 units.

(1) Calculate the economic order quantity, optimal number of orders to be placed and the reorder point.
(2) What are the economic order quantities in each of the following cases.

Case 1: The purchase price of part No. 50 doubles
Case 2: The cost per order placed doubles
Case 3: The requirement for the year increases by 33%

Question Bank Nepal

State in which of the above cases the reorder point changes. Why? Also comment on the effects of increases in purchase price and cost per order placed on economic order quantity. **Ans: (1) EOQ = Rs. 3,500 (2) Case 1 = Rs. 1,800; Case 2 = Rs. 5,000; Case 3 = Rs. 4,100** [10]

6. 2050 Q.No. 3

PE Company uses 500,000 standard blank circuit boards a year. Each board costs the company Rs. 2 the annual percentage cost of carrying the circuit board inventory is 20 percent of inventory value. The company can order these boards from either of two competing manufacturers. Manufacture A delivers in 3 days and requires a fixed ordering cost of Rs. 100 per order. Manufacturer B which could required a fixed ordering cost of Rs. 75 per order, takes 5 days to deliver.

(a) Calculate PE's EOQ for both suppliers.
(b) How many orders a year must be placed with each supplier? (assume that only one supplier is used)
(c) What are the recorder point levels for ordering from each supplier?
(d) Considering only inventory costs, should PE order its blank circuit boards from manufacturer A or manufacturer B? [16]

Ans: (a) 15,811.38 and 13,693.06 (b) 31.62 and 36.51 (c) 4166.64and 6944.44 (d) 6324.28 and 5476.86

7. 2039 Q.No. 3 b

A manufacturing company forecasted sale of 2500,000 units in 52 months. The company is required to pay Rs. 25 per unit of the product purchased and cost per order is estimated to be Rs. 12. The carrying cost comprises 25% of purchase price. Determine EOQ. [8]

Ans: 3,098 units

6. DIVIDEND POLICY

MBS

THEORETICAL QUESTIONS

1. 2066 Partial Q.No. 4a

What factors determine the extent to which a firm will pay out dividends instead of retained earnings? Also discuss different dividend payout schemes. [10 + 5]

2. 2065 (I) Q.No. 3 a

What procedures a company has to follow while paying the dividend to the shareholders?

- **Write short notes on:**

3. 2067 (I) Q.No. 4c

Nature of dividend policy decision [5]

NUMERICAL PROBLEMS

4. 2071 Q.No. 3

The Star Company has the following shareholders' equity account:

Common stock (100,000 shares @ Rs. 100)	Rs. 10,000,000
Additional paid-in capital	15,000,000
Retained earnings	25,000,000
Shareholder's equity	Rs. 50,000,000

The current market price of the stock is Rs. 600 per share.

a. What will happen to this account and to the number of shares outstanding if the company distributes a 20 percent stock dividend? In the absence of an informational or signalling effect, at what price should the common stock sell after the 20 percent stock dividend?

b. In addition to stock dividend the firm also distributes a cash dividend Rs. 10 per share to its existing shareholders. Show the effect of stock and cash dividend on company's equity account.

c. Show the effect of 2-for-1 stock split, instead of stock and cash dividend, on company's equity account and number of shares outstanding. What will be the market price per share after stock split?

Question Bank Nepal

d. What are the advantages of stock dividend? [4+2+2+2]

Ans: (a) Common stock = Rs. 12,000,000; Additional paid-in-capital = Rs. 25,000,000; Retained earning = Rs. 13,000,000 (b) Common stock = Rs. 12,000,000; Additional paid-in-capital = Rs. 25,000,000; Retained earnings = Rs. 12,000,000 (c) Common stock = Rs. 10,000,000; Additional paid-in-capital = Rs. 15,000,000; Retained earnings = Rs. 25,000,000

5. 2070 Q.No. 6a

The Star Company generated the following net income during 3 years. Company currently has 100,000 shares outstanding. The company expects additional investment of Rs. 500,000 in the beginning of 4th year that increase the net income by 20 percent in 4th year over the third year income. The Company is current following the target dividend payout ratio of 30 percent and expected to follow the same ratio in 4th year also.

Year	1	2	3
Net income	Rs. 500,000	Rs. 600,000	Rs. 800,000

Required:

i. Determine earnings per share for 1 – 4 years.

ii. Determine dividend per share and total dividend for 1 – 4 years.

iii. Determine dividend per share if company declares Rs. 2 regular dividend per share and extra dividend 10 percent of earning per share.

iv. What do you mean by dividend policy? Why might a firm declare stock dividend rather than a cash dividend? [4×4=16]

Ans: (i) Rs 5; Rs 6; Rs 8; & Rs 9.6 respectively (ii) Rs 1.5; 1.8; 2.4 and 2.88;Rs 150,000; Rs 180,000; Rs 240,000; Rs 288,000 respectively (iii) Rs. 2.5; 2.6; 2.8; and 2.96 respectively.

6. 2069 Q.No. 6a

The Oriental Company paid dividend totalling Rs. 1,500,000 out of after tax income of Rs. 3,750,000 in 2012. With increased investment of Rs. 5,000,000 in 2013, the after tax earnings increased by Rs. 3,000,000. It is predicted that company will achieve 8 percent growth rate in earnings. Calculate the dividends for 2013 if Oriental Company follows each of the following policies.

Required:

i. It continues the 2012 dividend payout ratio.

ii. It uses a pure residual dividend policy if new investment is financed by 25 of debt.

iii. It uses a pure residual dividend policy if new investment is financed 30% by external equity, 30% by debt and 40% by retained earnings.

iv. What are the procedures used in dividend payment in Nepal? [16]

Ans: (i) Rs. 12,00,000 (ii) – Rs. 750,000 (iii) Rs. 1,000,000

7. 2068 Q.No. 3

Apple Company currently has 100,000 shares of stock outstanding and are selling at Rs. 120 per share in the market.

a. Compute the number of shares outstanding and market price per share after 3-for-2 stock split. Why do companies go for stock split?

b. Compute the number of shares outstanding and market price per share after 20 percent stock dividend. Why do companies give stock dividend instead of cash dividend?

c. Compute the number of shares outstanding and market price per share after 2-for 5 reverse stock split. What is the purpose of reverse stock split? [3+3+4]

Ans: (a) 150,000 shares and Rs. 80 (b) 120,000 shares and Rs. 100 (c) 40,000 shares and Rs. 300

8. 2067 (I) Q.No. 3

Bajra and Bajra Corporation (BBC) has at present 200,000 shares of stock outstanding that sell for Rs.140 per share. Assume there are no market imperfections and tax effects. The most recent periods position of the shareholders' equity is given below:

6% Preferred stock (Par value of Rs.100)	Rs. 1,000,000
Common stock (Par value of Rs.100)	20,000,000
Paid in capital	10,000,000
Retained earnings	50,000,000
Total shareholders' equity	Rs.81,000,000

Question Bank Nepal

(i) What is the share price and number of shares outstanding if BBC has a five for two stock splits?

(ii) What is the share price and number of shares outstanding if BBC has 20% stock dividend?

(iii) If 10% cash dividend is declared from current year's earning of Rs. 1,500,000, before preference dividend, included in retained earnings after declaration of stock dividend as in (ii), reformulate the statement of shareholders' equity account.

(iv) What are the differences between stock splits and stock dividend? [2+2+4+2]

Ans: (i) Rs. 56 and 500,000 shares (ii) Rs. 116.67 and 240,000 shares (iii) Shareholder's equity = Rs. 80,856,000

9. 2067 (II) Q.No. 3

A condensed version of Gamma Corporation's balance sheet as of December 31, 2005 before the declaration of dividend, follows (million of Rupees):

Cash	Rs. 112.5	Debt	Rs. 1,400
Others assets	2,887.5	Common stock	75.0
		(75 million Shares outstanding)	
		Paid in capital	400.0
		Retained earnings	1125
Total assets	**3,000**	**Total liabilities and equity**	**3,000**

Required:

a. The firm declared a 5% stock dividend and Rs. 0.25 per share cash dividend. The stock was selling for Rs. 37.50 per share. Construct a proforma balance sheet showing the effect of this action.

b. If 6% stock dividend is declared and Rs. 0.20 per share cash dividend is paid, construct the proforma balance sheet showing the effect of this action.

c. Calculate the price per share in (a) and (b). Ignore the signaling effect of cash dividend.

d. What are the effects of stock dividend and stock split on price?

Ans: (a) Rs 2,980.3125 (b) Rs 2,984.10 (c) Rs 35.7143; Rs 35.4643; Rs 35.3774; Rs 35.1774

10. 2067 (II) Old Q.No. 3b

In 2000 the Nepal Lever Company paid dividends totaling Rs. 1,125,000. For the past 5 years, earnings have grown at a constant rate of 10 percent. After tax income was Rs. 2,812,500 for 2000. However, in 2001, earnings were Rs. 6,750,000 with investment of Rs. 5,000,000. It is predicted that Nepal Lever will not be able to maintain this higher dividend for 2001. Calculate dividend for 2006 if Nepal Lever follows each of the following policies.

i. Its dividend payment is stable and growing.

ii. It continues the 2000 dividend payment ratio.

iii. It sues a pure residual policy (20 percent of the Rs. 5,000,000 investment was financed with debt.)

iv. The investment in 2001 is financed 100 percent with retained earnings.

Ans: (i) Rs. 1,237,500 (ii) Rs. 2,025,000 (iii) Rs. 3,250,000 (iv) 1,750,000

11. 2066 Q.No. 2

N Cell Telephone has a target capital structure that consists of 70 percent debt and 30 percent equity. The company anticipates that its capital budget for the upcoming year will be Rs. 3,000,000.

a. If N Cell reports net income of Rs. 2,000,000 and it follows a residual distribution model with all distributions as dividends, what will be its dividend payout ratio? What would be the payout ratio if the net income remains same and the capital budget is 8,000,000?

b. Assume that N Cells stocks trade at Rs. 900 a share. The company is contemplating a 3-for-2 stock split. Assuming that *the stock split will have no effect on the total market value of its equity,* what will be the company's stock price following the stock split?

c. What is the signaling effect of stock dividend and stock split?

Question Bank Nepal

d. Explain the differences between stock split and reverse stock split. [4+2+2+2]

Ans: (a) 55% and 0% (b) Rs. 600 per share

12. 2066 Partial Q.No. 4b

The Koshi Textile Company has the following shareholders' equity account:

Common stock (1,000,000 shares @ Rs. 100 per value	Rs. 100,000,000
Additional paid in capital	200,000,000
Retained earnings	200,000,000
Shareholders' equity	500,000,000

The current market price of the stock is Rs. 600 per share.

i. Show the equity account and the number of shares outstanding with a 20 percent stock dividend. [2]

ii. Show the equity account and the number of share outstanding with a 5-for-2 stock split. [2]

iii. Does the stock dividend affect shareholder's wealth? Explain. [1]

Ans: (i) No. of shares outstanding = 200,000 (ii) No. of shares outstanding = 2,500,000

13. 2063 Q.No. 3

a. The Bajaj Engineering Company has Rs.2 million backlogged order for its patented Solar Heating System. Management plans to expand production capacity by 30 percent with a Rs. 5 million investment in plant and machinery. The firm wants to maintain a 45 percent debt-to-total assets ratio in its capital structure. It also wants to maintain past dividend policy of distributing 20 percent of after tax earnings. In 2002, earnings were Rs. 2.6 million. How much external equity must the firm seek at the beginning of 2003? [5]

Ans: Rs. 670,000

b. After a 3-for-1 stock split Soaltee Hotel Ltd. paid a dividend of Rs. 5 per share. This represents 8 percent increase over last year's pre stock split dividend. Soaltee Hotel's tock sold for Rs. 80 prior to the split. What was last year's dividend per share? [5]

Ans: Rs. 13.89

14. 2062 Q.No. 3

New Himalayan Corporation has the following shareholder's equity account:

Common stock (Rs. 8 per value)	Rs. 2,000,000
Additional paid in capital	1,600,000
Retained earnings	8,400,000
Shareholder' equity	Rs. 12,000,000

The current market price of the stock is Rs. 60 per share.

(a) What will happen to this account and to the number of shares outstanding with (1) a 20 percent "small percentage" stock dividend? (2) a 2-for-1 stock split? (3) a 1-for-2 reverse stock split?

(b) (1) In the absence of an informational or signalling effect, at what share price should the common stock sell after the 20 percent stock dividend? (2) What might happen if there were a signaling effects? [3+3.5×2]

Ans: (a) 300,000; 500,000; 125,000 (b) (1) Rs. 50; (2) higher than Rs. 50

15. 2061 Q.No. 3

Indo-Nepal Trading Company has 2.4 million shares of common stock outstanding, and the present market price per share is Rs. 36. Its equity capitalization is as follows:

Common stock, Rs. 2 par	Rs. 4.8 million
Additional paid-in-capital	5.9 million
Retained earnings	87.3 million
Shareholder's equity	Rs. 98 million

What would happen if in the above accounts if the company were to declare (i) a 3-for-1 stock split? (ii) a 2-for-1 stock split?

Discuss the significance of results by bringing out importance of stock split versus stock dividend. [10]

Ans: Equity = 98 million in (i) and (ii)

Question Bank Nepal

16. 2060 Q.No. 3

Indo-Nepal Trading Company has 24 million shares of common stock outstanding and the present market price per share is Rs. 36. Its equity capitalization is as follows:

Common Stock. Rs. 2 par	Rs. 4.8 million
Additional paid in capital	5.9 million
Retained earnings	87.3 million
Shareholder's equity	98 million

What would happen if the above accounts of the company were to declare (a) a 12 percent stock dividend? (b) a 5 percent stock dividend?

Discuss the significance of results by bringing out importance of stock dividend versus stock split.[10]

Ans: 98,000,000

17. 2059 Q.No. 3 b

Zoppo manufacturers shareholder's equity.

December 30, 19 × 1

Common stock (Rs. 100 par, 300,000 shares)	Rs. 30 million
Additional paid-in-capital	15 million
Retained earnings	55 million
Shareholder's equity	100 million

On December 31, Zoppo split the stock 2 for 1 and then declared a 10 percent stock dividend. The price of the stock on December 30 was Rs. 500. Reformulate the stockholder's capitalization accounts of the firm. **Ans: Rs. 100,000,000** [5]

18. 2058 Q.No. 5 b

The KK Company has the following shareholder's equity account:

Common stock (Rs. 8 per share)	Rs. 2.0 million
Additional paid-in-capital	1.6 million
Retained earnings	8.4 million
Shareholders' equity	**12.0 million**

The current market price of the stock is Rs. 60 per share.

(i) What will happen to this account and to the number of shares outstanding with a 20 percent small- percentage stock dividend?

(ii) With a 2-for-1 stock split?

(iii) With a 1-for-2 reverse stock split? [3+3+4]

Ans: (i) 300,000 shares; (ii) 500,000 shares, (iii) 125,000 shares

19. 2057 Q.No. 3 b

ABC Corporation has enjoyed considerable recent success because XYZ Company placed a huge order for potatoes. This business is not expected to be repeated, and the ABC Corporation has Rs. 6 million in excess funds. The company wishes to distribute theses funds via the repurchase of stock. Presently, it has 2,400,000 shares outstanding and the market price per share is Rs. 25. It wishes to repurchase 10 percent of its stock, or 240,000 shares. Assuming no signaling effect, at what share price should the company offers to repurchase? In total, how much will the company be distributing through share repurchase? [5]

Ans: Rs. 27.78; Rs. 6 million

MBA

THEORETICAL QUESTIONS

1. 2055 Q.No. 1

What is the difference between a stock dividend and a stock split? As a shareholder would you prefer to see your company declare a 100 percent stock dividend or a two-for-one split? [16

2. 2054 Q.No. 5 c

Would it ever be Rational for a firm to borrow money in order to pay dividend? [8]

Question Bank Nepal

3. 2052 Q.No. 1

What do you understand by a stable dividend policy? Why do firms pursue it? What are the other dividend policies that the firms can follow? Explain. [16]

4. 2047 Q.No. 2

Do you think that dividend policy is irrelevant? Support you answer explaining the theories behind it. [16]

5. 2042 Q.No. 3

What is an optimal dividend policy? What are the factors influencing it? Discuss. [16]

- **Write short notes on:**

6. 2055 Q.No. 5 b

Irrelevance of Dividend Policy [8]

7. 2051 Q.No. 5 c

Repurchase of Stock. [8]

8. 2045 Q.No. 5 c

Residual Theory of Dividend [8]

9. 2040 Q.No. 5 a

Dividend policy as a residual decision [8]

NUMERICAL PROBLEMS

10. 2057 Q.No. 2

The southwest company belongs to a risk class for which the appropriate required equity return is 15%. It currently has outstanding 100,000 shares selling at Rs. 100 each. The firm is contemplating the declaration of a Rs. 5 dividend at the end of the current fiscal year, which just began. Answer the following questions based on the Modigliani and Miller model and the assumption of no tax.

a. What will be the price of the stock at the end of the year if a dividend is not declared? What will it be if one is?

b. Assuming that the firm pays the dividend, has net income of Rs. 1 million, and makes new investments of Rs. 2 million during the period, how many new shares must be issued?

c. Is the MM model realistic with respect to valuation? What factors might affect its validity?[16]

Ans: (a) 115 and 110 (b) 13,636.36 shares

11. 2056 Q.No. 4 b

The Canales Copper Company declared a 25 percent stock dividend on March 10 to stockholders of record on April 1. The market price of the stock is Rs. 50 per share. You own 160 shares of stock.

a. If you sold your stock on March 20, what would be the price per share, all other thing the same? (No signaling effect).

b. After the stock dividend is paid, how many share of stock will you own?

c. At what price would you expect the stock to sell on April 2, all other thing the same? (No signaling effect).

d. What will be the total value of your holdings before and after the stock dividends, all other thing the same?

If there were an informational or signaling effect, what would be the effect on share price?[8]

Ans: (a) Remains the same (b) 200 shares (c) 40 (d) 8,000 (e) positive signal will increase the market price.

12. 2054 Q.No. 4 b

The Bagmati Pearls Company has the following stock holder's equity account:

Common stock (Rs. 8 par value)	Rs. 2,000,000
Paid in capital	Rs. 1,600,000
Retained earnings	Rs. 8,400,000
Total net worth	Rs. 12,000,000

The current market price of the stock is Rs. 60 per share. What will happen to this account and to the number of shares outstanding?

a. with a 20 percent stock dividend?

Question Bank Nepal

b. with a 2 for 1 stock split?

c. with a 1 for 2 reverse stock split? [8]

Ans: (a) No change; 50,000 increase (b) No change; 250,000 in increase (c) No change; 250,000 decrease

13. 2053 Q.No. 4

The Karnali Trading Company expects with some degree of certainty to generate the following net income and to have the following capital expenditure during the next 5 years (in thousands).

Year	1	2	3	4	5
Net income	Rs. 2000	1500	2500	2300	1800
Capital expenditure	Rs. 1000	1500	2000	1500	2000

The company currently has 1 million shares of common stock outstanding and pays dividends of Rs. 1 per share.

a. Determine dividends per share and external financing required in each year if dividend policy is treated as a residual decision.

b. Determine the amounts of external financing in each year that will be necessary if a dividend pay out ratio of 50 percent is maintained.

c. Determine dividends per share and the amounts of external financing that will be necessary if a dividend pay out ratio of 50 percent is maintained.

d. Under which of three dividend policies are aggregate dividends maximized external financing minimized. **Ans: (a) 2300,200 (b) 5000,2900 (c) 5050,2950 (d) Yes** [16]

14. 2052 Q.No. 4 b

A company has retained earnings of Rs. 600,000 capital stock of Rs. 300,000 and capital surplus of Rs. 80,000. Its common stock is selling for Rs. 50 per share. The number of shares currently out standing is 100,000. If the company now declares and distributes a 5 percent stock dividend, what balances will the capital stock, capital surplus and retained earning accounts show? [8]

Ans: 980,000

15. 2050 Q.No. 4 b

A firm has 400,000 outstanding share of Rs. 2 per common stock, a contributed capital in excess of per account of Rs. 6.4 million and retained earning of Rs. 32 million all before the declaration of dividends. The board of directors declared a Rs. 3 per share cash dividend and a 25 percent stock dividend. What is the balance in the equity accounts if the fair market value of the stock is Rs. 25 per share? [8]

Ans: Rs. 38,000,000

16. 2050 Q.No. 4 a

The S company is owned by several wealthy share holders, all of whom are in 70 percent marginal income tax bracket for dividend income, the firm earned Rs. 7000,000 after taxes this year. With two million shares outstanding earning per share were Rs. 7 the stock recently has traded at Rs. 150 per share, among the current share holder. Three rupees of this value is accounted for by investor anticipation of a cash dividend. As a financial manager of the company you have contemplated the alternative of repurchasing the company stock by means of a tender offer at Rs. 150 per share.

(a) How much stock could the firm repurchase if this alternative were selected?

(b) Ignoring taxes, which alternative should be selected?

(c) Considering taxes, which alternative should be selected? **Ans: (a) 40,000 (b) 150 (c) Yes** [8]

17. 2048 Q.No. 4

The S corporation capital structure Dec. 30, 19×1.

Common stock (Rs. per 1000,000 share)	Rs. 1,000,000
Paid in capital	300,000
Retained earning	1,700,000
Net worth	Rs. 3,000,000

The firm earned Rs. 300,000 after taxes in 19 × 1 and paid out 50% of these earnings as dividends. The price of the firm's stock on December 30 was Rs. 5.

Question Bank Nepal

(a) If the firm declared a stock dividend of 3% on December 31, what would be the reformulated capital structure?
(b) Assuming the firm paid no stock dividend. What would be earnings per share for 19 × 1? Dividends per share?
(c) Assuming a 3% stock dividend, what would happen to EPS and DPS for 19×1.
(d) What would be the price of the stock after the 3% stock dividend, if there were no signaling or other effects? [16]

Ans: (a) 30,00,000 (b) 0.30 (c) 0.291 (d) 4.85

18. 2041 Q.No. 4

SPM company has outstanding shares of Rs. 2000,000 with a per value per share of Rs. 4 each. The premium recorded Rs. 6400,000 and the retained earnings amounting to Rs. 23200,000. The board of directors declared Rs. 0.50 as cash dividend per share and 25% as stock dividend. The market value per share is raised to Rs. 10. Find out the effects of change in equity premium and retained earnings. Also show effects of 8 for 2 stock split.[16]

Ans: 31,600,000

19. 2039 Q.No. 5

ABC Company has usual records of Rs. 200 earnings per share. The company's normal capitalization rate is 20%. The company estimated following rate of growth.

(a) 25% (b) 20% (c) 15%

Assume that the dividend payout ratio which this company followed alternatively is 25%, 50% and 80%.

Given above information, calculate the value by using (a) Walter's model; (b) Gordon's model[16]

Ans: (a) At 25%: 1,187.50; 1,000 and 812.50; At 50%: 1,125; 1,000 and 875; At 80%: 1,050; 1,000 and 950
(b) At 25%: 4,000; 1,000; 571.42; At 50% 1,333.33; 1,000 and 800; At 805: 1,066.66; 1,000 and 941.17

7. FINANCIAL DISTRESS

MBS

THEORETICAL QUESTIONS

1. 2068 Q.No. 1

What is financial distress? What issues do firms face in financial distress? [5+5]

2. 2067 (I) Q.No. 6a

What is financial distress? What key issues must financial manager face in the financial distress process? [5+5]

- **Write short notes on:**

3. 2071 Q.No. 4c

Merger and acquisition [5]

4. 2070 Q.No. 4a

Financial distress and its consequences [5]

5. 2069 Q.No. 4c

Types of merger and merger trend in financial sector in Nepal [5]

6. 2066 Q.No. 4

a. Merger and acquisition [5]
b. Financial distress [5]

Question Bank Nepal