

**STRATEGIC FINANCIAL MANAGEMENT – SEMESTER-5**

Marks

**Question No. 1**

(a)

CMMC Limited  
Projected Income Statement  
Period from 2019 to 2024

	Rs. in million						
Years	2019	2020	2021	2022	2023	2024	
<b>Income:</b>							
Self-managed services	380.00	395.20	411.01	427.45	444.55	462.33	1½
Outsourcing services	900.00	936.00	973.44	1,012.38	1,052.87	1,094.99	1½
Other income	340.00	357.00	374.85	393.59	413.27	433.94	1½
<b>Total Income</b>	<b>1,620.00</b>	<b>1,688.20</b>	<b>1,759.30</b>	<b>1,833.42</b>	<b>1,910.69</b>	<b>1,991.25</b>	
Cost of services (including depreciation) (N-1)	750.00	769.30	789.57	810.84	833.19	856.64	1½
<b>Gross profit/ (loss)</b>	<b>870.00</b>	<b>918.90</b>	<b>969.73</b>	<b>1,022.58</b>	<b>1,077.51</b>	<b>1,134.61</b>	1
Administrative and selling expenses (including depreciation) (N-2)	345.00	358.20	372.06	386.61	401.89	417.94	1½
Others expenses	120.00	124.80	129.79	134.98	140.38	146.00	1½
<b>Profit before tax</b>	<b>405.00</b>	<b>435.90</b>	<b>467.88</b>	<b>500.98</b>	<b>535.23</b>	<b>570.67</b>	1
Income tax @ 32%	129.60	139.49	149.72	160.31	171.27	182.61	1½
<b>Profit after tax</b>	<b>275.40</b>	<b>296.41</b>	<b>318.16</b>	<b>340.67</b>	<b>363.96</b>	<b>388.06</b>	1½

**Notes:**

	Rs. in million						
Years	2019	2020	2021	2022	2023	2024	
<b>N-1: Cost of Services:</b>							
Cost of services (excluding depreciation)	386.00	405.30	425.57	446.84	469.19	492.64	
Add: depreciation (N-3)	364.00	364.00	364.00	364.00	364.00	364.00	
<b>Total Cost of Services</b>	<b>750.00</b>	<b>769.30</b>	<b>789.57</b>	<b>810.84</b>	<b>833.19</b>	<b>856.64</b>	1
<b>N-2: Administrative and Selling Expenses:</b>							
Administrative and selling expenses (excluding depreciation)	264.00	277.20	291.06	305.61	320.89	336.94	
Add: depreciation (N-3)	81.00	81.00	81.00	81.00	81.00	81.00	
<b>Total Administrative and selling expenses</b>	<b>345.00</b>	<b>358.20</b>	<b>372.06</b>	<b>386.61</b>	<b>401.89</b>	<b>417.94</b>	1

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N-3: Depreciation Schedule:

	Rs. in million	Annual Rate of Depreciation	Annual Depreciation (Rs. in million)	Allocation				
				Cost of Service		Administrative and Selling Expenses		
				%	Rs. in million	%	Rs. in million	
Building and civil works including infrastructure	1,800	10%	180.00	70	126.00	30	54.00	½
Plant and machinery	2,200	10%	220.00	100	220.00	–	–	½
Furniture and fixture	300	15%	45.00	40	18.00	60	27.00	½
<b>Total</b>	<b>4,300</b>		<b>445.00</b>		<b>364.00</b>		<b>81.00</b>	½

Ignore survey and other expenses amounting to Rs. 3.3 million because of irrelevant and sunk cost.

(b) (i) Year-Wise Future Net Cash Flows period from 2017 to 2024:

Years	Rs. in million								
	2017	2018	2019	2020	2021	2022	2023	2024	
<b>Profit after tax</b>	-	-	275.40	296.41	318.16	340.67	363.96	388.06	
Add back Depreciation	-	-	445.00	445.00	445.00	445.00	445.00	445.00	1
Additional working capital required and recovered	-	-	-	-	-	(52.00)	(55.00)	107.00	1
	-	-	720.40	741.41	763.16	733.67	753.96	940.06	
Cash flows	(3,850.00)	(1,650.00)	720.40	741.41	763.16	733.67	753.96	940.06	1
Terminal cash flow (N-4)								11,071.77	½
<b>Future net cash flows</b>	<b>(3,850.00)</b>	<b>(1,650.00)</b>	<b>720.40</b>	<b>741.41</b>	<b>763.16</b>	<b>733.67</b>	<b>753.96</b>	<b>12,011.82</b>	1

N-4: Calculation of Terminal Cash Flow:

$$\begin{aligned} \text{Terminal cash flow} &= \frac{2024 \text{ earnings } (1+g)}{(r-g)} && \frac{1}{2} \\ &= \frac{940.06 (1+0.06)}{(0.15-0.06)} \\ &= 11,071.77 && 1 \end{aligned}$$

**STRATEGIC FINANCIAL MANAGEMENT – SEMESTER-5****Marks****(ii) Payback Period:**

	Rs. in million								
Years	2017	2018	2019	2020	2021	2022	2023	2024	
Cash flows	(3,850.00)	(1,650.00)	720.40	741.41	763.16	733.67	753.96	940.06	
Terminal cash flow	-	-	-	-	-	-	-	-	11,071.77
	(3,850.00)	(1,650.00)	720.40	741.41	763.16	733.67	753.96	12,011.82	
Cumulative cash flow	(3,850.00)	(5,500.00)	(4,779.60)	(4,038.19)	(3,275.03)	(2,541.36)	(1,787.41)	10,224.41	1
<b>Payback period</b>		<b>7.15</b>	<b>Years</b>						1

**(iii) Net Present Value:**

	Rs. in million								
Years	2017	2018	2019	2020	2021	2022	2023	2024	
Cash flows	(3,850.00)	(1,650.00)	720.40	741.41	763.16	733.67	753.96	940.06	
Terminal cash flow	-	-	-	-	-	-	-	-	11,071.77
	(3,850.00)	(1,650.00)	720.40	741.41	763.16	733.67	753.96	12,011.82	
PVF @ 15%	0.870	0.756	0.658	0.572	0.497	0.432	0.376	0.327	
	<b>(3,349.50)</b>	<b>(1,247.40)</b>	<b>474.02</b>	<b>424.09</b>	<b>379.29</b>	<b>316.94</b>	<b>283.49</b>	<b>3,927.87</b>	4
<b>Net Present Value</b>		<b>Rs. 1,208.80</b>							1

**(iv) Internal Rate of Return:**

NPV @ 15%:

	Rs. in million								
Years	2017	2018	2019	2020	2021	2022	2023	2024	
Cash flows	(3,850.00)	(1,650.00)	720.40	741.41	763.16	733.67	753.96	940.06	
Terminal cash flow	-	-	-	-	-	-	-	-	11,071.77
Future net cash flow	(3,850.00)	(1,650.00)	720.40	741.41	763.16	733.67	753.96	12,011.82	
PVF @ 15%	0.870	0.756	0.658	0.572	0.497	0.432	0.376	0.327	
	<b>(3,349.50)</b>	<b>(1,247.40)</b>	<b>474.02</b>	<b>424.09</b>	<b>379.29</b>	<b>316.94</b>	<b>283.49</b>	<b>3,927.87</b>	2
<b>NPV</b>			<b>1,208.80</b>						

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NPV @ 20%:

	Rs. in million								
Years	2017	2018	2019	2020	2021	2022	2023	2024	
Cash flows	(3,850.00)	(1,650.00)	720.40	741.41	763.16	733.67	753.96	940.06	
Terminal cash flow	-	-	-	-	-	-	-	-	11,071.77
Future net cash flow	(3,850.00)	(1,650.00)	720.40	741.41	763.16	733.67	753.96	12,011.82	
PVF @ 20%	0.833	0.694	0.579	0.482	0.402	0.335	0.279	0.233	
<b>NPV</b>	<b>(3,207.05)</b>	<b>(1,145.10)</b>	<b>417.11</b>	<b>357.36</b>	<b>306.79</b>	<b>245.78</b>	<b>210.35</b>	<b>2,798.75</b>	<b>2</b>
			<b>(16.00)</b>						

$$\begin{aligned} \text{Internal Rate of Return} &= 15\% + \frac{1,208.80}{1,224.80} (20\% - 15\%) \\ &= \mathbf{19.93\%} \end{aligned}$$

$$\begin{aligned} \text{(v) Profitability Index (PI)} &= \text{Present value of cash inflow} \div \text{Present value of cash outflow} && \frac{1}{2} \\ &= 5,805.70 \div 4,596.90 && \frac{1}{2} \\ &= 1.263 && 1 \end{aligned}$$

**(c)** Based on calculations given in **(a)** and **(b)**, CMMC should ahead to incorporate model cattle market because all indicators are positive and acceptable. 2

**Question No. 2**

Borrow and Buy Analysis:	Rupees				
Years	0	1	2	3	
Loan payment (Note-1)	-	(2,190,101)	(2,190,101)	(2,190,101)	$\frac{1}{2}$
Interest tax savings (Note-4)	-	300,000	213,607	114,255	$\frac{1}{2}$
Depreciation tax savings (Note-3)	-	666,666	666,667	666,667	$\frac{1}{2}$
	-	(1,223,435)	(1,309,827)	(1,409,179)	$\frac{3}{4}$
PVF @ 9% (N-2)	1.00	0.917	0.842	0.772	
Present Value	-	(1,121,890)	(1,102,875)	(1,087,886)	$\frac{3}{4}$
Present value cost of buying		<b>Rs. (3,312,651)</b>			$\frac{1}{2}$

**Notes:**

$$\begin{aligned} \text{N-1: Annual Loan payment} &= \text{Rs. } 5,000,000_{(15\%, 3 \text{ Years})} \\ &= \text{Rs. } 2,190,101 && 1 \\ \text{N-2: Discount rate} &= 15\% \times (1 - \text{Tax}) = 15\% \times (1 - 0.40) && \frac{1}{2} \\ &= 9.00\% \end{aligned}$$

**STRATEGIC FINANCIAL MANAGEMENT – SEMESTER-5****Marks**

N-3: Depreciation Schedule:

Rupees

Year	Rate of Depreciation	Amount of Depreciation
1	33.33%	1,666,666
2	33.33%	1,666,667
3	33.34%	1,666,667
		<b>5,000,000</b>

N-4: Loan Amortization Schedule:

Rupees

Year	Beginning Amount	Payment	Interest	Repayment of Principal	Remaining Balance	Marks
1	5,000,000	(2,189,884.81)	750,000	(1,439,885)	3,560,115	1¼
2	3,560,115	(2,189,884.81)	534,017	(1,655,868)	1,904,248	1¼
3	1,904,248	(2,189,884.81)	285,637	(1,904,248)	–	1¼

Lease Analysis:

Rupees

	Years	0	1	2	3	Marks
Lease payment		-	(1,600,000)	(1,600,000)	(1,600,000)	½
Payment tax savings		-	640,000	640,000	640,000	½
Market value machine (N-5)		-	-	-	(1,000,000)	¼
		-	(960,000)	(960,000)	(1,960,000)	½
PVF @ 9%		1.00	0.917	0.842	0.772	
Present Value		-	(880,320)	(808,320)	(1,513,120)	½
Present value cost of leasing			<b>Rs. (3,201,760)</b>			½

Conclusion: Since the cost of leasing the machinery is less than the cost of buying it (Rs.3,312,651 – Rs.3,201,760 = Rs.110,891), the company should lease the machinery.

½

N-5: Cost of purchasing the machinery after the lease expires. Note that since the company is purchasing the machine at the end of the lease, there are no tax effects due to the residual value (purchase price) being greater than the book value. If we were to assume that the company would not want to keep the machine beyond the lease term, then we should show the residual value of selling the machine as an inflow under the purchase alternative, and there would be no residual value flow under the lease alternative. In this situation, there would be tax on the residual value from selling the machine: (Rs.1,000,000 – 0) 0.40 = Rs.400,000.

N-6: Maintenance expense is excluded from the analysis since the firm will have to bear the cost whether it buys or lease the machinery.

**STRATEGIC FINANCIAL MANAGEMENT – SEMESTER-5**

Marks

**Question No. 3**

(a)

		Rs. '000'	
<b>Exiting return on equity</b>			
Profit before interest and tax		105,000	
Less: debt interest @ 15%	(Rs. 225,000 x 15%	33,750	
Profit before tax		71,250	
Taxes @ 32%		22,800	
<b>Net profit after tax</b>		<b>48,450</b>	1
Return on equity	=	$\frac{48,450}{375,000}$	= <b>12.92%</b>

(b)

		Rs. '000'	
<b>Return on equity Alternate 1</b>			
Profit before interest and tax		105,000	
Interest earned on investment @ 12% x Rs. 50 million x 1/2		3,000	½
Total		108,000	
Less: debt interest @ 15%	(Rs. 225,000 x 15%)	33,750	½
Profit before tax		74,250	
Taxes @ 32%		23,760	
<b>Net profit after tax</b>		<b>50,490</b>	1
Return on equity	=	$\frac{50,490}{375,000}$	= <b>13.46%</b>
<b>Return on equity Alternate 2</b>			
Profit before interest and tax		105,000	
Less: debt interest @ 15%	(Rs. 225,000- Rs. 60,000) x 15%	24,750	½
		80,250	½
Less: Interest on short term loan @ 16%			
On Rs. 30 million (April)	(30,000 x 16% x 6/12)	2,400	½
On Rs. 20 million (May)	(20,000 x 16% x 5/12)	1,333	½
On Rs. 10 million (June)	(10,000 x 16% x 4/12)	534	½
Profit before tax		75,983	
Taxes @ 32%		24,315	
<b>Net profit after tax</b>		<b>51,669</b>	1
Return on equity	=	$\frac{51,669}{375,000}$	= <b>13.78%</b>

Alternative 2 is best for Nawab Rice Mills as return on equity is highest in this alternative. ½

**STRATEGIC FINANCIAL MANAGEMENT – SEMESTER-5****Marks****Question No. 4**

Proposal-1:

					Rupees	
Particulars	Year	Cost	PV Factor @ 10%	PV		
Purchase value	0	720,000	1.000	720,000		½
Operating costs	1	55,000	0.909	49,995		½
	2	55,000	0.826	45,430		½
	3	75,000	0.751	56,325		½
	4	92,000	0.683	62,836		½
	5	115,000	0.621	71,415		½
	6	131,000	0.564	73,884		½
Salvage value	6	(150,000)	0.564	(84,600)		½
Total present value				995,285		½

$$\begin{aligned} \text{Equivalent Annual Cost} &= \frac{\text{Total Present value of the project}}{\text{PV of annuity corresponding to the life of the project at the given cost of capital}} \\ &= \frac{995,285}{4.354} \\ &= \text{Rs.228,591} \end{aligned} \quad \frac{1}{2}$$

Proposal-2:

					Rupees	
Particulars	Year	Cost	PV Factor @ 10%	PV		
Purchase value	0	510,000	1.000	510,000		½
Operating costs	1	65,000	0.909	59,085		½
	2	85,000	0.826	70,210		½
	3	100,000	0.751	75,100		½
	4	150,000	0.683	102,450		½
Salvage value	4	(45,000)	0.683	(30,735)		½
Total present value				786,110		½

$$\begin{aligned} \text{Equivalent Annual Cost} &= \frac{\text{Total Present value of the project}}{\text{PV of annuity corresponding to the life of the project at the given cost of capital}} \\ &= \frac{786,110}{3.169} \\ &= \text{Rs.248,062} \end{aligned} \quad \frac{1}{2}$$

Recommendations:

Creative Lahore Centre (CLC) should go for inverter air conditioners as the equivalent annual cost is lower; secondly inverter is a modern technology with reasonable operating cost.

1

**STRATEGIC FINANCIAL MANAGEMENT – SEMESTER-5****Marks****Question No. 5**

(a)

Sehar Clothing  
Statement of Profit or Loss  
for the year ended June 30, 2015

	US \$ '000'		
	PKR	US \$	
Sales	163.46	163.46	½
Cost of goods sold	106.38	102.04	1
Depreciation	5.77	5.56	1
Other operating expenses	37.50	37.50	½
Tax	11.54	11.54	½
Operating income	2.27	6.82	1
Translation gain	–	9.24	1
Net income	2.27	16.06	½ + 1

(b)

Sehar Clothing  
Statement of Financial Position  
as on June 30, 2015

	US \$ '000'		
	PKR	US \$	
Cash	6.50	6.50	½
Accounts receivables	34.50	34.50	½
Inventories	34.00	34.69	1
Net non-current assets	28.00	25.93	1
Total	103.00	101.62	½
Accounts payables	30.00	30.00	½
Ordinary share capital	9.26	9.26	½
Retained earnings	48.57	62.36	1
Cumulative translation adjustment	15.17	–	1
Total	103.00	101.62	½

**STRATEGIC FINANCIAL MANAGEMENT – SEMESTER-5****Marks****Question No. 6**

Estimate of Requirement of Working Capital:	Rs. '000'	
<b>Current Assets:</b>		
Finished stock (N-1)	1,700	½
Work-in-progress (N-2)	1,776	½
Raw Material stock (N-3)	1,610	½
Sundry debtors (Rs. 21,000,000 x 80% x 2 / 12) (N-7)	2,800	½
Cash in hand	500	½
	<u>8,386</u>	½
<b>Current Liabilities:</b>		
Creditors for:		
Purchases (N-4)	1,408.75	½
Wages and manufacturing expenses (N-5)	552.08	½
Administration and selling expenses (N-6)	225.00	½
Provision for taxation	100.00	½
	<u>2,285.83</u>	½
<b>Working Capital Requirement (a – b)</b>	<b>6,100.17</b>	½

Working Notes:	Rs. '000'	
<b>N-1: Finished Goods</b>		
Raw material	840	
Wages and manufacturing expenses	625	
Depreciation	<u>235</u>	
	<u>1,700</u>	1
<b>N-2: Work-in-process:</b>		
Raw material (Rs. 8,400,000 x 15%)	1,260	½
Wages and manufacturing expenses (Rs. 6,250,000 x 15% x 40%)	375	½
Depreciation (Rs. 2,350,000 x 15% x 40%)	141	½
	<u>1,776</u>	½
<b>N-3: Raw Material Stock (1/6th of material consumption):</b>		
Finished goods	8,400	
Work-in-process	1,260	
	<u>9,660</u>	
Raw material stock (Rs. 9,660,000 x 1/6)	1,610	1
<b>N-4: Creditors for Raw Materials (11/2 month of total purchase of raw material for the year):</b>		
Finished goods	8,400	
Work-in-process	1,260	
Raw material stock	1,610	
	<u>11,270</u>	
Creditors for Raw Material Purchases (Rs. 11,270,000 x 1.5 / 12)	1,408.75	1
<b>N-5: Creditors for Wages and Manufacturing expenses:</b>		
(Rs. 6,250,000 + Rs. 375,000) x 1/12	552.08	½

**STRATEGIC FINANCIAL MANAGEMENT – SEMESTER-5**

	Rs. '000'	Marks
N-6: Creditors for Administrative and Selling expenses: (Rs. 2,700,000) x 1/12	225.00	½
N-7: Sundry debtors breakup:		
Material (8,400,000/21,000,000 × 2,800,000 × 90/100)	1,008	
Wages and manufacturing expenses (6,250,000/21,000,000 × 2,800,000 × 90/100)	750	
Depreciation (2,350,000/21,000,000 × 2,800,000 × 90/100)	282	
Administrative & selling expenses (2,700,000/21,000,000 × 2,800,000)	360	
Profit (10,500,000/21,000,000 × 2,800,000)	400	
<b>Total</b>	<b>2,800</b>	<b>2</b>

**THE END**