JAIPURIA INSTITUTE OF MANAGEMENT
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JAIPURIA INSTITUTE OF MANAGEMENT, NOIDA
PGDM
FOURTH TRIMESTER (Batch 2019-21)
END TERM EXAMINATIONS, OCTOBER 2020
Set-I

Course Name	Corporate Valuation	Course Code	G/FIN501
Max. Time	2 hours	Max. Marks	40

Roll number	

1.This question paper has 2 questions with each question on a separate Excel sheet in this file
2.Solve each question below the data provided duly marking beginning and end of the answer
2.Solve each question using the Excel functionality only, wherever applicable.
4 State assumptions made, if any
5. Answer all questions
6.Marks are indicated against each question

Q No.	1
Maximum marks	40
Marks obtained	

Swady Food Delivery Ltd.

Swady Food Delivery Ltd. (SFDL) was the third largest food derlivery start up in India, operating out of all metro, mini metro, emerging metro and major cities, having presence in almost entire urban areas. Begun in 2008 as a small start up by mainly IITs and IIMs graduates, SFDL was mostly catering to students, the working class, and anyone who wanted the delicacies of her faviourite restaurant as well as comfort of her home. The company grew rapidly, primarily due to its reputation for customer service and an extensive tie up with leading restaurants, dhabas, and even street vendors. These differentiating factors allowed SFDL to compete directly with the other leading players in the industry, Lootazo, Food Bear, and Udhar Eats. But unlike the larger rival, SFDL had ambitions to grow inorganically through mergers and acquisitions. **Exhibit 1** contains the latest summary profit and loss account on the company.

In March 2020, SFDL was considering entering the business of home delivery of other grocery items, including entire range of home products and daily needs. The company would set up a web page where customers could choose items based on available in-store inventory and pick a time for delivery. This would put SFDL in competition with new online competitors, such as Amazon and Flipkart that were doing such business for a very long period.

While it was expected that the project would cannibalize the existing operations to some extent, management believed that incremental sales would be substantial in the long run. The project would provide customers the same convenience as food delivery. SFDL expected that the project would increase its annual revenue growth rate from 5% to 10% a year over the following 5 years. After that, as the home delivery business matured, the free cash flow would grow at the same 5% long-term rate as the other online delivery industry as a whole. **Exhibit 2** contains management's projections for the expected incremental revenues and cash flows achievable from the project.

SFDL management's major concern was the significant up-front investment required to start the project. This consisted primarily of setting up a network of delivery vehicles and staff, developing the website, and some initial advertising and promotional efforts to make existing customers aware of the new service. Management estimated these costs at Rs.150 million, all of which would be incurred in December 2020, as the service would be launched in January 2021.

Management was debating the project's debt capacity and the impact of any financing decisions on value. In the several brainstorming sessions that took place among the board on how much debt to raise for the project, two options were being considered: one was fixed amount of debt, which would either be kept in perpetuity or paid down gradually; other was to adjust the amount of debt so as to maintain a constant ratio of debt to firm value. In either case, the beta of debt was estimated at 0.40. The prevailing risk-free rate and the risk premium were found to be 6.15% and 8.4% respectively. **Exhibit 3** contains pertinent information on competition so that the analyst could use it for valuing SFDL's new business.

Questions

a. Analyse the value of the project assuming the firm was entirely equity financed?
b. Evaluate the project using the APV method assuming the firm raises Rs.75 million of debt to fund the project and keeps level of the debt constant in perpetuity.
c. Calculate the project value using the WACC approach assuming the firm maintains a constant 25% debt-to-market value ratio in perpetuity.
d. What are the end-of-year debt balances implied by the 25% target debt-to-value ratio? Analyse the proejct using the Capital Cash Flow (CCF) approach to value the project.

Exhibit 1

Summarised Income Statement (Rs in lakh)

	FY 2020
Sales	9,000
EBITDA	1,000
Depreciation	440
Operating Profit	560
Net Income	264

Exhibit 2

Projections for New Business (Rs in lakh)

	2021	2022	2023	2024	2025
Sales	480	960	1,560	2,240	3,000
EBITD	72	144	234	336	450
Depreciation	40	90	100	110	120
EBIT	(8)	54	134	226	330
Tax	3.2	21.6	53.6	90.4	132
Adjusted PAT	-4.8	32.4	80.4	135.6	198
Capex (additional)	120	120	120	120	120
Investment in Working Capital	3	3	3	3	3

Exhibit 3

Financial Data on Companies Comparable to SFDL's new business

(Rs. In Crore)

	Tata CLiQ				Amazon				
	2017	2018	2019	2020	2017	2018	2019	2020	2017
Sales	79.34	74.79	59.39	54.86	154.13	188.37	234.68	312.29	17.32
SG&A	18.58	17.67	14.59	13.97	19.28	20.92	23.62	33.44	2.59
EBITDA	7.30	6.44	2.38	2.76	18.85	26.24	43.22	58.67	0.19
PAT	(1.05)	1.54	4.54	5.27	(13.70)	3.21	16.09	21.75	(0.38)
Tot Assets	77.90	72.37	62.99	54.95	152.21	149.98	213.65	298.32	7.62
Capex	1.95	0.37	0.63	0.34	176.73	117.63	76.39	21.81	0.52
CA	51.47	45.86	38.69	34.01	57.69	70.22	118.54	159.93	3.89
CL	15.73	14.70	18.76	42.54	53.58	43.84	59.42	60.56	1.83
Debt	4.88	5.15	6.28	7.18	2.66	6.01	7.18	6.80	0.62
NW	12.73	14.82	16.03	18.10	57.32	67.36	132.20	211.19	2.98
Beta				1.31				1.40	
P/E ratio	NA	NA	18.63	17.31	NA	NA	37.39	29.43	NA

Big Basket			Flipkart			
2018	2019	2020	2017	2018	2019	2020
17.96	17.10	18.90	72.39	82.57	80.58	75.35
2.72	2.35	2.16				
0.18	0.73	1.81	6.66	7.65	8.17	4.27
(0.51)	1.47	3.84	2.96	3.20	3.80	1.50
7.31	7.11	7.33	40.66	45.91	49.98	46.85
0.40	0.28	0.28	5.22	3.45	3.05	3.33
3.98	4.23	4.79	22.54	28.50	27.59	22.08
2.23	3.13	2.95	5.46	8.92	10.63	6.41
0.66	0.67	0.71	0.90	0.71	0.37	0.17
2.34	2.64	3.41	32.82	34.53	36.50	37.56
		1.20				1.08
NA	20.30	22.49	NA	NA	NA	27.78

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FOURTH TRIMESTER (Batch 2019-21)

END TERM EXAMINATIONS, NOVEMBER 2020

Set-II

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1.Solve the case below the data provided duly marking beginning and end of the answer

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Penelope's Personal Pocket Phones

Penelope Phillips sat in her laboratory at the University of the North and tried to determine whether she should start a company focussed on the next generation of wireless phone technology. Her work in electrical engineering and the 15 patents she held told her that she could enter the market with a new generation of phones. The problem was, however, that the market was quite competitive and she knew that it would therefore be difficult to succeed. Penelope understood that getting into the market today might lead to much bigger opportunities in the future.

Penelope looked at her projections. In order to get the first generation to market she would have to invest $10 million in the first year. The cash flow forecasts in **Exhibit 1** show what she expected to earn on this first product. Comparable firms in the industry had unlevered betas of around 1.2 and annual standard deviation of returns of 50%, so she set out to see if the investment was worth the time and energy. The 10-year Treasury bond was yielding 7.5% at the time. Premium on market risk can be taken as per Aswath's research (8.45%).

Penelope also knew that by starting the company today, she would have the opportunity to invest in the subsequent generation of phones. Given the expectations about future costs, this opportunity would take $100 million to bring to market. She estimated, however, that she would have to make the investment four years from now when the entire $100 million would have to be invested. She wondered how big the current expected value on the second-generation phone would have to be in order to justify investing in the proposed project. She set about trying to calculate that value.

Thirty minutes into her calculations, Jay Thomas called to tell her that she would be able to start the project using equipment that could easily be sold for $4 million in year two if demand was not high for her phones. By year two, she could be reasonably confident of what the value of her first generation of phones would be; that is, she assumed that the value would be known with certainty at that time. If that were the case, Penelope wondered what the value of the first project would be. She decided to ignore the second-generation phones for a while and focus on this new problem. Did the possibility of selling the equipment at the end of year two make the first project worth it even if there were no follow-on project? If she modeled the annual change in value, Penelope figured that the
expected value of cash flows from the first-generation phones would either increase by 64.9% or decrease by 39.3% each year. She wondered how to proceed with her analysis. She has given you a free hand to plug in any missing information to have a worthwhile analysis.

Exhibit 1: Pro forma projections for Penelope's Personal Pocket Phones

	2001	2002	2003	2004	2005	2006
Income Statement						
Net Sales	0	8,600	14,000	18,000	14,500	8,000
COGS	0	3,500	5,300	7,100	6,500	3,200
Gross Pro	0	5,100	8,700	10,900	8,000	4,800
SG&A	1,900	2,300	3,000	3,700	4,200	4,000
R&D	2,100	2,800	3,000	3,500	3,900	2,000
EBIT	(4,000)	0	2,700	3,700	(100)	(1,200)
Income T.	0	0	295	1,415	(35)	(300)
Net Earni	(4,000)	0	2,405	2,285	(65)	(900)
Depreciat	900	900	900	900	900	900
Investmer	1,500	0	0	0	0	(1,500)

[a] If a firm makes a loss but has paid taxes in previous years it receives a refund on previous taxes