NATIONAL MANAGEMENT COLLEGE – THUDUPATHY

COURSE : CA INTERMEDIATE – 2022 – 2023

SUB : FINANCIAL MANAGEMENT

MARKS : 50 MARKS **TIME : 1.5 HOURS** **TEST :T4/31.7.2023**

ANSWER ALL THE QUESTIONS EACH QUESTION CARRIES 10 MARKS (5*10=10 MARKS)

1. HMR Ltd. is considering replacing a manually operated old machine with a fully automatic new machine. The old machine had been fully depreciated for tax purpose but has a look value of Rs. 2,40,000 on 31 st March 2021. The machine has begun causing problems with breakdowns and it cannot fetch more than RS. 30,000 if sold in the market at present. It will have no realizable value after 10 years. The company has been offered Rs. 1,00,000 for the old machine as a trade in on the new machine which has a price (before allowance for trade in) of Rs. 4,50,000. The expected life of new machine is 10 years with salvage value of Rs. 35,000.

Further, the company follows straight line depreciation method but for tax purpose, written down value method depreciation @ 7.5% is allowed taking that this is the only machine in the block of assets.

Given below are the expected sales and costs from both old and new machine:

	Old machine (₹)	New machine (₹)
Sales	8,10,000	8,10,000
Material cost	1,80,000	1,26,250
Labour cost	1,35,000	1,10,000
Variable overhead	56,250	47,500
Fixed overhead	90,000	97,500
Depreciation	24,000	41,500
PBT	3,24,750	3,87,250
Tax @ 30%	97,425	1,16,175
PAT	2,27,325	2,71,075

From the above information, ANALYSE whether the old machine should be replaced or not if required rate of return is 10% Ignore capital gain tax.

Year	1	2	3	4	5	6	7	8	9	10
PVF	0.909	0.826	0.751	0.683	0.621	0.564	0.513	0.467	0.424	0.386

2.ABC & Co. is considering whether to replace an existing machine or to spend money on revamping it. ABC & Co. currently pays no taxes. The replacement machine costs ₹ 18,00,000 now and requires maintenance of ₹ 2,00,000 at the end of every year for eight year. At the end of eight years, it would have a salvage value of ₹ 4,00,000 and would be sold. The existing machine requires increasing amounts of maintenance each year and its salvage value fall each year as follows:

Year	Maintenance (₹)	Salvage(₹)
Present	0	8,00,000
1	2,00,000	5,00,000
2	4,00,000	3,00,000
3	6,00,000	2,00,000
4	8,00,000	0

The opportunity cost of capital for ABC & Co is 15%

REQUIRED:

When should the company replace the machine?
The following present value table is given for you:

Year	Present value of ₹ 1 at 15% discount rate
1	0.8696
2	0.7561
3	0.6575
4	0.5718
5	0.4972
6	0.4323
7	0.3759
8	0.3269

3. K.M.M Hospital is considering purchasing an PRI machine. Presently, the hospital is outsourcing the work received to MRI machine and is earning commission of ₹ 6,60,000 per annum (net of tax). The following details are given regarding the machine:

	(₹)
Cost of MRI machine	90,00,000
Operating cost per annum (excluding Depreciation)	14,00,000
Expected revenue per annum	45,00,000
Salvage value of the machine (after 5 years)	10,00,000
Expected life of the machine	5 years

Assuming tax rate @ 40%, whether it would be profitable for the hospital to purchase the machine?

Give your RECOMMENDATION under:

(i) Net Present Value Method, and
(ii) Profitability index Method.
PV factors at 10% are given below:

Year	1	2	3	4	5
PV factor	0.909	0.826	0.751	0.683	0.620

4. Dharma Ltd, an existing profit-making company, is planning to introduce a new product with a projected life of 8 years. Initial equipment cost will be ₹ 240 lakhs and additional equipment costing ₹ 26 lakhs will be needed at the beginning of third year. At the end of 8 years, the original equipment will have resale value equivalent to the cost of removal, but the additional equipment would be sold for ₹ 2 lakhs. Working capital of ₹ 25 lakhs will be needed at the beginning of the operations. The 100% capacity of the plant is of 4,00,000 units per annum, but the production and sales volume expected are as under.

Year	Capacity (%)
1	20
2	30
3-5	75
6-8	50

A sale price of ₹ 100 per unit with a profit volume ratio (contribution / sales) of 60% is likely to be obtained. Fixed operating cash cost are likely to be ₹ 16 lakhs per annum. In addition to this the advertisement expenditure will have to be incurred as under:

Year	1	2	3	4
Expenditure (₹ Lakhs each year)	30	15	10	4

The company is subjected to 50% tax rate and consider 12% to be an appropriate cost of capital. Straight line method of depreciation is followed by the company. ADVISE the management on the desirability of the project.

5. A firm is in need of a small vehicle to make deliveries. It is intending to choose between two options. One option is to buy a new three wheeler that would cost Rs. 1,50,000 and will remain in service for 10 year. The other alternative is to buy a second hand vehicle for Rs. 80,000 that could remain in service for 5 years. Thereafter the firm, can buy another second hand vehicle for Rs. 60,000 that will last for another 5 years.

The scrap value of the discarded vehicle will be equal to it written down value (WDV). The firm pays 30% tax and is allowed to claim depreciation on vehicles @ 25% on WDV basis.

The cost of capital of the firm is 12%. You are required to advise the best option.

Given:

T	1	2	3	4	5	6	7	8	9	10
PVIF (t,12%	0.892	0.797	0.711	0.635	0.567	0.506	0.452	0.403	0.360	0.322