VPM's
DR VN BRIMS, Thane
Programme: PGDM (2014-16)
Sixth Trimester (Finance) Examination April 2016

Subject	**Financial Modelling**		
Roll No.		**Marks**	**60 Marks**
Total No. of Questions	**7**	**Duration**	**3 Hours**
Total No. of printed pages	**4**	**Date**	**23.04.2016**

Note: Q1 is compulsory and solve any FOUR from the remaining SIX questions.

Q1) 20 Marks (Compulsory)

(a)Use the appropriate MS Excel formula to solve the following:

(i)Asma has deposited Rs. 500,000 today in a fixed deposit which pays interest at the rate of 8.15 per cent per annum. How much money would Asma get at the end of 30 years?..(4)

(ii)Bina has deposited Rs. 100,000 today in a savings account of a bank which pays interest at the rate of four per cent per annum compounded on daily closing balance. How much money would Bina get at the end of five years.. (4)

(iii)Cynthia has decided to deposit Rs. 5000 at the end of every month in a recurring deposit account of a bank which pays interest at the rate of eight per cent per annum. How much money would Cynthia get at the end of seven years?..................................(4)

(iv)Dina has made an investment which promises to pay her Rs. 8500 at the beginning of every month for the next 60 months. Dina's required rate of return is nine per cent per annum. What is the present value of these series of payments?..................................(4)

(b)State one major difference between the following MS Excel functions:

(i)INT and ROUND..(2)

(ii)NPV and IRR.. (2)

Q2) ***Any two from (a) or (b) or (c) ————— (5×2) = 10 Marks***

(a)Eliza has invested in five bonds, the details of which are given below. Eliza's required rate of return is 9.50 per cent.

	Gold	Silver	Platinum	Coral	Diamond
Face Value (Rs.)	5000	2000	3000	4000	1000
Coupon (per cent per annum)	8.00	9.00	9.10	8.20	8.50
Years remaining to maturity	15	20	10	12	14

Required Use appropriate MS Excel functions to calculate the fair values of the above bonds.

(b)Hutokshi Housing Company is considering purchasing a construction-related machine. An intern has found that there are five brands of required machine are available. The details of these alternative brands are given below:

	Alpha	Bravo	Charlie	Delta	Epsilon
Initial Cost (Rs.)	400000	450000	375000	500000	425000
Useful Life (Years)	12	15	8	17	13
Annual Cash Flows Before Tax (Rs.)	30775.49	27978.39	36424.72	26378.56	29387.67

Hutokshi Housing Company's required rate of return is 11.50 per cent; the company charges depreciation using straight-line method; none of the above alternatives have any salvage value; and the income tax rate applicable to the company is 30 per cent.

Required Calculate the net present value of the above alternatives.

(c)Ketaki Kenkre is an investment banker valuing the business of Karnataka Ketones. She has gathered the following information for the next four years:

Year	1	2	3	4
Free Cash Flows for the Firm (Rs. Crores)	34	43	54	63

Karnataka Ketones' weighted average cost of capital is estimated to be 13.25 per cent. After the fourth year free cash flows for the firm are expected to grow at a constant rate of six per cent.

Required Calculate the value of Karnataka Ketones

Q3) ***Any two from (a) or (b) or (c) ————— (5×2) = 10 Marks***

(a)Falguni has invested in the bonds of five companies, the details of which are given below. Falguni's required rate of return is 8.25 per cent.

	Venus	Pluto	Saturn	Jupiter	Diamor
Face Value (Rs.)	10000	10000	10000	10000	1000
Coupon (per cent per annum)	8.00	9.00	9.10	8.20	8.5
Years remaining to maturity	17	19	11	7	2
Market Price per Bond (Rs.)	8038	7928	6832	3631	67

Required Determine which of the above bonds are over-priced.

(b)Ishita Isthmus is considering purchasing a mining-related equipment. An intern has found that there are five brands of required equipment are available. The details of these alternative brands are given below:

	Alpa	Alka	Alma	Alba	Als
Initial Cost (Rs.)	1100000	800000	1300000	1100000	110000
Useful Life (Years)	22	16	26	20	2
Salvage Value (Rs.)	165000	120000	195000	165000	16500
Annual Cash Flows Before Tax (Rs.)	5000	5000	5000	5000	500

Ishita Isthmus' required rate of return is 10.25 per cent; the company charges depreciation using straight-line method; and the income tax rate applicable to the company is 30 per cent.

Required Recommend which alternative brand should the company choose.

(c)Laura Lourdswamy is an investment banker valuing the business of Lalbaug Launderettes. She has gathered the following information for the next four years:

Year	1	2	3	4	5	6	
Free Cash Flows for the Firm (Rs. Crores)	42	49	50	57	62	64	8

Lalbaug Launderettes' weighted average cost of capital is estimated to be 12.15 per cent. After the seventh year free cash flows for the firm are expected to grow at a constant rate of three per cent.

Required Calculate the value of Lalbaug Launderettes

Q4) ***Any two from (a) or (b) or (c) ————— (5×2) = 10 Marks***

(a)Gauhar has invested in the bonds of five companies, the details of which are given below. Gauhar's required rate of return is 8.15 per cent.

	Apple	Apricot	Plum	Guava	Custa
Face Value (Rs.)	3500	4000	3000	4500	500
Coupon (per cent per annum)	8	9	9.1	8.2	8
Years remaining to maturity	7	19	4	10	1
Fair Value (Rs.)	1450	3419	901	2459	360

Required If Gauhar's required rate of rate changes to 9.05 per cent per annum, which of above bonds will decrease in value?

(b)Jasmine Jackfruit Company is considering investing in a project. An intern has found that there are five alternative projects are available. The details of these alternative projects are given below:

	Allure	Breeze	Crystal	Delta	Effuse
Initial Cost (Rs.)	120000	140000	160000	180000	20000
Useful Life (Years)	6	7	8	9	1
Salvage Value (Rs.)	7200	2800	1600	16200	400
Disposal Expenses (Rs.)	3637	4996	4102	1991	88
Annual Cash Flows Before Tax (Rs.)	6800	11400	5015	1250	400

Jasmine Jackfruit Company's required rate of return is 10.25 per cent; the projects are not depreciable; and the income tax rate applicable to the company is 30 per cent.

Required Recommend which alternative brand should the company choose.

(c)Mohsina Mukadam is an investment banker valuing the business of Madras Masala Manufacturers. She has gathered the following information for the next four years:

Year	1	2	3
Free Cash Flows for the Firm (Rs. Crores)	48	59	78

Madras Masala Manufacturers' weighted average cost of capital is estimated to be 14.55 per cent. After the third year free cash flows for the firm are expected to fall at a constant rate of two per cent.

Required Calculate the value of Madras Masala Manufacturers

Q5) *Any two from (a) or (b) or (c) ————— (5×2) = 10 Marks*

(a) The current price of a company's equity share is Rs. 4500. It is estimated that that at the end of one period the share price may rise to become Rs. 5000 or fall down to Rs. 4000. A call option is available on this stock exercisable at the end of one period at a strike price of Rs. 4000. The risk free rate of return (r) is one per cent per period.

Required Calculate the current value of the call option

(b) The current price of a company's equity share is Rs. 500. It is estimated that that at the end of one period the share price may rise by 12.50 per cent or may fall by ten per cent. A call option is available on this stock exercisable at the end of one period at a strike price of Rs. 400. The risk free rate of return (r) is two per cent per period.

Required Calculate the current value of the call option (c)Quadira Quasim is planning to take a car loan of Rs. 760,000 from a leasing finance company which charges interest at the rate of 12.15 per cent per annum. Quadira is ready to pay an equated monthly instalment (EMI) of Rs. 20,000.

Required Calculate the number of months Quadira's loan will be repaid

Q6) ***Any two from (a) or (b) or (c) ————— (5x2) = 10 Marks***

(a) Neela Niladri is planning to take a housing loan of Rs. 25,00,000 from a housing finance company which charges interest at the rate of 11 per cent per year. The term of the loan is 240 months.

Required Calculate Neela's equated monthly instalment (EMI)

(b)Oprah O'Neal is planning to take an automobile loan of Rs. 5,40,000 from a leasing finance company which charges interest at the rate of 0.922 per cent per month. The term of the loan is 24 months.

Required Calculate Oprah's equated monthly instalment (EMI)

(c) The current price of a company's equity share is Rs. 1400. It is estimated that that at the end of one period the share price may rise by nine per cent or may fall by five per cent. A call option is available on this stock exercisable at the end of one period at a strike price of Rs. 1260. The risk free rate of return (r) is three per cent per period.

Required Calculate the current value of the call option

Q7) ***Any two from (a) or (b) or (c) ————— (5x2) = 10 Marks***

(a) Neela Niladri is planning to take a housing loan of Rs. 25,00,000 from a housing finance company which charges interest at the rate of 11 per cent per year. The term of the loan is 240 months.

Required Calculate Neela's equated monthly instalment (EMI)

(b)Oprah O'Neal is planning to take an automobile loan of Rs. 5,40,000 from a leasing finance company which charges interest at the rate of 0.922 per cent per month. The term of the loan is 24 months.

Required Calculate Oprah's equated monthly instalment (EMI)

(c) The current price of a company's equity share is Rs. 1400. It is estimated that that at the end of one period the share price may rise by nine per cent or may fall by five per cent. A call option is available on this stock exercisable at the end of one period at a strike price of Rs. 1260. The risk free rate of return (r) is three per cent per period.

Required Calculate the current value of the call option