| FM & Eco. for finance | | CA R. K. Mehta |
|---|---|---|
| | **Test – 2 (Solution)** | |
| Time Allowed: 1 hr. 30 minutes | 23-Jan-2019 | Total Marks: 50 Marks |

**Answer to Question No.1**

## Major considerations in capital structure planning

**1)** While deciding about the optimum capital structure is advised to take into consideration the factor of risk, cost & control.

**2)** **Factor of Risk:-**

(a) **Equity Capital: -** No risk is involved because repayment is to be made only at the time of liquidation.

(b) **Preference Capital**: - Slightly more risk position as compared to equity capital. Sometimes, the company issues redeemable preference shares for which the funds has to be arranged.

(c) **Debt Capital: -** Greater risk involved because interest is to be paid irrespective of the amount of profit. Also principal is to be repaid as per the terms of issue.

**3)** **Factor of Cost:-**

(a) **Equity Capital:** - It is regarded as most expensive source of finance due to high expectations. Also, dividend is not tax deductible.

(b) **Preference Capital:-** It is cheaper as compared to equity capital. Also, dividend is not tax deductible.

(c) **Debt Capital:-** It is cheapest source of finance as compared to equity capital & preference capital. Also interest is tax deductible.

**4)** **Factor of Control:-**

(a) **Equity Capital:** - Control gets diluted if new equity shares are issued.

(b) **Preference Capital:-** No dilution of control unless dividend is not paid consistently for some years.

(c) **Debt Capital:-** No dilution of control However, some financial institutions may insist to appoint their representative in the board of director.

**Answer to Question No.2**      **Book Value Weights and Market Value Weights**

**1.** For the purpose of calculate of WACC, it is necessary to identify the proportion of equity capital, Preference capital and Debt Capital in the capital structure of the business organisation.

**2.** Such proportion may be established on the basis of :-

   **(a)** Book Value, i.e., the face value of various sources of finance in the total capital employed.

   **(b)** Market Value, i.e., the current prices prevailing in the market.

**3.** Market Value Weight are preferred because it represents the real and current expectation of the investors.

**4.** Book Value Weight are also adopted in many cases because the market value has the tendency to fluctuate widely and frequently.

**5.** In case of new projects, the market value doesn't exist and therefore, the marginal cost of capital is required to be calculated on the basis of Book Value Weights.

**Answer to Question No.3**

### Computation of EPS under different finance options

| Particulars | Option (i) | Option (ii) | Option (iii) |
|---|---|---|---|
| Debt financing | 5,00,000 | 20,00,000 | 30,00,000 |
| Equity financing | 45,00,000 | 30,00,000 | 20,00,000 |
| **Total** | **50,00,000** | **50,00,000** | **50,00,000** |
| EBIT (given) | 10,00,000 | 10,00,000 | 10,00,000 |
| (-) Interest | (50,000) | (2,75,000) | (4,75,000) |
| EBT | 9,50,000 | 7,25,000 | 5,25,000 |
| (-) Tax @ 50% | (4,75,000) | (3,62,500) | (2,62,500) |
| EAT | 4,75,000 | 3,62,500 | 2,62,500 |
| No. of equity shares | 30,000 | 20,000 | 16,000 |
| **EPS** | **15.833** | **18.125** | **16.406** |

**Conclusion**: It is advised to select option (ii) because EPS is maximum in its case.

**Note 1 (Computation of Interest)**

Option (i) = 10% of ₹ 5,00,000 = ₹ 50,000

Option (ii) = 10% of ₹ 5,00,000 + 15% of 15,00,000 = ₹ 2,75,000

Option (iii) = 10% of ₹ 5,00,000 + 15% of 15,00,000 + 20 % of 10,00,000 = 4,75,000

**Note 2 (No. of equity shares)**

$$\text{No of equity shares} = \frac{\text{Total Equity financing}}{\text{MP per equity Share}}$$

$$\text{Option (i)} = \frac{₹\,45,00,000}{₹\,50} = 30,000 \text{ Equity Shares}$$

$$\text{Option (ii)} = \frac{₹\,30,00,000}{₹\,15} = 20,000 \text{ Equity Shares}$$

$$\text{Option (iii)} = \frac{₹\,20,00,000}{₹\,125} = 16,000 \text{ Equity Shares}$$

**Answer to Question No.4**

$$K_d = \frac{DI}{MP} + g = \frac{3.60}{40} + 7\% = 16\%$$

$$K_p + \frac{PD + \left(\frac{RV - MP}{N}\right)}{\left(\frac{RV + MP}{2}\right)} = \frac{11 + \left(\frac{100 - 75}{10}\right)}{\left(\frac{100 + 75}{2}\right)} = 15.43\%$$

$K_d$ = (Term Loan) = 15% (1-0.40) = 9%

$$K_d = \text{(Debentures)} = \frac{I(I - T) + \left(\frac{RV - MP}{N}\right)}{\left(\frac{RV - MP}{2}\right)} = \frac{13.5\left(\frac{1 - 0.40}{}\right) + \left(\frac{100 - 80}{6}\right)}{\left(\frac{100 - 80}{2}\right)} = 12.7\%$$

### Computation of WACC using book value

| Source | Book value | Weights | C/C | WACC |
| --- | --- | --- | --- | --- |
| Equity capital | ₹ 15 cr. | 25.64% | 16% | 4.10% |
| Preference capital | ₹ 1 cr. | 1.71% | 15.43% | 0.26% |
| Retained earnings | ₹ 20 cr. | 34.18% | 16% | 5.47% |
| Debentures | ₹ 10 cr. | 17.09% | 12.7% | 2.17% |
| Term loan | ₹ 12.5 cr. | 21.37% | 9% | 1.92% |
| | ₹ **58.5 cr.** | | | **13.92%** |

### Computation of WACC using market value (ignoring retained earnings)

| Source | Book value | Weights | C/C | WACC |
| --- | --- | --- | --- | --- |
| Equity capital | ₹ 60 cr. | 73.83% | 16% | 11.81% |
| Preference capital | 0.75 cr. | 0.92% | 15.43% | 0.14% |
| Debentures | 8 cr. | 95.85% | 12.7% | 1.25% |
| Term loan | 12.5 cr. | 15.38% | 9% | 1.38% |
| | ₹ **81.25 cr.** | | | **14.92%** |

**Market values**

Equity capital = ₹ 15 cr. x $\dfrac{40}{10}$ = ₹ 60 cr.

Preference capital = ₹ 1 cr. x $\dfrac{75}{100}$ = ₹ 0.75 cr.

Debentures = ₹ 10 cr. x $\dfrac{80}{100}$ = ₹ 8 cr.

### (ii)                    Computation of WMCC

| Source | Book value | Weights | C/C | WACC |
| --- | --- | --- | --- | --- |
| Retained earnings | ₹ 1.5 cr. | 15% | 16% | 2.4% |
| New equity | ₹ 3.5 cr. | 35% | 18.25% | 6.39% |
| 15% debt | ₹ 2.5 cr. | 25% | 9% | 2.25% |
| 16% debt | ₹ 2.5 cr. | 25% | 9.6% | 2.4% |
| | ₹ **10 cr.** | | | **13.44%** |

$K_d$ (15% debt) = 15% (1-0.40) = 9%
$K_d$ (16% debt) = 16% (1-0.40) = 9.6%

$K_e$(existing) = $\dfrac{D1}{MP}$ +g = $\dfrac{3.60}{40}$ + 7% = 16

$K_e$(New) $\dfrac{D1}{NP}$ +g = $\dfrac{3.60}{32}$ + 7% = 18.25%

### Answer to Question No.5

### Negative Consumption Externalities

Negative consumption externalities are extensively experienced by us in our day to day life. Such negative consumption externalities initiated in consumption are those which produce external costs on others may be received in consumption or in production. Examples to cite where they affect consumption of others are smoking cigarettes in public place causing passive smoking by others.

### Answer to Question No.6

**Public Goods & free rider's problem: -** Free – rider's problem arises with public goods because the manufacturer of public good cannot exclude non – payers from consuming or enjoying the benefits of the public good. These individual who want to enjoy the benefits of the public goods but do not contribute to its costs of production are called free riders. Since non – payers cannot be excluded from consumption of public goods, the private producers (guided by the objective of maximizing profits) will either not produce the public good or produce to little of it. This would lead to either no production or an insufficient production for the public good. It is because of this reason that the government assumes responsibility for the production of public goods such as national defence and police protection.

**Answer to Question No.7**

**Quasi-Public goods.**

In the form of combination of public goods have following tow features:-

(a) Semi non-excludable, i.e., non-payers can be excluded to an extent from consumption of such goods.

(b) Semi non-rival, i.e, consumption of such goods.

**Answer to Question No.8**

**Re-Distribution Function of Government**

(1) Meaning:- It is a well-established fact that there is inequality in income and wealth among various people in all areas and sectors. It is on account of mis - allocation of resources over the period of time. Therefore, government must frame the policy for reducing the gap of inequality in income and wealth. The purpose is to ensure that everyone enjoys a minimum standard of living & improving the conditions of those who has suffered various hardships.

(2) Methods of government intervention:-

| Activity | Examples |
| --- | --- |
| a) Tax policy | Progressive direct tax system, differential indirect tax system. |
| b) Free or subsidized education | Free education to poor, interest rate concessions on education loans, etc. |
| c) Public distribution system | Supply of food grains at subsidized rate to poor people. |
| d) Transfer payments | Old age pension, unemployment allowance |
| e) Other social security measures | Regulation of manufacture and sale of certain products to ensure health & well – being of society. Also, some schemes can be announced for upliftment of backward regions. |

**Answer to Question No.9**

**Fiscal policy – meaning & objectives**

**(1) Meaning :- Fiscal policy means:-**

a) Policy regarding collections from taxes and others sources at disposal of government

b) Policy regarding spending by government in various sectors for benefit of public and in the interest of the nation. According to Keynesian theory, when the government changes the policies regarding tax collection and government spending, it influences aggregate demand and level of economic-building. So, fiscal policy very important role in nation-building.

**(2) Objectives**

a) Achievement of situation of full employment

b) Maintenance of economic stability

c) Justified allocation of resources in various economic activities.

d) Equitable distribution of income & wealth.

e) Acceleration (increase) in rate of economic growth & economic development.

f) Handling (managing) the situation of recession & inflation in appropriate manner.

g) Acceleration of rate of investment in public sector as well as private sector

h) Widening the size of the market and reducing the cost of production

**Answer to Question No.10**

**Taxes as an Instrument of Fiscal Policy**

1. Personal and corporate taxes determine the size of disposable income with households and firms, which in turn determines aggregate demand.

2. **Recession/Contraction Phase:** Tax Rates may be reduced. Lower Personal Taxes leads to higher disposable incomes with people, inducing higher consumption. Low corporate taxes increase the prospects of profits for business and promote further investment.

3. **Expansion/Inflation Phase:** New taxes can be levied, and the rates of existing taxes are increased, in order to reduce the disposable incomes and to wipe off the surplus purchasing power. However, excessive taxation may prevent new investments, and so, this tool has to be used carefully.