

Time: 3 Hours

Marks: 60

Instructions:

- Question number one is compulsory
- Answer any four questions from question number two to question number seven
- Students are allowed to use their own pocket calculator or a scientific calculator
- Figures to the right indicate marks
- Working notes and assumptions should form a part of the answers.

1. (a) Sensient Technologies Ltd. is a leading producer of flavors, colors and aromas found in thousands of products ranging from food and beverages to a variety of pharmaceutical and household properties. It produces some 25,000 flavors and 3,000 colors, and is said to be the largest food and beverage color company in the world with a leading position in flavor as well. The following tables present the balance sheets and profit and loss statements for years 2018 and 2019:

Balance Sheet as at March 31 (₹ in million)

Particulars	2018	2019
Assets		
Cash	12.20	14.30
Accounts receivable	200.20	218.60
Inventories	390.00	392.20
Other current assets	55.70	47.30
Gross property, plant and equipment	993.30	1025.10
Less: Accumulated depreciation	567.60	592.60
Net property, plant and equipment	425.70	432.50
Long-term investments	508.00	494.40
Total Assets	1,591.80	1,599.30
Liabilities and Shareholders' Equity		
Short-term borrowings	39.20	25.50
Accounts payable	88.90	95.90
Taxes payable	0.70	7.10
Outstanding expenses	87.40	76.60
Long-term borrowings	466.90	410.40
Equity Share Capital	90.90	94.40
Reserves and Surplus	817.80	889.40
Total Liabilities and Shareholders' Equity	1,591.80	1,599.30

Profit and Loss Statement for the year ending March 31 (₹ in million)

Particulars	2018	2019
Net sales	1,201.4	1,328.2
Less: Cost of goods sold	790.2	876.4
Gross profit	411.2	451.8
Less: Selling, general and administrative expenses	210.8	235.2
Less: Depreciation	42.2	43.4
Operating income	158.2	173.2
Less: Interest expense	23.8	20.4
Less: Other non-operating expenses	11.3	-
Add: Other non-operating incomes	-	1.5
Income before tax	123.1	154.3
Less: Provision for income tax	36.6	47.1
Net Income	86.5	107.2

Compute the following ratios for the year 2018 and 2019:

(12 marks)

- Current Ratio
- Return on Asset
- Debt to Equity Ratio
- Inventory Turnover Ratio

(b) Explain the following concepts in one or two sentences:

(8 marks)

- Operating cycle
- Leasing
- Working Capital
- Internal Rate of Return

- II. Shree Ltd. has adopted a six-monthly time span which is further subdivided into monthly intervals for its cash budget.

(₹ in lakh)

Particulars	Months					
	1	2	3	4	5	6
Sales	40	50	60	60	60	60
Direct Labour	6	7	8	8	8	6
Manufacturing Overheads	13	13.5	14	14	14	13
Administrative Expenses	2	2	2	2	2	2
Distribution Expenses	2	3	4	4	4	2
Purchase of Raw Materials	14	15	16	16	16	15

The company anticipates the following financial flows during the first six months of 2020:

- i. Interest received in months 1 and 6, ₹1 lakh each.
- ii. Dividend received in months 3 and 6, ₹2 lakh each.
- iii. Sale of shares in month 6, ₹160 lakh
- iv. Interest paid during month 1, ₹0.4 lakh.
- v. Repayment of loan in month 6, ₹80 lakhs.
- vi. Assume that 10 percent of each month's sales are for cash. The balance 90 percent are on credit. All credit sales are collected in the following month.
- vii. Raw materials are purchased at 1-month credit. All other expenses are paid as incurred.
- viii. Opening balance of cash as on the first day of the first month is ₹10 lakhs.

Using the above information prepare a cash budget for months 1 to 6.

(10 marks)

- III. Desai Co. Ltd. requires 1,60,000 units of a certain item per year. The purchase price per unit is ₹5; the carrying cost per item per year is 20 percent of the inventory value; and the fixed cost of placing each order is ₹50.

- i. Determine the economic order quantity. (4 marks)
- ii. Approximately how many times per year will inventory be ordered, if the order size is equal to the EOQ? (2 marks)
- iii. What will be the total cost of carrying and ordering inventory if the order size is 2000 units? (4 marks)

- IV. Ganeshay Ltd. is considering an investment proposal to install new milling controls at a cost of ₹50,000. The facility has a life expectancy of 5 years and no salvage value. The tax rate is 25 percent. Assume the firm uses straight line method of depreciation and the same is allowed for tax purposes. The estimated cash flows before depreciation and tax (CFBDT) from the investment proposal are as follows:

Year	1	2	3	4	5
CFBDT (₹ in crore)	20,000	10,692	12,769	13,462	20,385

Compute the following:

- i. Net Present Value at 10 percent (4 marks)
- ii. Profitability Index at 10 percent (2 marks)
- iii. Payback Period (4 marks)

- V. A. Alta Ltd. has issued a 10 percent coupon interest rate, 10-year bond with a ₹1,000 par value that pays interest semi-annually. Compute the value of the bond if the required rate of return is 12 percent. (5 marks)

B. Khadija Ltd.'s after-tax cost of capital of the specific sources and capital structure is as follows:

Source	Amount (₹)	(%)
Debt	3,00,000	8
Preference Capital	2,00,000	14
Equity Capital	5,00,000	17
	10,00,000	

Calculate the weighted average cost of capital using book value weights. (5 marks)

- VI. Answer the following questions in brief: (10 marks)
- Describe the three broad areas of financial decision making.
 - Explain the term 'cost of capital' and how it is relevant in capital budgeting decisions.
- VII. Write short notes on any two of the following: (10 marks)
- Cash flow statement
 - Any two sources of long-term finance
 - Financial engineering
 - Infrastructure financing

Present Value of a Rupee

	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909	0.901	0.893	0.885	0.877	0.870
2	0.980	0.961	0.943	0.925	0.907	0.890	0.873	0.857	0.842	0.826	0.812	0.797	0.783	0.769	0.756
3	0.971	0.942	0.915	0.889	0.864	0.840	0.816	0.794	0.772	0.751	0.731	0.712	0.693	0.675	0.658
4	0.961	0.924	0.888	0.855	0.823	0.792	0.763	0.735	0.708	0.683	0.659	0.636	0.613	0.592	0.572
5	0.951	0.906	0.863	0.822	0.784	0.747	0.713	0.681	0.650	0.621	0.593	0.567	0.543	0.519	0.497
6	0.942	0.888	0.837	0.790	0.746	0.705	0.666	0.630	0.596	0.564	0.535	0.507	0.480	0.456	0.432
7	0.933	0.871	0.813	0.760	0.711	0.665	0.623	0.583	0.547	0.513	0.482	0.452	0.425	0.400	0.376
8	0.923	0.853	0.789	0.731	0.677	0.627	0.582	0.540	0.502	0.467	0.434	0.404	0.376	0.351	0.327
9	0.914	0.837	0.766	0.703	0.645	0.592	0.544	0.500	0.460	0.424	0.391	0.361	0.333	0.308	0.284
10	0.905	0.820	0.744	0.676	0.614	0.558	0.508	0.463	0.422	0.386	0.352	0.322	0.295	0.270	0.247
11	0.896	0.804	0.722	0.650	0.585	0.527	0.475	0.429	0.388	0.350	0.317	0.287	0.261	0.237	0.215
12	0.887	0.788	0.701	0.625	0.557	0.497	0.444	0.397	0.356	0.319	0.286	0.257	0.231	0.208	0.187
13	0.879	0.773	0.681	0.601	0.530	0.469	0.415	0.368	0.326	0.290	0.258	0.229	0.204	0.182	0.163
14	0.870	0.758	0.661	0.577	0.505	0.442	0.388	0.340	0.299	0.263	0.232	0.205	0.181	0.160	0.141
15	0.861	0.743	0.642	0.555	0.481	0.417	0.362	0.315	0.275	0.239	0.209	0.183	0.160	0.140	0.123
16	0.853	0.728	0.623	0.534	0.458	0.394	0.339	0.292	0.252	0.218	0.188	0.163	0.141	0.123	0.107
17	0.844	0.714	0.605	0.513	0.436	0.371	0.317	0.270	0.231	0.198	0.170	0.146	0.125	0.108	0.093
18	0.836	0.700	0.587	0.494	0.416	0.350	0.296	0.250	0.212	0.180	0.153	0.130	0.111	0.095	0.081
19	0.828	0.686	0.570	0.475	0.396	0.331	0.277	0.232	0.194	0.164	0.138	0.116	0.098	0.083	0.070
20	0.820	0.673	0.554	0.456	0.377	0.312	0.258	0.215	0.178	0.149	0.124	0.104	0.087	0.073	0.061

Present Value of an Annuity

	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909	0.901	0.893	0.885	0.877	0.870
2	1.970	1.942	1.913	1.886	1.859	1.833	1.808	1.783	1.759	1.736	1.713	1.690	1.668	1.647	1.626
3	2.941	2.884	2.829	2.775	2.723	2.673	2.624	2.577	2.531	2.487	2.444	2.402	2.361	2.322	2.283
4	3.902	3.808	3.717	3.630	3.546	3.465	3.387	3.312	3.240	3.170	3.102	3.037	2.974	2.914	2.855
5	4.853	4.713	4.580	4.452	4.329	4.212	4.100	3.993	3.890	3.791	3.696	3.605	3.517	3.433	3.352
6	5.795	5.601	5.417	5.242	5.076	4.917	4.767	4.623	4.486	4.355	4.231	4.111	3.998	3.889	3.784
7	6.728	6.472	6.230	6.002	5.786	5.582	5.389	5.206	5.033	4.868	4.712	4.564	4.423	4.288	4.160
8	7.652	7.325	7.020	6.733	6.463	6.210	5.971	5.747	5.535	5.335	5.146	4.968	4.799	4.639	4.487
9	8.566	8.162	7.786	7.435	7.108	6.802	6.515	6.247	5.995	5.759	5.537	5.328	5.132	4.946	4.772
10	9.471	8.983	8.530	8.111	7.722	7.360	7.024	6.710	6.418	6.145	5.889	5.650	5.426	5.216	5.019
11	10.368	9.787	9.253	8.760	8.306	7.887	7.499	7.139	6.805	6.495	6.207	5.938	5.687	5.453	5.234
12	11.255	10.575	9.954	9.385	8.863	8.384	7.943	7.536	7.161	6.814	6.492	6.194	5.918	5.660	5.421
13	12.134	11.348	10.635	9.986	9.394	8.853	8.358	7.904	7.487	7.103	6.750	6.424	6.122	5.842	5.583
14	13.004	12.106	11.296	10.563	9.899	9.295	8.745	8.244	7.786	7.367	6.982	6.628	6.302	6.002	5.724
15	13.865	12.849	11.938	11.118	10.380	9.712	9.108	8.559	8.061	7.606	7.191	6.811	6.462	6.142	5.847
16	14.718	13.578	12.561	11.652	10.838	10.106	9.447	8.851	8.313	7.824	7.379	6.974	6.604	6.265	5.954
17	15.562	14.292	13.166	12.166	11.274	10.477	9.763	9.122	8.544	8.022	7.549	7.120	6.729	6.373	6.047
18	16.398	14.992	13.754	12.659	11.690	10.828	10.059	9.372	8.756	8.201	7.702	7.250	6.840	6.467	6.128
19	17.226	15.678	14.324	13.134	12.085	11.158	10.336	9.604	8.950	8.365	7.839	7.366	6.938	6.550	6.198
20	18.046	16.351	14.877	13.590	12.462	11.470	10.594	9.818	9.129	8.514	7.963	7.469	7.025	6.623	6.259