DAFFODIL INSTITUTE OF INFORMATION TECHNOLOGY (DIIT)

Third Year, Sixth Semester

BBA (Honours) in Tourism and Hospitality Management (THM)

Fundamentals of Finance

Chapter -2

Concepts of Risk and Return

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1. Risk and return features of two securities Share Moon and Share Mars are given below:

	Share Moon	**Share Mars**
Expected return (%)	15	20
Standard Deviation (%)	10	15
Covariance (%)	120	

Requirements:

(a) What is the correlation between the two securities? Ans. (r)=.80

(b) What is the expected return and risk of a portfolio in which Moon and Mars have been combined in equal proportion? Ans. R_p=17.5%, σ_p=11.88%(NU Year Question- 2008)

2. You have been asked for your advice in selecting a portfolio of assets and have been given the following data:

Year	**Expected Return**		
	Asset-A	**Asset-B**	**Asset-C**
2013	12%	16%	12%
2014	14	14	14
2015	16	12	16

No probability has been supplied. You have told that you can create two portfolios – one consists of assets A and B and other consists of A and C by investing equal proportions (50%) in each of the two component assets.

Requirement:

(a) What is the expected return for each asset over the 3 periods? Ans. 14%, 14%, 14%

(b) What is the standard deviation for each asset's returns? Ans. 2%, 2%, 2%

(c) What is the expected return for each of the two portfolios? Ans. 14%, 14%, 14% (NU Year Question- 2008)

3. LAMSTEC BD. is considering investing in either of two mutually exclusive projects X and Y. The firm has 14% cost of capital and the risk free rate is currently 9%. The initial investment, expected cash inflows and certainty equivalent factors associated with each of the projects are shown in the following table:

Initial Investment	**Project X** **Tk. 40,000**	**Project Y** **Tk. 56,000**

Year	Cash inflows	Certainty equivalent factors	Cash inflows	Certainty equivalent factors
1	TK. 20000	.90	Tk. 20000	.95
2	16000	.80	25000	.90
3	12000	.60	15000	.85
4	10000	.50	20000	.80
5	10000	.40	10000	.80

Requirements:

You are required to calculate the certainty equivalent net present value for each project. Which preferred using this risk adjusted technique? Ans. Tk. - 1011.1619, Tk. 6739 (NU Year Question- 2008, 2009, 2015)

4. Consider the following two projects each costing Tk. 15,000

Year	Project X		Project Y	
	Net cash inflow	Certainty Equivalent factor	Net cash inflow	Certainty Equivalent factor
1	Tk. 14,000	.90	Tk. 28,000	1.00
2	14,000	.90	12,000	.90
3	14,000	.80	10,000	.90
4	14,000	.70	10,000	.80
5	14,000	.60	10,000	.70
Total	70,000		70,000	

Considering 10 percent cost of capital and 6 percent risk free rate of return calculate:

(a) Net Present Value under Certainty Equivalent Approach. Which project should be accepted? Ans. Tk. 1,541, Tk. 10,141

(b) Net Present Value of the projects. Which project should be accepted? (Ignore risk) Ans. Tk. 8,070, Tk. 10,924.(NU Year Question- 2014)