# Q1. Calculation of WACC for Hopes Incorporation

|  |  |  |  |
| --- | --- | --- | --- |
|  | Market Value | Cost | Weighted Cost  (Market Value \* Cost) |
| Equity | 0.40 | 15 | 6 |
| Preference | 0.25 | 14 | 3.5 |
| Debt | 0.35 | 13 | 4.55 |

WACC = WeRe + WpRp + WDRD (1 – Tax Rate)

As per the given formula, given tax is 30%

WACC = 6 + 3.5+ 4.55 (1-Tax)

= 6 + 3.5+ 4.55 (1-0.30)

= 6 + 3.5 + 3.185

= 12.69%

# Q2. Calculation of Payback Period for an investment

|  |  |  |
| --- | --- | --- |
| Year | Cash Inflow (Rs) | Cumulative Cash Inflow |
| 1 | 30,000 | 30,000 |
| 2 | 27,500 | 57,500 |
| 3 | 32,500 | **90,000 (Till year 3)** |
| 4 | 30,000 | 1,20,000 |
| 5 | 25,000 | 1,45,000 |

Payback period = Cost of project / Annual cash inflows

As per given information,

Initial Investment 100,000

(-)Less : Inflow till Third Year (90000)

\_\_\_\_\_\_\_\_

Balance Amount **10000**

Payback Period = 3 Years + (Balance / Next Year Inflow) \* 12

= 3 + (10,000 / 30,000) \* 12

= **3 Years + 4 Months**

# Q3. Calculation of NPV for a project

**Given:**

Initial investment = $20,000

Three years future cash flows = $12,000, $10,000, and $15,000

Discounting rates = 14%, 13%, and 15%

Net Present Value = Present Value / (1 + interest rate)

|  |  |  |  |
| --- | --- | --- | --- |
| Year | Cash Flow | Discounting Rate | PV |
| 1 | **12,000** | **14%** | 12000 / (1 + 0.14) **= 10526.32** |
| 2 | **10,000** | **13%** | 10000 / (1 + 0.13) **= 8849.56** |
| 3 | **15,000** | **15%** | 15000 / (1 + 0.15) **= 13043.48** |
| Total PV : | | | **32419.36** |
| (-) Less : Initial Investment | | | **(20,000)** |
| NPV | | | **12,419.36** |