

## APPENDICES

### Appendix 1

#### Financial Analysis

#### I) Percentage of various Investment out of Total Working Fund of GBIME

F/Y	Total Working Fund (Rs. In million)	Loans & Advances (Rs. In million)	%	Investment in Govt. Securities (Rs. In million)	%	Investment in shares & Debentures (Rs. In million)	%	Total
								%
2011/12	29036.8	20296.50	69.89923132	3820.69	13.15809593	426.36	1.468343619	84.52567087
2012/13	36466	26212.29	71.88145121	5342.25	14.6499479	207.67	0.569489387	87.1008885
2013/14	57221.28	41777.65	73.01068763	8268.92	14.45077775	411.86	0.719767192	88.18123258
2014/15	66364.27	48936.96	73.73992059	10321	15.55204329	396.52	0.597490186	89.88945407
2015/16	79875.95	59219.29	74.1390744	17567.54	21.99352872	423.17	0.529783996	96.66238711
2016/17	110638.33	78965.10	71.3722812	15010.87	13.56751318	1223.93	1.106244102	86.04603848

Source: "Annual Report of Global IME Bank Ltd."

#### II) Percentage of various Investment out of Total Working Fund of PCBL

F/Y	Total Working Fund (Rs. In million)	Loans & Advances (Rs. In million)	%	Investment in Govt. Securities (Rs. In million)	%	Investment in shares & Debentures (Rs. In million)	%	Total
								%
2011/12	25996.12	18902.47	72.71265866	2004.42	16.86	16.5	0.09	89.66265866
2012/13	31288.13	21226.68	67.84259718	4871.46	18.07	23.5	0.37	86.28259718
2013/14	37293.44	27104.41	72.67876066	2936.01	13.94	23.5	0.27	86.88876066
2014/15	44876.18	32616.5	72.68109719	4914.32	10.52	828.75	0.24	83.44109719
2015/16	53092.65	40272.09	75.85247676	3873.42	15.45	1196.77	0.23	91.53247676
2016/17	72879.19	57711.39	79.18774893	3845.92	10.87	2299.58	0.10	90.15774893

Source: "Annual Report of Prime Commercial Bank Ltd."

**III) Percentage of various Investment out of Total Working Fund of CCBL.**

F/Y	Total Working Fund (Rs. In million)	Loans & Advances (Rs. In million)	%	Investment in Govt. Securities (Rs. In million)	%	Investment in shares & Debentures (Rs. In million)	%	Total
								%
2011/12	5570.53	4159.72	74.67368455	552.97	9.926703563	42.5	0.762943562	85.36333168
2012/13	12079.53	8974.98	74.29908283	1613.97	13.36119866	671.17	0.55	91.35
2013/14	20287.79	14827.28	73.08474703	476.35	2.347963972	154.15	0.759816619	76.19252762
2014/15	27117.62	20093.13	74.09621493	2396.39	8.837021833	31.77	0.117156299	83.05039307
2015/16	32015.09	24767.95	77.36336209	945.24	2.95248272	254.88	0.796124578	81.11196939
2016/17	47720.45	38871.09	81.45583288	1302.57	2.729584486	714.03	1.496276753	85.68169412

Source: "Annual Report of CCBL"

**Appendix 2**

**Liquidity Ratios**

**I) Cash & Bank Balance to Total Deposit Ratio**

F/Y	Cash & bank balance (Rs. In million)			Total deposit (Rs. In million)			Cash & bank balance to Total deposit Ratio %		
	GBIME	PCBL	CCBL	GBIME	PCBL	CCBL	GBIME	PCBL	CCBL
2011/12	4470.34	5592.94	514.25	26913.76	23990.95	4456.70	0.16609868	0.233127075	0.11539
2012/13	5560.06	5810.72	1207.24	34111.46	28798.02	11396.47	0.162996834	0.201774983	0.10593
2013/14	8255.11	7316.58	4680.88	52292.05	34045.26	18393.72	0.157865488	0.21490745	0.25448
2014/15	7705.87	6622.87	4315.75	60043.94	41005.75	24948.56	0.128337181	0.161510764	0.17299
2015/16	8642.67	7824.89	5815.27	74682.91	48342.12	28967.84	0.115724869	0.16186485	0.20075
2016/17	18935.87	12392.41	7974.52	101910.48	65855.88	42593.65	0.185808859	0.188174693	0.18722

Mean							0.152805319	0.193559969	0.17279
St Dev							0.023696234	0.028807952	0.05555
CV							15.50746647	14.8832181	32.1481

Source: "Annual Report of GBIME, PCBL & CCBL."

**II) Cash & Bank Balance to Current Assets Ratio**

F/Y	Cash & bank balance (Rs. In million)			Current assets (Rs. In million)			Cash & bank balance to current assets Ratio %		
	GBIME	PCBL	CCBL	GBIME	PCBL	CCBL	GBIME	PCBL	CCBL
2011/12	4470.34	5592.94	514.25	5460.03	6044.92	719.63	0.818739091	0.92522978	0.7146
2012/13	5560.06	5810.72	1207.24	6565.02	5810.72	1598.88	0.84692202	1	0.75505
2013/14	8255.11	7316.58	4680.88	9286.77	7316.58	5093.99	0.888910784	1	0.9189
2014/15	7705.87	6622.87	4315.75	8699.97	7056.43	4841.72	0.885735238	0.938558166	0.89137
2015/16	8642.67	7824.89	5815.27	9556.35	8685.53	6475.61	0.904390275	0.900911056	0.89803
2016/17	18935.87	12392.41	7974.52	20361.9	13265.72	8858.80	0.929965769	0.934167915	0.90018
Mean							0.87911053	0.949811153	0.84636
St Dev							0.036619811	0.040999134	0.08781
CV							4.165552552	4.316556344	10.3748

Source: "Annual Report of GBIME, PCBL & CCBL."

**III) Investment on Government Securities to Current Assets Ratio**

F/Y	Investment on Gov. securities (Rs. In million)			Current assets (Rs. In million)			Investment on Gov. securities to current assets Ratio %		
	GBIME	PCBL	CCBL	GBIME	PCBL	CCBL	GBIME	PCBL	CCBL
2011/12	3820.69	2004.42	552.97	5460.03	6044.92	719.63	0.699756228	0.331587515	0.76841
2012/13	5342.25	4871.46	1613.97	6565.02	5810.72	1598.88	0.813744665	0.838357381	1.00944
2013/14	8268.92	2936.01	476.35	9286.77	7316.58	5093.99	0.890397846	0.401281746	0.09351
2014/15	10321.00	4914.32	2396.39	8699.97	7056.43	4841.72	1.18632593	0.696431482	0.49495
2015/16	17567.54	3873.42	945.24	9556.35	8685.53	6475.61	1.838310652	0.445962423	0.14597
2016/17	15010.87	3845.92	1302.57	20361.9	13265.72	8858.80	0.737203797	0.289914155	0.14704
Mean							1.027623186	0.500589117	0.44322
St Dev							0.395561986	0.218281077	0.38142
CV							38.49290197	43.6048387	86.0568

Source: "Annual Report of GBIME, PCBL & CCBL."

**IV) Loans & Advances to Current Assets Ratio**

F/Y	Loans & Advances (Rs. In million)			Current assets (Rs. In million)			Loans & Advances to current assets Ratio (%)		
	GBIME	PCBL	CCBL	GBIME	PCBL	CCBL	GBIME	PCBL	CCBL
2011/12	20296.50	18902.47	4159.72	5460.03	6044.92	719.63	3.717287268	3.127000854	5.78036
2012/13	26212.29	21226.68	8974.98	6565.02	5810.72	1598.88	3.99272051	3.653020624	5.61329
2013/14	41777.65	27104.41	14827.28	9286.77	7316.58	5093.99	4.49862008	3.704519051	2.91074
2014/15	48936.96	32616.50	20093.13	8699.97	7056.43	4841.72	5.624957327	4.622238157	4.15
2015/16	59219.29	40272.09	24767.95	9556.35	8685.53	6475.61	6.196852355	4.636687686	3.82481
2016/17	78965.1	57711.39	38871.09	20361.9	13265.72	8858.80	3.878081122	4.350415206	4.38785
Mean							4.651419777	4.01564693	4.44451
St Dev							0.93666304	0.613792242	1.09334
CV							20.13714275	15.28501515	24.5998

Source: "Annual Report of GBIME, PCBL & CCBL."

### Appendix 3

#### Asset Management ratio

##### I) Loans & Advances to Total Deposit Ratio

F/Y	Loans & Advances (Rs. In million)			Total Deposit (Rs. In million)			Loans & Advances to Total Deposit Ratio %		
	GBIME	PCBL	CCBL	GBIME	PCBL	CCBL	GBIME	PCBL	CCBL
2011/12	20296.50	18902.47	4159.72	26913.76	23990.95	4456.70	0.754130972	0.787900021	0.93336
2012/13	26212.29	21226.68	8974.98	34111.46	28798.02	11396.47	0.76843061	0.737088175	0.78752
2013/14	41777.65	27104.41	14827.28	52292.05	34045.26	18393.72	0.798929283	0.796128742	0.80611
2014/15	48936.96	32616.50	20093.13	60043.94	41005.75	24948.56	0.815019134	0.795412838	0.80538
2015/16	59219.29	40272.09	24767.95	74682.91	48342.12	28967.84	0.792942991	0.83306421	0.85502
2016/17	78965.1	57711.39	38871.09	101910.48	65855.88	42593.65	0.77484769	0.876328583	0.9126
Mean							0.784050113	0.804320428	0.85
St Dev							0.020344376	0.04679238	0.06118
CV							2.594780003	5.817629129	7.19758

Source: "Annual Report of GBIME, PCBL & CCBL."

**II) Total Investment to Total Deposit Ratio**

F/Y	Total investment (Rs. In million)			Total deposit (Rs. In million)			Total investment to total deposit Ratio %		
	GBIME	PCBL	CCBL	GBIME	PCBL	CCBL	GBIME	PCBL	CCBL
2011/12	4247.05	2020.92	595.45	26913.76	23990.95	4456.70	0.15780218	0.084236764	0.13361
2012/13	5549.92	4894.96	2285.15	34111.46	28798.02	11396.47	0.162699574	0.169975575	0.20051
2013/14	8680.77	2959.51	605.14	52292.05	34045.26	18393.72	0.16600554	0.086928694	0.0329
2014/15	10717.05	5743.07	2410.41	60043.94	41005.75	24948.56	0.178486788	0.140055236	0.09662
2015/16	17990.71	5070.19	1184.30	74682.91	48342.12	28967.84	0.240894604	0.104881416	0.04088
2016/17	16234.6	6145.43	1972.33	101910.48	65855.88	42593.65	0.159302557	0.093316345	0.04631
Mean							0.177531874	0.113232338	0.0918
St Dev							0.029126648	0.034462363	0.06591
CV							16.406433	30.43508932	71.7952

Source: "Annual Report of GBIME, PCBL & CCBL."

**III) Loans & advances to Total Working Fund Ratio**

F/Y	Loans & Advances (Rs. In million)			Total working fund (Rs. In million)			Loans & Advances to Total Working fund Ratio %		
	GBIME	PCBL	CCBL	GBIME	PCBL	CCBL	GBIME	PCBL	CCBL
2011/12	20296.50	18902.47	4159.72	29036.8	25996.12	5570.53	0.698992313	0.727126587	0.74674
2012/13	26212.29	21226.68	8974.98	36466	31288.13	12079.53	0.718814512	0.678425972	0.74299
2013/14	41777.65	27104.41	14827.28	57221.28	37293.44	20287.79	0.730106876	0.726787607	0.73085
2014/15	48936.96	32616.50	20093.13	66364.27	44876.18	27117.62	0.737399206	0.726810972	0.74096
2015/16	59219.29	40272.09	24767.95	79875.95	53092.65	32015.09	0.741390744	0.758524768	0.77363
2016/17	78965.1	57711.39	38871.09	110638.33	72879.19	47720.45	0.713722812	0.791877489	0.81456
Mean							0.723404411	0.734925566	0.75829
St Dev							0.014577589	0.037909221	0.03106
CV							2.015136828	5.158239505	4.09557

Source: "Annual Report of GBIME, PCBL & CCBL."

**IV) Investment on Government Securities to Total Working Fund Ratio**

F/Y	Investment on Government Securities (Rs. In million)			Total Working Fund (Rs. In million)			Investment on govt. securities to Total working fund Ratio(%)		
	GBIME	PCBL	CCBL	GBIME	PCBL	CCBL	GBIME	PCBL	CCBL
2011/12	3820.69	2004.42	552.97	29036.8	25996.12	5570.53	0.131580959	0.077104583	0.09927
2012/13	5342.25	4871.46	1613.97	36466	31288.13	12079.53	0.146499479	0.155696745	0.13361
2013/14	8268.92	2936.01	476.35	57221.28	37293.44	20287.79	0.144507778	0.078727251	0.02348
2014/15	10321.00	4914.32	2396.39	66364.27	44876.18	27117.62	0.155520433	0.10950843	0.08837
2015/16	17567.54	3873.42	945.24	79875.95	53092.65	32015.09	0.219935287	0.072955861	0.02952
2016/17	15010.87	3845.92	1302.57	110638.33	72879.19	47720.45	0.135675132	0.052771168	0.0273
Mean							0.155619845	0.09112734	0.06692
St Dev							0.029773603	0.036493482	0.0465
CV							19.13226642	40.04668822	69.4762

Source: "Annual Report of GBIME, PCBL & CCBL."

**V) Investment on shares & Debentures to Total Working Fund Ratio**

F/Y	Investment on shares & Debentures (Rs. In million)			Total Working Fund (Rs. In million)			Investment on shares & Debentures to Total Working Fund Ratio %		
	GBIME	PCBL	CCBL	GBIME	PCBL	CCBL	GBIME	PCBL	CCBL
2011/12	426.36	16.5	42.5	29036.8	25996.12	5570.53	0.014683436	0.00063471	0.00763
2012/13	207.67	23.50	671.17	36466	31288.13	12079.53	0.005694894	0.000751084	0.05556
2013/14	411.86	23.50	154.15	57221.28	37293.44	20287.79	0.007197672	0.000630138	0.0076
2014/15	396.52	828.75	31.77	66364.27	44876.18	27117.62	0.005974902	0.018467481	0.00117
2015/16	423.17	1196.77	254.88	79875.95	53092.65	32015.09	0.00529784	0.022541162	0.00796
2016/17	1223.93	2299.58	714.03	110638.33	72879.19	47720.45	0.011062441	0.031553314	0.01496
Mean							0.008318531	0.012429648	0.01581
St Dev							0.003435065	0.013558397	0.01996
CV							41.29413083	109.0811002	126.19

Source: "Annual Report of GBIME, PCBL & CCBL."

## Appendix 4

### Profitability Ratios

#### I) Return on Loans & Advances Ratio

F/Y	Net Profit (Rs. In million)			Loans & Advances (Rs. In million)			Return on Loans & Advances Ratio %		
	GBIME	PCBL	CCBL	GBIME	PCBL	CCBL	GBIME	PCBL	CCBL
2011/12	265.31	269.44	0.912	20296.50	18902.47	4159.72	0.013071712	0.014254222	0.00022
2012/13	449.21	477.56	66.37	26212.29	21226.68	8974.98	0.017137381	0.022498101	0.0074
2013/14	986.13	553.44	86.92	41777.65	27104.41	14827.28	0.023604248	0.020418817	0.00586
2014/15	975.66	745.58	260.86	48936.96	32616.50	20093.13	0.019937078	0.022858982	0.01298
2015/16	1382.22	1115.75	413.53	59219.29	40272.09	24767.95	0.023340705	0.027705292	0.0167
2016/17	2006.15	1467.94	501.36	78965.1	57711.39	38871.09	0.025405527	0.02543588	0.0129
Mean							0.020416109	0.022195216	0.00934
St Dev							0.004253067	0.004639184	0.00599
CV							20.83191904	20.90172994	64.0653

Source: "Annual Report of GBIME, PCBL & CCBL."

#### II) Return on Total Working fund Ratio

F/Y	Net Profit (Rs. In million)			Total Working Fund (Rs. In million)			Return on Total Working fund Ratio %		
	GBIME	PCBL	CCBL	GBIME	PCBL	CCBL	GBIME	PCBL	CCBL
2011/12	265.31	269.44	0.912	29036.8	25996.12	5570.53	0.009137026	0.010364624	0.00016
2012/13	449.21	477.56	66.37	36466	31288.13	12079.53	0.012318598	0.015263296	0.00549
2013/14	986.13	553.44	86.92	57221.28	37293.44	20287.79	0.017233624	0.014840143	0.00428
2014/15	975.66	745.58	260.86	66364.27	44876.18	27117.62	0.014701586	0.016614159	0.00962
2015/16	1382.22	1115.75	413.53	79875.95	53092.65	32015.09	0.017304583	0.02101515	0.01292
2016/17	2006.15	1467.94	501.36	110638.33	72879.19	47720.45	0.018132504	0.020142101	0.01051
Mean							0.014804653	0.016373246	0.00716
St Dev							0.003202531	0.003885756	0.0047
CV							21.63192131	23.73235259	65.5828

Source: "Annual Report of GBIME, PCBL & CCBL."

**III) Return on Equity**

F/Y	Net Profit (Rs. In million)			Equity (Rs. In million)			Return on Equity (%)		
	GBIME	PCBL	CCBL	GBIME	PCBL	CCBL	GBIME	PCBL	CCBL
2011/12	265.31	269.44	0.912	2250.35	2335.57	1080.00	0.117897216	0.115363701	0.00084
2012/13	449.21	477.56	66.37	2780.85	2574.44	1080.00	0.16153694	0.185500536	0.06145
2013/14	986.13	553.44	86.92	4976.64	3140.05	2120.00	0.198151765	0.176251971	0.041
2014/15	975.66	745.58	260.86	6164.26	3705.26	2310.80	0.158276906	0.201222046	0.11289
2015/16	1382.22	1115.75	413.53	7150.55	4557.47	3209.70	0.193302613	0.244817848	0.12884
2016/17	2006.15	1467.94	501.36	8888.37	8033.29	5774.18	0.225705051	0.182732106	0.08683
Mean							0.175811748	0.184314701	0.07198
St Dev							0.03454389	0.041879943	0.04745
CV							19.64822644	22.72197621	65.9254

Source: "Annual Report of GBIME, PCBL & CCBL."

**IV) Total Interest Earned to Total Working Fund Ratio**

F/Y	Total Interest Earned (Rs. In million)			Total operating Income (Rs. In million)			Total Interest Earned to Total operating Income Ratio %		
	GBIME	PCBL	CCBL	GBIME	PCBL	CCBL	GBIME	PCBL	CCBL
2011/12	2226.13	2773.63	375.73	915.7	907.31	153.89	2.431069127	3.056981627	2.44155
2012/13	3206.64	2786.21	897.81	1840.70	1262.49	419.25	1.742076384	2.20691649	2.14147
2013/14	3815.77	2871.16	1407.97	2396.45	1408.65	654.44	1.592259384	2.03823519	2.15141
2014/15	4663.26	3242.83	1862.15	3177.76	1822.77	907.45	1.46746765	1.779067024	2.05207
2015/16	4988.27	3556.63	2012.50	3945.96	2170.88	1155.43	1.264146114	1.638335606	1.74178
2016/17	7366.04	5208.72	3120.02	4738.44	2808.87	1492.31	1.554528495	1.854382723	2.09073
Mean							1.675257859	2.09565311	2.10317
St Dev							0.3672804	0.511352388	0.22435
CV							21.92381298	24.40062172	10.6673

Source: "Annual Report of GBIME, PCBL & CCBL."



V) **Total Interest Paid to Total Working Fund Ratio**

F/Y	Total Interest paid (Rs. In million)			Total working fund (Rs. In million)			Total interest paid to total working fund Ratio %		
	GBIME	PCBL	CCBL	GBIME	PCBL	CCBL	GBIME	PCBL	CCBL
2011/12	1586.55	2057.2	259.42	29036.8	25996.12	5570.53	0.054639285	0.079134886	0.04657
2012/13	1826.78	1744.27	589.45	36466	31288.13	12079.53	0.050095431	0.055748618	0.0488
2013/14	2049.60	1811.20	980.17	57221.28	37293.44	20287.79	0.035818842	0.048566182	0.04831
2014/15	2370.78	1854.85	1205.66	66364.27	44876.18	27117.62	0.035723741	0.041332618	0.04446
2015/16	2098.72	1968.17	1132.71	79875.95	53092.65	32015.09	0.026274742	0.03707048	0.03538
2016/17	3799.26	3304.38	1980.28	110638.33	72879.19	47720.45	0.034339455	0.045340515	0.0415
Mean							0.039481916	0.051198883	0.04417
St Dev							0.009753708	0.015095211	0.00508
CV							24.7042408	29.4834765	11.4917

Source: "Annual Report of GBIME, PCBL & CCBL."

**Appendix 5**

**Risk Ratios**

I) **Liquidity Risk Ratio ( Total Cash & Bank balance to Total Deposit Ratio)**

F/Y	Total cash & Bank balance (Rs. In million)			Total Deposit (Rs. In million)			Liquidity Risk Ratio Ratio (%)		
	GBIME	PCBL	CCBL	GBIME	PCBL	CCBL	GBIME	PCBL	CCBL
2011/12	4470.34	5592.94	514.25	26913.76	23990.95	4456.70	0.16609868	0.233127075	0.11539
2012/13	5560.06	5810.72	1207.24	34111.46	28798.02	11396.47	0.162996834	0.201774983	0.10593
2013/14	8255.11	7316.58	4680.88	52292.05	34045.26	18393.72	0.157865488	0.21490745	0.25448
2014/15	7705.87	6622.87	4315.75	60043.94	41005.75	24948.56	0.128337181	0.161510764	0.17299
2015/16	8642.67	7824.89	5815.27	74682.91	48342.12	28967.84	0.115724869	0.16186485	0.20075
2016/17	18935.87	12392.41	7974.52	101910.48	65855.88	42593.65	0.185808859	0.188174693	0.18722
Mean							0.152805319	0.193559969	0.17279
St Dev							0.023696234	0.028807952	0.05555
CV							15.50746647	14.8832181	32.1481

Source: "Annual Report of GBIME, PCBL & CCBL."

**II) Credit Risk Ratio (Loans & Advances to Total Assets Ratio)**

F/Y	Loans & Advances (Rs. In million)			Total working fund (Rs. In million)			Loans & Advances to Total working fund Ratio (%)		
	GBIME	PCBL	CCBL	GBIME	PCBL	CCBL	GBIME	PCBL	CCBL
2011/12	20296.50	18902.47	4159.72	29036.8	25996.12	5570.53	0.698992313	0.727126587	0.74674
2012/13	26212.29	21226.68	8974.98	36466	31288.13	12079.53	0.718814512	0.678425972	0.74299
2013/14	41777.65	27104.41	14827.28	57221.28	37293.44	20287.79	0.730106876	0.726787607	0.73085
2014/15	48936.96	32616.50	20093.13	66364.27	44876.18	27117.62	0.737399206	0.726810972	0.74096
2015/16	59219.29	40272.09	24767.95	79875.95	53092.65	32015.09	0.741390744	0.758524768	0.77363
2016/17	78965.1	57711.39	38871.09	110638.33	72879.19	47720.45	0.713722812	0.791877489	0.81456
Mean							0.723404411	0.734925566	0.75829
St Dev							0.014577589	0.037909221	0.03106
CV							2.015136828	5.158239505	4.09557

Source: "Annual Report of GBIME, PCBL & CCBL."

**Appendix 7**

**I A) Coefficient of correlation Between Total Deposits & Loans & Advances GBIME**

F/Y	Total Deposits (Rs. In million) (X)	Total Loans & Advances (Rs. In Million) (Y)	X = X - X̄	X <sup>2</sup>	y = Y - Ȳ	y <sup>2</sup>	xy
2011/12	9385.94	4409.01	-2078.03	4318208.68	-2785	7756225	5787313.55
2012/13	10883.65	5457.8	-580.32	336771.3	-1736.21	3014425.16	1007557.38
2013/14	9997.7	6704.94	-1466.27	2149947.71	-489.07	239189.46	717108.86
2014/15	10052.18	7809.54	-1411.79	1993151	615.53	378877.18	-868999.09
2015/16	11511.67	8452.73	47.7	2257.29	1258.72	1584376	60040.94
2016/17	16952.7	10330.07	5488.73	30126157.01	3136.06	9834872.32	17212986.6

Total	X=	Y=	X=0	X <sup>2</sup> =	y=0	y <sup>2</sup> =	xy=
	68783.84	43164.09		36776545.28		22807965.12	23916008.04

$$r = \frac{N\sum xy - \sum x \sum y}{\sqrt{\sum NX^2 - (\sum X)^2} \sqrt{N\sum y^2 - (\sum y)^2}}$$

$$= \frac{6 \times 23916008.04 - 0 \times 0}{\sqrt{6 \times 36776545.28 - (0)^2} \sqrt{6 \times 22807965.12 - (0)^2}}$$

$$r^2 = 0.681$$

Probable Error = 0.6745

$$\left[ \frac{1-r^2}{\sqrt{n}} \right]$$

$$\frac{0.6745}{\left[ \frac{1-0.681}{\sqrt{6}} \right]} = 0.087$$

6 X P.E = 6 X 0.096  
0.527

### B) Coefficient of correlation Between Total Deposits and Loans & Advances PCBL

F/Y	Total Deposits (Rs. In million) (X)	Total Loans & Advances (Rs. In Million) (Y)	X = X - X	X <sup>2</sup>	y = Y - Y	Y <sup>2</sup>	xy
2011/12	18186.25	13664.08	-15739.05	247717695	-11403.92	130049391.4	179486867.1
2012/13	23976.3	18339.08	-9949.01	98982799.9	-6728.921	45278364.37	66946092.37
2013/14	33322.94	23884.67	-602.36	362837.56	-1183.33	1400269.89	712790.65
2014/15	36932.31	27556.36	3007.07	9042109.14	2488.35	6191885.72	7482493.33
2015/16	41127.91	31057.69	7202.61	51877590.8	5989.69	35876386.3	43141401.09

2016/17	50006.1	35910.97	16080.8	258592128.6	10842.97	117569998	174363632
Total	X= 203551.8	Y= 150412.84	X=0	X <sup>2</sup> = 666575161	y=0	y <sup>2</sup> = 336366296.8	xy= 471491765.5
Mean	33925.3	25068					

$$r = \frac{N\sum xy - \sum x \sum y}{\sqrt{\sum X^2 - (\sum X)^2} \sqrt{\sum Y^2 - (\sum Y)^2}}$$

$$= \frac{6 \times 471491765.5 - 203551.8 \times 150412.84}{\sqrt{6 \times 666575161 - (203551.8)^2} \sqrt{6 \times 336366296.8 - (150412.84)^2}}$$

$$r^2 = 0.991$$

Probable Error = 0.6745

$$\left[ \frac{1-r^2}{\sqrt{n}} \right]$$

0.6745

$$\left[ \frac{1-0.991}{\sqrt{6}} \right]$$

0.00247

6 X P.E = 6 X 0.00247  
0.015

### C) Coefficient of Correlation between Total Deposits and Loans & Advances CCBL

F/Y	Total Deposits (Rs. In million) (X)	Total Loans & Advances (Rs. In Million) (Y)	X = X - X̄	X <sup>2</sup>	y = Y - Ȳ	y <sup>2</sup>	xy
2011/12	12388.92	9399.32	-6383.13	40744348.6	-5510.05	30360684.06	35171365.46
2012/13	15833.73	12462.63	-2938.32	8633724.42	-2446.75	5986585.56	7189334.46
2013/14	18083.98	14647.29	-688.07	473440.32	-262.09	68691.16	180336.26
2014/15	20315.86	16664.93	1543.78	2383256.68	1755.55	3081955.8	2710182.98
2015/16	21018.42	17468.19	2246.37	5046178.17	2558.81	6547508.61	5748034.02

2016/17	24991.44	18813.93	6219.39	38680811.97	3904.55	15245510.7	24283919.22
Total	X= 112632.32	Y= 89456.31	X=0	X <sup>2</sup> = 95961760.16	y=0	y <sup>2</sup> = 61290935.89	xy= 75283172.4
Mean	18772.05	14909.38					

$$r = \frac{N\sum xy - \sum x \sum y}{\sqrt{\sum NX^2 - (\sum X)^2} \sqrt{N\sum y^2 - (\sum y)^2}}$$

$$= \frac{6 \times 75283172.4 - 112632.32 \times 89456.31}{\sqrt{6 \times 95961760.16 - (112632.32)^2} \sqrt{6 \times 61290935.89 - (89456.31)^2}}$$

$$r^2 = 0.963$$

Probable Error = 0.6745

$$\left[ \frac{1-r^2}{\sqrt{n}} \right]$$

$$\frac{0.6745}{\sqrt{6}} = 0.01$$

6 X P.E = 6 X 0.010  
0.06

## II A) Coefficient of correlation Between Total Deposits & Total Investment GBIME

F/Y	Total Deposits (Rs. In million) (X)	Total investment (Rs. In Million) (Y)	X = X - X	X <sup>2</sup>	y = Y - Y	y <sup>2</sup>	xy
2011/12	9385.94	1034.56	-2078.03	4318208.68	-1133.25	1284255.56	2354927.49
2012/13	10883.65	1389.9	-580.32	336771.3	-777.91	605143.96	451436.73
2013/14	9997.7	2222.43	-1466.27	2149947.71	-1945.38	3784503.34	2852452.33
2014/15	10052.18	2112.75	-1411.79	1993151	-55.06	3031.6	77733.15
2015/16	11511.67	2378.27	47.7	2257.29	210.46	44293.41	10038.94
2016/17	16952.7	3868.95	5488.73	30126157.01	1701.14	2893877.3	9337098.15

Total	X= 68783.84	Y= 13006.86	X=0	X <sup>2</sup> = 36776545.28	y=0	y <sup>2</sup> = 8615105.17.89	xy= 1508368.68
Mean	11463.97	2167.81					

$$r = \frac{N\sum xy - \sum x \sum y}{\sqrt{\sum NX^2 - (\sum X)^2} \sqrt{N\sum y^2 - (\sum y)^2}}$$

$$= \frac{6 \times 15086368 - 0 \times 0}{\sqrt{6 \times 36776545.28 - (0)^2} \sqrt{6 \times 8615105.17 - (0)^2}}$$

$$r^2 = 0.718$$

Probable Error = 0.6745

$$\left[ \frac{1-r^2}{\sqrt{n}} \right]$$

$$0.6745$$

$$\left[ \frac{1-0.718}{\sqrt{6}} \right]$$

$$0.077$$

$$6 \times P.E = 6 \times 0.077$$

$$0.466$$

### B) Coefficient of correlation Between Total Deposits and Total Investment PCBL

F/Y	Total Deposits (Rs. In million) (X)	Total investment (Rs. In Million) (Y)	X = X - X	X <sup>2</sup>	y = Y - Y	y <sup>2</sup>	xy
2011/12	18186.25	4984.31	-15739.05	247717695	-1117	1247800.7	17581305.8
2012/13	23976.3	5059.55	-9949.01	98982799.9	-1041.81	1085368.07	10364978.11
2013/14	33322.94	5948.48	-602.36	362837.56	-152.88	23372.29	92088.79
2014/15	36932.31	5008.3	3007.07	9042109.14	-1093.05	1194758.3	-328681.28
2015/16	41127.91	7743.93	7202.61	51877590.8	1642.57	2698036.2	11830791.11
2016/17	50006.1	7863.62	16080.8	258592128.6	1762.26	3105560.31	28338550.61

Total	X=	Y=	X=0	X <sup>2</sup> =	y=0	y <sup>2</sup> =	xy=
	203551.8	36608.2		666575161		9354895.87	64920902.14
Mean	33925.3	6101.36					

$$r = \frac{N\sum xy - \sum x \sum y}{\sqrt{\sum NX^2 - (\sum X)^2} \sqrt{N\sum y^2 - (\sum y)^2}}$$

$$= \frac{6 \times 64920902.14 - 203551.8 \times 36608.2}{\sqrt{6 \times 666575161 - (203551.8)^2} \sqrt{6 \times 9354895.87 - (36608.2)^2}}$$

$$r^2 = 0.675$$

Probable Error = 0.6745

$$\left[ \frac{1-r^2}{\sqrt{n}} \right]$$

$$0.6745$$

$$\left[ \frac{1-0.675}{\sqrt{6}} \right]$$

$$0.089$$

$$6 \times P.E = 6 \times 0.089$$

$$0.537$$

### C) Coefficient of Correlation between Total Deposits & Total Investment CCBL

F/Y	Total Deposits (Rs. In million) (X)	Total investment (Rs. In Million) (Y)	X = X - X̄	X <sup>2</sup>	y = Y - Ȳ	y <sup>2</sup>	xy
2011/12	12388.92	2992.43	-6383.13	40744348.6	-637.99	407031.24	4070366.73
2012/13	15833.73	3204.067	-2938.32	8633724.42	-426.36	181782.84	1252782.11
2013/14	18083.98	2783.598	-688.07	473440.32	-846.82	717104.11	582671.43
2014/15	20315.86	3269.204	1543.78	2383256.68	-361.22	130479.88	-557644.21
2015/16	21018.42	4286.6	2246.37	5046178.17	656.18	430572.19	1474023.06
2016/17	24991.44	5246.68	6219.39	38680811.97	1616.26	2612296.38	10052152.28

<b>Total</b>	<b>X=</b> 112632.32.32	<b>Y=</b> 21782.57	<b>X=0</b>	<b>X<sup>2</sup>=</b> 95961760.16	<b>y=0</b>	<b>y<sup>2</sup>=</b> 4479366.64.89	<b>xy=</b> 16876350.4
<b>Mean</b>	<b>18772.05</b>	<b>3630.42</b>					

$$r = \frac{N\sum xy - \sum x \sum y}{\sqrt{\sum NX^2 - (\sum X)^2} \sqrt{N\sum y^2 - (\sum y)^2}}$$

$$= \frac{6 \times 16876350.4 - 0 \times 0}{\sqrt{6 \times 95961760.16 - (0)^2} \sqrt{6 \times 4479366.64 - (0)^2}}$$

$$r^2 = 0.662$$

Probable Error 0.6745

$$\left[ \frac{1-r^2}{\sqrt{n}} \right]$$

$$0.6745$$

$$\left[ \frac{1-0.662}{\sqrt{6}} \right]$$

$$0.092$$

$$6 \times P.E = 6 \times 0.092$$

$$0.557$$









$$\frac{N \sum xy - \sum x \cdot \sum y}{\sqrt{\sum N x^2 - (\sum x)^2} \cdot \sqrt{N \sum y^2 - (\sum y)^2}}$$

$$\left[ \frac{1-r^2}{\sqrt{n}} \right]$$

$$\left[ \frac{1-0.662}{\sqrt{6}} \right]$$

$$\frac{6 \times 16876350.4 - 0 \times 11}{\sqrt{6 \times 95961760.16 - (0)^2} \cdot \sqrt{6 \times 4473366.64 - (0)^2}}$$

$$\frac{N \sum xy - \sum x \cdot \sum y}{\sqrt{\sum N x^2 - (\sum x)^2} \cdot \sqrt{N \sum y^2 - (\sum y)^2}}$$

$$\left[ \frac{1-r^2}{\sqrt{n}} \right]$$

$$\left[ \frac{1-0.1271}{\sqrt{6}} \right]$$

- vb -

$$\frac{6X6007356.63 - 0X0}{\sqrt{6X5947200.25 - (0)^2} \sqrt{6X47733269.9 - (0)^2}}$$

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