



UNIVERSITY OF RUHUNA

Faculty of Engineering

End-Semester 5 Examination in Engineering: October 2019

Module Number: IS 5303

Module Name: Financial Management

[Three Hours]

[Answer all questions]

Q1. a) Explain the concept of double – entry in Financial Accounting.

[02 Marks]

b) What are the objectives of Financial Statements?

[02 Marks]

c) The following information has been extracted from the books of Sam Ltd as at 31 March 2019:

	Dr	Cr
Bank	2 000	
Capital: 100 000 issued and fully paid ordinary shares of Rs.1 each		100 000
50 000 issued and fully paid 8% preference shares of Rs.1 each		50 000
Debenture loan stock (10%: repayable 2033)		30 000
Debenture loan stock interest	3 000	
Dividends received		700
Dividends paid: Ordinary interim	5 000	
Preference	4 000	
Freehold land at cost	200 000	

Investments (listed: market value at 31 March		
2019 was Rs.11 000)	10 000	
Office expenses	47 000	
Motor van at cost	15 000	
Motor van: accumulated depreciation (at 1 April 2018)		6 000
Motor van expenses	2 700	
Purchases	220 000	
Retained profits (at 1 April 2018)		9 000
Sales		300 000
Share premium account		10 000
Stocks at cost (at 1 April 2018)	20 000	
Trade creditors		50 000
Trade debtors	27 000	
	555 700	555 700

Additional information:

1. The stocks at 31 March 2019 were valued at their historical cost of Rs. 40,000.
2. Depreciation is to be charged on the motor van at a rate of 20 per cent per annum on cost. No depreciation is to be charged on the freehold land.
3. The corporation tax for the year has been estimated to be Rs. 10,000.
4. The directors propose a final ordinary dividend of 10 per share.
5. The authorized share capital of the company is as follows:
 - (a) 150,000 ordinary shares of Rs.1 each; and
 - (b) 75,000 preference shares of Rs.1 each.

Required:

- i. Prepare Sam Ltd.'s trading and profit and loss account (Income Statement) for the year to 31 March 2019.

[10 Marks]

- ii. Prepare a balance sheet (Statement of Financial position) as at that date.

[10 Marks]

Q2. a) Define cost-volume-profit (CVP) analysis, and how is it used for decision making?

[02 Marks]

- b) How are CVP calculations performed for multiple products?

[02 Marks]

- c) Your company has just developed a new microcomputer to compete in the rapidly expanding home market. You are consulted to examine the viability of marketing this computer. In conjunction with the manager of research and development, the production manager, the buyer and the sales manager, you have been able to ascertain the following estimates.

Sales level (units)	Profit / loss Rs.
12000	(30,000)
15000	150,000
18000	330,000

The selling price will be Rs. 150

You are required to:

- i. Prepare a profit volume graph, using the information given above, and read off the margin of safety.

[04 Marks]

- ii. calculate the estimated profit if the probabilities for each sales level are:

Sales level (Units)	Probability (Rs)
12000	0.2
15000	0.5
18000	0.3

[04 Marks]

- Q3. a) Define limiting factor and how should a company determine its optimal product mix when a limiting factor exists?

[04 Marks]

- b) Due to a national wage agreement, you find that wage rate for skilled workers are to increase by 50% over the budgeted figures. There is a shortage of such skilled workers and it takes over a year to train new recruits adequately. The managing director has asked you for advice as to which order of priority on the product range would give best use of the skilled labour resources available. The cost of unskilled labour, of which there is no shortage, will go up by 20% over budget.

The original budget figures for the next period before allowing for the increase in labour cost detailed above were:

Product	V	W	X	Y	Z
Maximum production in units	3000	4000	6000	7000	9000
Selling price per unit (Rs.)	16	15	18	15	30
Variable cost per unit					
Material	3	5	4	7	6
Skilled labour Rs.4 per hour	4	4	6	2	8
Unskilled labour Rs.2 per hour	2	2	1	1	4

Variable overheads are recovered at the rate of Rs.1 per labour hour. The skilled labour available amount to 30,000 hours in the period and there are fixed costs of Rs. 22,800.

You are required to:

- i. Calculate the product mix and the maximum profit of that product mix.

[06 Marks]

- ii. Comment on the results of the revised budget.

[02 Marks]

Q4. a) Explain the term of "time value of money"

[02 Marks]

- b) What are investment appraisal techniques? Briefly Explain.

[02 Marks]

- c) Gama plc has an empty department in one of its factories that could be used to expand the production of current products or produce new products. Four

proposals have been submitted in relation to using this department. Each proposal would fully use the empty department but only one of the proposals can be accepted.

The following information was obtained for the proposals:

Cash flows	Proposal 1	Proposal 2	Proposal 3	Proposal 4
	(Rs'000)	(Rs'000)	(Rs'000)	(Rs'000)
Year 0	120	95	80	160
Year 1	80	10	30	30
Year 2	60	40	40	50
Year 3	40	40	30	90
Year 4	20	60	30	80
Year 5	40	50	20	60
Residual Value	0	5	0	40

The cash flows for year 5 include, (where applicable), the residual value of the fixed assets purchased in year zero. The company's cost of capital is 10%

Required:

- i. Calculate Payback, Accounting Rate of Return (ARR), Internal Rate of Return (IRR) and the Net Present Value (NPV) for each project
[07 Marks]
- ii. Identify which project should be selected by the company and explain, with reference to the figures calculated for part (1), why that project should be selected.

[01 Mark]

Annexure: 1

Present Value Table
PVIF= $1/(1+i)^n$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
1	.9901	.9804	.9709	.9615	.9524	.9434	.9346	.9259	.9174	.9091
2	.9803	.9612	.9426	.9246	.9070	.8900	.8734	.8573	.8417	.8264
3	.9706	.9423	.9151	.8890	.8638	.8396	.8163	.7938	.7722	.7513
4	.9610	.9238	.8885	.8548	.8227	.7921	.7629	.7350	.7084	.6830
5	.9515	.9057	.8626	.8219	.7835	.7473	.7130	.6806	.6499	.6209
6	.9420	.8880	.8375	.7903	.7462	.7050	.6663	.6302	.5963	.5645
7	.9327	.8706	.8131	.7599	.7107	.6651	.6227	.5835	.5470	.5132
8	.9235	.8535	.7894	.7307	.6768	.6274	.5820	.5403	.5019	.4665
9	.9143	.8388	.7684	.7026	.6448	.5919	.5439	.5002	.4604	.4241
10	.9053	.8253	.7441	.6756	.6139	.5584	.5083	.4632	.4224	.3855
11	.8963	.8043	.7224	.6496	.5847	.5268	.4751	.4289	.3875	.3505
12	.8874	.7895	.7014	.6246	.5558	.4970	.4440	.3971	.3555	.3186
13	.8787	.7730	.6810	.6006	.5303	.4688	.4150	.3677	.3262	.2897
14	.8700	.7579	.6611	.5775	.5051	.4423	.3878	.3405	.2992	.2633
15	.8613	.7430	.6419	.5553	.4810	.4173	.3624	.3152	.2745	.2394
16	.8528	.7294	.6232	.5339	.4581	.3936	.3387	.2919	.2511	.2178
17	.8444	.7142	.6050	.5134	.4363	.3714	.3166	.2703	.2311	.1978
18	.8360	.7002	.5874	.4936	.4155	.3503	.2959	.2502	.2120	.1799
19	.8277	.6864	.5703	.4746	.3957	.3305	.2765	.2317	.1945	.1635
20	.8195	.6730	.5537	.4564	.3769	.3118	.2584	.2145	.1784	.1486
21	.8114	.6596	.5375	.4388	.3589	.2942	.2415	.1987	.1637	.1351
22	.8034	.6468	.5219	.4220	.3418	.2775	.2257	.1839	.1502	.1228
23	.7954	.6342	.5067	.4057	.3256	.2618	.2109	.1703	.1379	.1117
24	.7876	.6217	.4919	.3901	.3101	.2470	.1971	.1577	.1264	.1015
25	.7798	.6095	.4776	.3751	.2953	.2330	.1842	.1460	.1160	.0923
26	.7720	.5976	.4637	.3607	.2812	.2198	.1722	.1352	.1064	.0839
27	.7644	.5859	.4502	.3466	.2678	.2074	.1609	.1252	.0976	.0763
28	.7568	.5744	.4371	.3335	.2551	.1956	.1504	.1159	.0895	.0693
29	.7493	.5631	.4243	.3207	.2420	.1846	.1406	.1073	.0822	.0630
30	.7419	.5521	.4120	.3083	.2314	.1741	.1314	.0994	.0754	.0573
35	.7059	.5000	.3654	.2534	.1813	.1301	.0937	.0676	.0490	.0356
40	.6717	.4529	.3066	.2083	.1420	.0972	.0668	.0460	.0318	.0221
45	.6381	.4102	.2644	.1712	.1113	.0727	.0476	.0313	.0207	.0137
50	.6050	.3715	.2281	.1407	.0872	.0543	.0339	.0213	.0134	.0085
55	.5735	.3365	.1968	.1157	.0693	.0406	.0242	.0145	.0087	.0053

Period	12%	14%	15%	16%	18%	20%	24%	28%	32%	36%
1	.8829	.8772	.8696	.8621	.8475	.8333	.8085	.7813	.7576	.7353
2	.7972	.7696	.7551	.7432	.7182	.6944	.6504	.6104	.5739	.5407
3	.7118	.6750	.6575	.6407	.6086	.5787	.5245	.4768	.4348	.3975
4	.6356	.5921	.5719	.5523	.5158	.4823	.4230	.3725	.3294	.2923
5	.5674	.5194	.4972	.4761	.4371	.4019	.3411	.2910	.2495	.2149
6	.5056	.4556	.4323	.4104	.3704	.3349	.2751	.2274	.1890	.1560
7	.4523	.3996	.3759	.3538	.3139	.2791	.2218	.1778	.1432	.1162
8	.4039	.3508	.3269	.3050	.2660	.2326	.1769	.1368	.1065	.0854
9	.3606	.3075	.2843	.2630	.2255	.1938	.1443	.1084	.0822	.0629
10	.3220	.2697	.2472	.2287	.1911	.1615	.1164	.0847	.0623	.0482
11	.2875	.2366	.2149	.1984	.1619	.1346	.0938	.0662	.0472	.0340
12	.2567	.2076	.1869	.1724	.1372	.1122	.0757	.0517	.0357	.0250
13	.2292	.1821	.1629	.1495	.1163	.0935	.0610	.0404	.0271	.0184
14	.2046	.1597	.1413	.1292	.0985	.0779	.0492	.0318	.0205	.0135
15	.1827	.1401	.1229	.1109	.0835	.0649	.0397	.0247	.0155	.0099
16	.1613	.1229	.1069	.0930	.0708	.0541	.0320	.0193	.0118	.0073
17	.1416	.1078	.0929	.0802	.0600	.0451	.0258	.0150	.0089	.0054
18	.1230	.0946	.0808	.0691	.0508	.0376	.0208	.0118	.0068	.0039
19	.1161	.0829	.0703	.0596	.0431	.0313	.0168	.0092	.0051	.0029
20	.1037	.0728	.0611	.0514	.0365	.0261	.0135	.0072	.0039	.0021
21	.0926	.0638	.0531	.0443	.0309	.0217	.0109	.0056	.0029	.0016
22	.0826	.0560	.0462	.0382	.0262	.0181	.0088	.0044	.0022	.0012
23	.0736	.0491	.0402	.0329	.0222	.0151	.0071	.0034	.0017	.0008
24	.0659	.0431	.0349	.0284	.0188	.0126	.0057	.0027	.0013	.0006
25	.0588	.0378	.0304	.0245	.0160	.0105	.0048	.0021	.0010	.0005
26	.0525	.0331	.0264	.0211	.0135	.0087	.0037	.0016	.0007	.0003
27	.0469	.0291	.0230	.0182	.0115	.0073	.0030	.0013	.0006	.0002
28	.0419	.0255	.0200	.0157	.0097	.0061	.0024	.0010	.0004	.0002
29	.0374	.0224	.0174	.0135	.0082	.0051	.0020	.0008	.0003	.0001
30	.0334	.0196	.0151	.0116	.0070	.0042	.0016	.0006	.0002	.0001
35	.0189	.0102	.0075	.0055	.0030	.0017	.0005	.0002	.0001	-
40.0107	.0053	.0037	.0026	.0013	.0007	.0002	.0001	-	-	-
45	.0061	.0027	.0019	.0013	.0006	.0003	.0001	-	-	-
50	.0035	.0014	.0009	.0006	.0003	.0001	-	-	-	-
55	.0020	.0007	.0005	.0003	.0001	-	-	-	-	-