# UDHNA COLLEGE

## M.COM SEM-3

## FINANCIAL & MANAGEMENT ACCOUNTING PAPER-VII

## PRACTICE QUESTION-1

**Question 1**

Jeet Ltd. wishes to invest in a project Rs. 7,60,000. Its cash flow are as follows:

| **Year** | **Rs.** | **Year** | **Rs.** |
|---|---|---|---|
| 1 | 6,00,000 | 3 | 1,00,000 |
| 2 | 2,00,000 | 4 | 5,00,000 |

The expected rate of return on the capital invested is 12% p. a.

Discount factor @ 12% of Re. 1

| **Year** | | **Year** | |
|---|---|---|---|
| 1 | 0.893 | 3 | 0.712 |
| 2 | 0.797 | 4 | 0.636 |

Calculate:

(1) Payback period

(2) Discounted payback period

**Question 2**
Mahek Ltd. is considering to launch a new product in the market, which requires an initial investment of Rs. 1,00,000. The product will have a life of 4 (four) years with a scrape value of zero:

| **Particulars** | **Value** |
|---|---|
| Production of the fourth year | 1,728 units |
| Sales price per unit of the last year is | Rs. 133.10 |
| Variable cost per unit for each year is | Rs. 70 |
| Fixed cost (with depreciation) of the last year is | Rs. 35,368 |

**Other Details:**

(1) Corporate tax is 35%

(2) Production increases at 20% p.a.

(3) Selling price per unit increases at 10% p.a.

(4) Cash fixed cost increases at 20% p.a.

(5) Discount rate is 10%.

Present value of Re. 1 at 10% rate of Discount is as follows:

| **Year** | **1** | **2** | **3** | **4** |
|---|---|---|---|---|
| P.V. Factor at 10% | 0.910 | 0.826 | 0.751 | 0.683 |

Give our decision on the basis of Net Present Value Method.

**Question 3**

The project under taken by Aarti Ltd. was working poorly. Hence they thought to replace it. Three supplementary project A, B and C are proposed. For each project, the requirement estimated is Rs. 10,00,000. The estimated life span is 5, 4 and 3 years respectively and scrape value is Rs. 80,000, Rs. 1,20,000 and Rs. 1,00,000 respectively. The company's stipulated rebate is 12%. The estimated cash flow for all three project after taxation but before depreciation is given as under:

| **Year** | **Project - A (Rs.)** | **Project - B (Rs.)** | **Project - C (Rs.)** |
|---|---|---|---|
| 1 | 2,40,000 | 3,00,000 | 3,60,000 |
| 2 | 3,20,000 | 3,80,000 | 4,40,000 |
| 3 | 4,40,000 | 4,80,000 | 4,00,000 |
| 4 | 3,60,000 | 2,40,000 | – |
| 5 | 2,40,000 | – | – |

Recommend acceptable project considering Payback period. Average rate of Return, Net Present Value and Profitability Index Method.

The present value of Re. 1 for first 5 year at the rate of annual 12% discount factor is 0.893, 0.797, 0.712, 0.636 and 0.567 respectively.

**Question 4**
Find out pay-back period of project.

| **Investment of project** | **Rs. 9,00,000** |
|---|---|
| Life of project | 15 Year |
| Profit before 40% tax (annually) | Rs. 1,00,000 |

**Question 5**
Sultan Ltd. is thinking to purchase a plant for the work.
Which have been done by workers. For that two options will be available Plant-A and Plant-B. Prepare the statement of profitability on the basis of the information given below: Find out payback period and internal rate of return for each plant.

| **Particular** | **Plant-A** | **Plant-B** |
|---|---|---|
| Plant’s estimated life | 6 Years | 5 Years |
| Cost of plant | Rs. 240000 | Rs. 280000 |
| Indirect material cost | Rs. 12000 | Rs. 18000 |
| Estimated saving in scrape | Rs. 20000 | Rs. 25000 |
| Additional maintenance cost | Rs. 26000 | Rs. 37000 |
| Estimated saving in indirect wages: | | |
| Number of useless labours | 400 | 500 |
| Wages per labour (Rs.) | Rs. 360 | Rs. 410 |

1. Tax rate is 50% on profit.
2. Neglect depreciation for the calculation of tax,,which plant will to purchase?

**Question 6**
Devansh Ltd. has a machine in order since two years. It's remaining usefulness and estimated life is 10 years. There is no scrap value after its expiry. The recent market value is Rs. 50.000. The management has a proposal to buy improved model of the same machine which can improve production.

Related information is given as under:

| **Particulars** | **Existing Machine** | **New Machine** |
|---|---|---|
| Purchase price | 120000 | 2,00,000 |
| Estimated life | 12 Years | 10 Years |
| Scrap value | Zero | Zero |
| Annual working hours | 2000 | 2000 |
| Selling price (per unit) | Rs. 5 | Rs. 5 |
| Production per hour | 15 unit | 30 unit |
| Consumed stores (annual) | Rs. 1500 | Rs. 3000 |
| Materials per unit | Rs. 1 | Rs. 1 |
| Repairs and Maintenance (annual) | Rs. 4000 | Rs. 2500 |
| Working capital | Rs. 12500 | Rs. 20000 |

Company use straight line method of depreciation policy and rate of taxation 50%. Should the company change the machine? Assume that the expected rebate rate is 15%.

**Remark:**

1. Present value of Rs. 1 due in 10 Year's time at 15% discount is 0.247.

2. The annuity value of Rs. 1 due in 10 years time at 15% discount is 5.019.

**Question 7**
The Management of Jehan Ltd., wants to buy a new machine on the condition that its cost can be recovered in five years.

You advise the management whether the machine should be purchased or not on the basis of the following information.

(1) Cost of the Machine Rs. 1,00,000.

(2) Annual sales revenue generated by the new machine Rs. 1,20,000.

(3) Variable cost: 50% of sales.

(4) Annual fixed costs other than depreciation Rs. 5,000.

(5) Life of the machine is 10 years. Depreciation is provided on straight-line method.

(6) Tax rate is 50% on the profit.

**Question 8**
Diya Ltd. is thinking to purchase a new machine for the work which has been done by workers. For that two options will be available machine X and machine Y. Prepare the statement of profitability on the basis of the information given below. Find out the Payback Period and Rate of Return on Initial Investment for each machine.

| **Particulars** | **Machine X** | **Machine Y** |
|---|---|---|
| Machine's estimated life | 6 years | 5 years |
| Cost of Machine (Rs.) | 9,60,000 | 11,20,000 |
| Estimated saving in scrap | 80,000 | 1,00,000 |
| Indirect material cost | 40,000 | 56,000 |
| Additional cost | 1,12,000 | 1,44,000 |
| **Estimated saving in Direct Wages:** | | |
| Number of useless labours | 400 | 500 |
| Wages per labour (Rs.) | 1,400 | 1,600 |

(1) Tax rate is 50% on profit.

(2) Neglect depreciation for the calculation of tax which machine will you suggest purchasing?

**Question 9**
One project of a Company is doing poorly and is being considered for replacement. Three mutually exclusive projects H, M and T have been proposed. The projects are expected to each require Rs. 9,00,000, have an estimated life of 5 years, 4 years and 3 years respectively and have no salvage value. The company's required rate of return is 12%. The anticipated profits after depreciation and taxes for the three projects are as follows:-

| Year | Profits: H (Rs.) | Profits: M (Rs.) | Profits: T (Rs.) |
|---|---|---|---|
| 1 | 1,80,000 | 3,75,000 | 3,00,000 |
| 2 | 2,10,000 | 3,00,000 | 4,20,000 |
| 3 | 2,70,000 | 2,40,000 | 1,80,000 |
| 4 | 3,60,000 | 1,80,000 | - |
| 5 | 5,10,000 | - | - |

(1) Rank each project applying the methods of payback, the average rate of return, net present value and profitability index.

(2) What would be the profitability index if the internal rate of return equaled the return on investment? What is the significance of a profitability index of less than one?

(3) Recommend the project to be adopted and give reasons.
The present value of Re. 1 at the discount rate of 12% for the first five years is Rs. 0.893, 0.797, 0.712, 0.636 and 0.567.

**Question 10**
Aarav Ltd. is producing articles mostly on hand labour and is considering to replace it by a new machine. There are two alternative models "P" and "Q" of the new machine. Prepare a statement of profitability showing the pay-back period from the following information.

| Particulars | Machine - P | Machine - Q |
|---|---|---|
| Estimated life of machine | 4 years | 5 years |
| Cost of machine | Rs. 90,000 | Rs. 1,80,000 |
| Estimated saving in scrap | Rs. 5,000 | Rs. 8,000 |
| Estimated saving in direct wages | Rs. 60,000 | Rs. 80,000 |
| Additional cost of maintenance | Rs. 8,000 | Rs. 10,000 |
| Additional cost of supervision | Rs. 12,000 | Rs. 18,000 |

Ignore taxation.

**Question 11**
Raghu Auto Company has a Machine which has been operation for 2 years. Its remaining estimated useful life is 10 years with no salvage value at the end. Is current market value is Rs. 1,00,000. The management is considering of proposal to purchase an improved model of a similary machine which gives increased output. The relevant particulars are as follows.

| **Particulars** | **Existing Machine** | **New Machine** |
|---|---|---|
| Purchases Price | Rs. 2,40,000 | Rs. 4,00,000 |
| Estimated life | 12 years | 10 years |
| Salvage Value | NIL | NIL |
| Annual Operating hours | 2,000 | 2,000 |
| Selling price per unit | Rs. 10 | Rs. 10 |
| Output per hour | 15 units | 30 units |
| Material Cost per unit | Rs. 2 | Rs. 2 |
| Consumable Stores (Annual) | Rs. 2,000 | Rs. 5,000 |
| Repairs and maintenance (Per year) | Rs. 9,000 | Rs. 6,000 |
| Working Capital | Rs. 25,000 | Rs. 40,000 |

The company follows the straight line method of depreciation. Tax rate is 50% should the existing machine be replaced ?

Assume that the company's required rate of return is 15%.

**Note :**

(1) Present value of Rs. 1 at 15% rate of discount, received at the end of 10^th year is 0.247.

(2) Present value of annuity of Rs. 1 at 15% rate of discount for 10 years is 5.019.

**Question 12**
Tata Ltd. Company investigates two proposals for new investment.
Information about the proposals are as under :

| **Particulars** | **Proposal - A** | **Proposal - B** |
|---|---|---|
| Cash expenses (Rs.) | 60,000 | 75,000 |
| Scrape value | Zero | Zero |
| Expected life | 4 years | 5 years |
| Depreciation | Straight line method | Straight line method |
| Corporate tax | 50% | 50% |
| Return on investment | 10% | 10% |

Inflows before depreciation and tax

| **Year** | **Proposal - A (Rs.)** | **Proposal - B (Rs.)** |
|---|---|---|
| 1 | 18,000 | 21,000 |
| 2 | 21,000 | 24,000 |
| 3 | 24,000 | 27,000 |
| 4 | 33,000 | 33,000 |
| 5 | – | 30,000 |

On the basis of financial point of view, which proposal will you select by using different methods mentioned below:

(1) Net present value method

(2) Profitability index method

(3) Discounted pay-back period method

Present value of Re. 1 on the discount rate of 10% is under:

| **Year** | **1** | **2** | **3** | **4** | **5** |
|---|---|---|---|---|---|
| Present Value | 0.909 | 0.826 | 0.751 | 0.683 | 0.621 |