



## **CLINICAL LABORATORY**

### **Introduction**

Laboratory services are an integral part of disease diagnosis, treatment, monitoring response to treatment, disease surveillance programmes and clinical research. Use of diagnostic techniques aid early diagnosis enabling appropriate and prompt intervention thereby reducing overall disease burden and promoting health. All laboratories are not equipped with facilities for carrying out complex investigations. The structure and function of a clinical laboratory varies according to the level of health care facility. Peripheral laboratories carry out simple tests like urine analysis and haemoglobin estimation whereas higher centers are equipped with sophisticated technology and trained manpower to carry out complex investigations. The laboratory testing market is segmented by type of testing into routine and specialty. Clinical testing is also carried out in physician office apart from hospitals and independent labs.

**The model DPR has been prepared on the basis of existing market rates.**

### **Market Potential**

The clinical laboratory testing services market is dynamic with rapid changes happening in the industry. The preference for point-of-care testing and personalized medicine has been growing each year, thus boosting the lab testing business. Major factors responsible for the growth of this market are aging population, increased healthcare spending and preference for preventive medicine. The other factors contributing to the steady growth are cost effectiveness of lab testing and increase in the integrated analytical systems. In addition, presence of untapped growth opportunities and the rapidly improving healthcare infrastructure in emerging markets are expected to offer growth opportunities for industry participants.

## Basic Know How

Infrastructure of laboratories should be planned according to the services provided by the laboratory. The basic infrastructure facilities should include:

- Reception room/area where requisition forms are received and reports disbursed;
- Specimen collection room/area, toilets, privacy for special purposes eg. Semen collection, facilities for disabled persons, toilet for staff;
- Quality water supply for analytical purpose;
- Uninterrupted power supply;
- Analytical work area;
- Specimen/Sample/slide storage facility including cold storage where applicable;
- Record room/area;
- Facility for cleaning of glassware, sterilization /disinfection;
- Waste disposal facility including biomedical wastes;
- Fire-safety equipment;
- Ventilation, climate control and lighting arrangements;
- Separate room/area for meetings/administrative work;
- Separate facilities/area for staff for hand washing, eating and storing food, drinks etc.;
- Communication facility with referral centers;
- Transport of specimen/samples to referral centers and
- Additional infrastructure facilities may be added for special tasks as and when needed.

## Cost of Project

Particulars	Amount (Rs. in Lakhs)
Land & Site development	-
Civil works and Buildings	4.00
Equipments (Annexure)	2.37
Miscellaneous Fixed Assets (Annexure)	1.99
D G Set (10 KVA)	0.25
Escalation & Contingencies	0.43
Preliminary & Preoperative Expenses	1.39
<b>Sub-total(A)</b>	<b>10.43</b>
Working Capital Margin @40% of Total WC Requirement	0.20
<b>Total Project Cost</b>	<b>10.63</b>
Total Working Capital Required (B) @ Lumpsum	0.50
<b>MEANS OF FINANCE</b>	
<b>Total Funds Required (A+B)</b>	10.93
<u>Loan Component</u>	-
TERM LOAN (60% of A)	6.26
WORKING CAPITAL (60% of B)	0.30
<b>Total</b>	<b>6.56</b>
Equity	4.37
<b>Total</b>	<b>10.93</b>

## Detailed Cost Element

Sl. No.	Particulars	Quantity	Rate	Amount (Rs. in Lakhs)
1	Laboratory freezer	1	80000	0.80
2	Micropipette	LS		0.20
3	Haematology Analyser	3	4900	0.15
4	Microscope	3	1600	0.05
5	Electric oven	1	7500	0.08
6	Other medical laboratory and medical equipments	LS		1.10
<b>TOTAL</b>				<b>2.37</b>

## Contingencies and Escalations

It has been assumed at approximately 5% at cost.

## Preliminary Expenses

Particulars	Amount (Rs. in Lakhs)
Incorporation Expenses	0.15
Project Report Preparation and Consultation	0.35
Feasibility and Engineer's/Architect's Report and Plans	0.10
Legal Charges - Drafting for agreements, contracts, stamp paper, notary and affidavit cost	0.05
Security guard and others	0.60
Interest Cost for period before commercial production	0.14
<b>Total</b>	<b>1.39</b>

## Salary

Designation	Manpower	Amount (Rs. in Lakhs)
Laboratory Technician	4	0.48
Helper	1	5.28

## Profitability Statement

Particulars	Amount (Rs. in lakhs)				
	Year- 1	Year- 2	Year- 3	Year- 4	Year- 5
<b><u>A. INCOME</u></b>					
Service Capacity (patients)	10800	10800	10800	10800	10800
Capacity utilisation	60%	65%	70%	75%	80%
Capacity During the year	6480	7020	7560	8100	8640
<b>Annual turnover</b>	<b>12.96</b>	<b>14.04</b>	<b>15.12</b>	<b>16.20</b>	<b>17.28</b>
<b>Total income during the year</b>	<b>12.96</b>	<b>14.04</b>	<b>15.12</b>	<b>16.20</b>	<b>17.28</b>
<b><u>B. OPERATING EXPENSES</u></b>					
Consumables	0.45	0.49	0.53	0.56	0.60
Salary	5.28	5.54	5.82	6.11	6.42
Repair & Maintenance	0.26	0.28	0.30	0.32	0.35
Power & utilities	1.91	1.95	1.99	2.03	2.07
Depreciation and Amortisation	0.85	0.85	0.85	0.74	0.74
<b>Total Operating Expenses</b>	<b>8.75</b>	<b>9.11</b>	<b>9.49</b>	<b>9.77</b>	<b>10.18</b>
<b>Operating Profit (A-B)</b>	<b>4.21</b>	<b>4.93</b>	<b>5.63</b>	<b>6.43</b>	<b>7.10</b>
<b><u>C. FINANCIAL EXPENSES</u></b>					
Interest on term loan	0.50	0.42	0.35	0.27	0.19
Interest on working capital	0.03	0.03	0.03	0.03	0.03
<b><u>D. Other Expenses</u></b>					
Administrative and general Expenses	0.26	0.28	0.30	0.32	0.35
<b>Total Expenses</b>	<b>0.78</b>	<b>0.73</b>	<b>0.67</b>	<b>0.62</b>	<b>0.56</b>
<b>Profit Before Tax</b>	<b>3.43</b>	<b>4.20</b>	<b>4.96</b>	<b>5.81</b>	<b>6.54</b>
Provision for Tax	0.86	1.05	1.24	1.45	1.63
<b>Profit after Tax (PAT)</b>	<b>2.57</b>	<b>3.15</b>	<b>3.72</b>	<b>4.36</b>	<b>4.90</b>
Dividend Declared	0.00	0.00	0.00	0.00	0.00
<b>Retained Profit</b>	<b>2.57</b>	<b>3.15</b>	<b>3.72</b>	<b>4.36</b>	<b>4.90</b>

## Breakeven Point

Break Even Point (BEP)		Amount (Rs. In Lakhs)				
SL	Particulars	Year - 1	Year - 2	Year - 3	Year - 4	Year - 5
A.	Net Sales	12.96	14.04	15.12	16.20	17.28
B.	Variable Cost					
	Raw Material	0.45	0.49	0.53	0.56	0.60
	Power and Utility	1.91	1.95	1.99	2.03	2.07
	Total Variable Cost	2.36	2.44	2.52	2.59	2.67
C.	Contribution (A-B)	10.60	11.60	12.60	13.61	14.61
D.	Fixed cost					
	Salary	5.28	5.44	5.82	6.11	6.42
	Interest on Term Loan	0.50	0.42	0.35	0.27	0.19
	Interest on WC Loan	0.03	0.03	0.03	0.03	0.03
	Repair & Maintenance	0.26	0.28	0.30	0.32	0.35
	Depreciation and Amortization	0.85	0.85	0.85	0.74	0.74
	Total Fixed Cost	6.91	7.12	7.34	7.47	7.72
E.	Breakeven Point	65%	61%	58%	55%	53%
F.	Cash BEP	57%	54%	52%	49%	48%

## Debt-Service Coverage Ratio

		Amount (Rs. In lakhs)				
SL	Particulars	Year - 1	Year - 2	Year - 3	Year - 4	Year - 5
i	Profit	2.57	3.15	3.72	4.36	4.90
ii	Depreciation	0.85	0.85	0.85	0.74	0.74
iii	Interest	0.50	0.42	0.35	0.27	0.19
A	Total (i + ii + iii)	3.92	4.42	4.91	5.37	5.84
i	Interest	0.50	0.42	0.35	0.27	0.19
ii	Principal repayment	0.89	0.89	0.89	0.89	0.89
B	Total (i + ii)	1.39	1.32	1.24	1.16	1.09
	DSCR (A / B)	2.81	3.36	3.96	4.62	5.37

## Interest on Term Loan and Principal Repayment

Refer Annexure I for Loan Repayment Schedule.

We have assumed the repayment tenure of term loan for a period of 7 years, Rate of interest being 8.5% p.a.

## Address of Vendors

Name of the Vendor	Address and Contact Number
Krew Instruments Pvt.Ltd	Building No-4/1101, Niraj Park, Wayle Nagar, Gandhare Road, Kalyan West, Kalyan, Maharashtra 421301 Phone: 092244 33419
Operon Bio Tech & Health Care	GVR Hexa, No 428, 3rd Floor, 8th Main Rd, Koramangala 4th Block, Bengaluru, Karnataka 560047 Phone: 080 4202 7704
Radical Scientific Equipments Private Limited	9th Mile Stone, Ambala-Jagadhri Road, NH 444A, Ambala Cantt, Haryana 133104 Phone: 1800 123

## ANNEXURE- I

Year	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Annually
<b>I</b>													
<b>Principal</b>													
Opening	6.26	6.18	6.11	6.03	5.96	5.89	5.81	5.74	5.66	5.59	5.51	5.44	
Repaid	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	<b>0.89</b>
Closing	6.18	6.11	6.03	5.96	5.89	5.81	5.74	5.66	5.59	5.51	5.44	5.36	
<b>Interest</b>	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	<b>0.50</b>
<b>II</b>													
<b>Principal</b>													
Opening	5.36	5.29	5.22	5.14	5.07	4.99	4.92	4.84	4.77	4.69	4.62	4.54	
Repaid	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	<b>0.89</b>
Closing	5.29	5.22	5.14	5.07	4.99	4.92	4.84	4.77	4.69	4.62	4.54	4.47	
<b>Interest</b>	0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	<b>0.42</b>
<b>III</b>													
<b>Principal</b>													
Opening	4.47	4.40	4.32	4.25	4.17	4.10	4.02	3.95	3.87	3.80	3.73	3.65	
Repaid	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	<b>0.89</b>
Closing	4.40	4.32	4.25	4.17	4.10	4.02	3.95	3.87	3.80	3.73	3.65	3.58	
<b>Interest</b>	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	<b>0.35</b>
<b>IV</b>													
<b>Principal</b>													
Opening	3.58	3.50	3.43	3.35	3.28	3.20	3.13	3.05	2.98	2.91	2.83	2.76	
Repaid	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	<b>0.89</b>
Closing	3.50	3.43	3.35	3.28	3.20	3.13	3.05	2.98	2.91	2.83	2.76	2.68	
<b>Interest</b>	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	<b>0.27</b>
<b>V</b>													
<b>Principal</b>													
Opening	2.68	2.61	2.53	2.46	2.38	2.31	2.24	2.16	2.09	2.01	1.94	1.86	
Repaid	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	<b>0.89</b>
Closing	2.61	2.53	2.46	2.38	2.31	2.24	2.16	2.09	2.01	1.94	1.86	1.79	
<b>Interest</b>	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	<b>0.19</b>
<b>VI</b>													
<b>Principal</b>													
Opening	1.79	1.71	1.64	1.56	1.49	1.42	1.34	1.27	1.19	1.12	1.04	0.97	
Repaid	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	<b>0.89</b>
Closing	1.71	1.64	1.56	1.49	1.42	1.34	1.27	1.19	1.12	1.04	0.97	0.89	
<b>Interest</b>	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	<b>0.12</b>
<b>VII</b>													
<b>Principal</b>													
Opening	0.89	0.82	0.75	0.67	0.60	0.52	0.45	0.37	0.30	0.22	0.15	0.07	
Repaid	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	<b>0.89</b>
Closing	0.82	0.75	0.67	0.60	0.52	0.45	0.37	0.30	0.22	0.15	0.07	0.00	
<b>Interest</b>	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.04</b>