

Government of Nepal
Ministry of Physical Infrastructure and Transport
Department of Roads
Mechanical Branch
Chakupat, Lalitpur

**Guideline for Estimating Equipment Ownership
and Operating Costs**



Date of Amendment: 2077.12.32 (BS)



Department of Roads Norms/Rate of Plant and Machinery

S.N.	Equipments	Activity/ Usages	Ownership Cost (NRs/Hr)	Servicing (NRs/Hr)	Maintenance (NRs/Hr)	Fuel/Electricity Demand			Crew, Jr	Assistant, Jr
						Fuel (Ltr)	Electricity (Units/hr)	Fuel Oil (Heating) (Ltr/hr)		
1	Air compressor / compressor with panel work breaker	General	192	42	50	5.73			0.125	
2	Asphalt Plant (Batch mix / IMP/Drum type plant/Hot Mix Plant)	Asphalt/DBM Production	695	106	173	8.81	15.00	200.00	0.125	0.250
3	Batching Plant	Concrete Production	362	41	88	8.14	25.00		0.125	0.250
4	Bentonite pump	Drilling Hole Stabilization	25	3	8		2.00			
5	Bitumen roller	Bitumen Heating	40	3	8	1.96		5.00		
6	Bitumen pressure distributor/Bitumen Distributor/Bulmer Sprayer	Bitumen Spray	443	63	175	10.24		3.00	0.125	0.125
7	Chip spreader	Surface Dressing/Chips Seal/Oil Seal	158	30	64	7.06			0.125	0.125
8	Cold mix plant	Cold Mix Asphalt/Prerix	375	60	75	8.89	20.00		0.125	
9	Concrete Pump	Concrete	80	5	10	3.03			0.125	0.125
10	Crane	Lifting	820	145	330	10.13			0.125	0.125
11	Crane (2 T)	Lifting	599	105	170	8.74			0.125	0.125
12	Crane 15 T capacity	Lifting	1,147	163	431	14.53			0.125	0.125
13	Crane with grab bucket/dredger crane	Dredging	1,000	120	200	8.90			0.125	0.125
14	Drzer	Earthwork	1,309	330	550	14.14			0.125	
15	Drilling machine with bit and accessories	Earth Hole Drilling	120	24	58	1.30			0.125	0.125
16	Electric generator	Electricity	77	10	17	4.54			0.125	
17	Electric hand drier (HDCP work)	Hole Drilling	105	0	10		1.00			
18	Electric heating plate	Connection work	63	3	12		1.00			
19	Emulsion pressure distributor	Emulsion distribution	45	4	8	1.75			0.125	
20	Excavator	Excavation/Earthwork	620	135	275	14.40			0.125	
21	Grout Injection Equipment	Crack Repair	68	12	24		1.00		0.125	
22	Grouting pump with agitator	PSC Bridge construction related	147	28	56		2.00		0.125	
23	Hacking Machine	Jacking purpose	42	8	16	1.30			0.125	
24	Hydraulic Jack (40 tonne capacity)	Bearing Installation/Repair	105	20	40	0.03				
25	Hydraulic Jack (required capacity normally 200 tonne)	Bearing Installation/Repair	252	53	86		5.00			
26	Jack hammer/Rock drill/Portable rock drier	Earthwork	22	3	5	1.02				
27	Loader	Material Loading	540	36	227	9.79			0.125	
28	Mobile cooker	Hot Asphalt Production	69	5	16		1.50	2.88	0.125	0.125
29	Mixture machine/Concrete mixer Machine	Concrete Production	31	3	11	1.02				
30	Mobile slurry seal equipment	Maintenance	211	32	88	6.07			0.125	0.125
31	Motor grader	Laying	1,015	258	351	8.37			0.125	
32	Paver finisher	Asphalt	775	119	296	8.54			0.125	0.125
33	Piling rig (with all accessories)	Pile Construction upto 1.2m	1,600	267	267	7.84			0.125	0.125
34	Plate compactor/power rammer	Light Compaction	54	9	19	1.48			0.125	
35	Pneumatic roller/Pneumatic tied roller	Compaction	539	57	296	8.19			0.125	
36	Premix mixer	Premix Production	115	29	25	4.25		20.00	0.125	0.125
37	Road marking machine	Thermoplastic Painting	92	8	21	1.50				
38	Road sweeper/Mechanical broom	Sweeping	297	34	68	6.40			0.125	
39	Screw Jack	Pipe Connection	58	3	0		0.00			

19/11/2019
15/11/2019

19/11/2019
15/11/2019

19/11/2019

19/11/2019

19/11/2019

अजुन का शारा
महाराष्ट्र सरकार

**Department of Roads
Norms/Rate of Plant and Machinery**

SN	Equipments	Activity/ Usages	Ownership Cost (NRs/Hr)	Servicing (NRs/Hr)	Maintenance (NRs/Hr)	Fuel/Electricity Demand			Crew, hr	
						Fuel (L/hr)	Electricity (Units/hr)	Fuel/Oil (Heating) (L/hr)	Skilled	Helper/Unskilled
40	Smooth wheeled miller/Smooth 3 wheeled steel roller	Compaction	175	13	40	5.10			0.125	
41	Blinding Jack with pump	Prestressing	104	0	20		1.00			
42	Tipper	Transportation/Carry	148	23	55	5.75			0.125	0.125
43	Tractor with ripper attachment/Tractor Trolley	Ripping/Carry	83	15	33	4.50			0.125	0.125
44	Truck flat body/Trailer	Carry	532	57	153	10.50			0.125	0.125
45	Vibratory roller	Compaction	461	36	139	7.29			0.125	
46	Water Tanker	Watering	270	30	110	4.32			0.125	
47	Wet mix plant	Base Production	435	67	100		30.00		0.125	0.125
48	Cutter/Bulmer Paver etc/RCC Cutter	Cutting	188	8	12	1.22				

Note :

- District Rate Crew/hr = 30x Daily Rate/(8*26)
- District Rate Assistant/hr = 30x Daily Rate/(8*26)
- Fuel Cost = Fuel Demand x Fuel Cost per liter at site / 1.13
- Electricity Cost = Electricity Demand x Electricity Unit Cost
- Crew/Assistant Cost = (Crew/hr x District Rate of Crew/hr) + (Assistant/hr x District Rate of Assistant/hr)
- Rate of Plant & Machinery = Ownership Cost + Operational Cost (Servicing Cost + Maintenance Cost + Crew/Assistant Cost + Fuel/Electricity Cost)



Handwritten signatures and notes:

- Left: *Handwritten initials and text.*
- Middle: *Signature of Anand S. Kulkarni (अनंद सुनील कुर्कार)*
- Right: *Signature of Arjun Joga Babu (इ. अर्जुन जोग बाबा)*

सडक बिभाग

Guideline for Estimating Equipment Ownership and Operating Costs संसोधन प्रस्ताबको प्रतिबेदन

प्रतिवेदक :

संयोजक
अदस्य -
सदस्य -
सदस्य -
सदस्य -
सदस्य -

- सु.ई. प्रभात कुमार झा, संघीय सडक सुपरिवेक्षण तथा अनुगमन कार्यालय, सुर्खेत।
सि.डी.ई. रमेश कुमार सिंह, श्री स.वि. योजना, अनुगमन तथा मूल्यांकन शाखा, ललितपुर।
सि.डी.ई. म्हेश कुमार पराजुली, श्री स.वि. यान्त्रिक महाशाखा, ललितपुर।
सि.डी.ई. शौरभ बज्राचार्य, गुणस्तर, अहुरास्थान तथा विकास केन्द्र, ललितपुर।
इन्जिनियर केशव कप्रसाद ओझा, श्री स.वि. रांभार महाशाखा, ललितपुर।
इन्जिनियर अमित कुमार वर्मा, श्री स.वि. पुल महाशाखा, ललितपुर।

सूची

- क) पृष्ठभूमि
- ख) समितिको कार्य प्रक्रिया
- ग) विस्लेषण
- घ) प्रस्तुतित Norms/Rate of Plant and Machinery

अनुसूची

- १) उदाहरण Calculation
- २) Detailed Calculation Sheets
- ३) पुर्व स्वीकृत दर

SA

A

SA

SA

Subm

SA

क) पृष्ठभूमि

मिति २०७७/१२/२४ को विभागीय निर्णय अनुसार गठित समितिले मिति २०७५/१०/०८ मा स्वीकृत Guideline for Estimating Equipment Ownership and Operating Costs अनुसारको Rate of Plant and Machinery को Norms 2075 मा बारम्बार प्रयोग हुने Truck, Crane, Generator, Asphalt Plant आदिको, जुन सुकै Item मा पनि उही Equipment Capacity रहेको तर Approved Departmental Equipment Hire rate मा विभिन्न Capacity को विभिन्न दर रहेकोले, कार्यालय/योजनाहरूमा Hire rate selection मा एकरूपता नरहेको, जसकारण लागत अनुमानको लागि One Equipment one Rate हुनु जरूरी रहेको, Truck/Grader/Roller/Air Compressor आदिका Departmental Equipment Hire rate निर्धारण गर्दा कायम गरिएको Ownership Charge र Operator Fee उच्च रहेकोले सोको संसोधन हुनु पर्ने तथा अन्य केहि विषयको समय सापेक्ष संसोधनको आवश्यकता अनुरूप, सो जिम्मेवारी सहित ६ सदस्य विभागीय समिति गठन भएको थियो।

गठित समिति विवरण:

संयोजक -	सु.ई. प्रभात कुमार झा, संघीय सडक सुपरिवेक्षण तथा अनुगमन कार्यालय, सुर्खेत।
सदस्य -	सि.डी.ई. शमेश कुमार सिंह, श्री स.वि. योजना, अनुगमन तथा मुल्यांकन शाखा, ललितपुर।
सदस्य -	सि.डी.ई. महेश कुमार पराजुली, श्री स.वि. यान्त्रिक महाशाखा, ललितपुर।
सदस्य	सि.डी.ई. शौरभ ब्रजधर्य, गुणस्तर, अनुसन्धान तथा विकास केन्द्र, ललितपुर।
सदस्य	इन्जिनियर केशव कन्नसाद जोडा, श्री स.वि. संगार महाशाखा, ललितपुर।
सदस्य	इन्जिनियर अमित कुमार वर्मा, श्री स.वि. पुल महाशाखा, ललितपुर।

ख) समितिको कार्य प्रक्रिया

समितिले Guideline for Estimating Equipment Ownership and Operating Costs अनुसारको Rate of Plant and Machinery को Calculation basis . बर्तमान Construction Industry को Capacity तथा Specification को बाबस्था अनुसार विस्तृत Analytical Analysis र Professional Experience को प्रयोग गरी, संसोधन प्रस्ताव गरिएको छ।

ग) विस्लेषण

१. Ownership Cost Calculation मा प्रयोग हुने

Average Annual Cost = $\frac{\text{Purchase Cost} \times (\text{Life}+1) + \text{Salvage Value} \times (\text{Life}-1)}{2 \times \text{Life}}$ फोर्मुलाको संसोधन गरी

Average Annual Cost = Purchase Cost /Life कायम हुनु सिफारिस गरिएको छ

२. Ownership Cost Calculation गर्दा Taxes and Storage/License Cost आवश्यक Item हरूमा मात्र लिइयो

३. Plant र Machinery को Capital Cost (Purchase Cost), औषत Construction Industry मा प्रयोग हुने Plant र Machinery को Specification को आधारमा कायम हुनु सिफारिस गरिएको छ

४. Maintenance र Service Cost calculation गर्ने प्रयोग हुने क्रमशः Repair factor (RF) र Servicing factor (SF) को Value, Plant र Machinery को Specification को आधारमा संसोधन गरियो

५. Repair and Maintenance Cost = $\frac{RF \times H \times DC}{H \times 10000}$ र Service Cost = $SF \times \text{Fuel Cost}$ फोर्मुलाको यान्त्रिक महाशाखाले

प्रयोग गरिरहेको फोर्मुला अनुसार संसोधन गरी

Repair and Maintenance Cost = $\frac{RF \times \text{Cost}}{H}$

Service Cost = $\frac{SF \times \text{Cost}}{H}$

, H = Total Useful life Hours कायम हुनु सिफारिस गरिएको छ

६. Crew/Assistant Cost को हकमा देश भर उही प्रयोग गर्दा दुर्गमता/उपलब्धता जस्ता विषयको समावेश नहुने भएकोले Crew/Assistant को Hr Quantity प्रस्ताव गरिएको र मूल्य Calculation गर्न $30 \times \text{Daily District Rate} / (8 \times 26)$ को फोर्मुला प्रस्ताव गरिएको छ

७. Norms for Works Road and Bridges, 2075 मा Crew cost समावेश रहेका केहि Items of works मा प्रयोग हुने Equipment को हकमा Crew/Assistant Cost हटाइयो

८. Plant र Machinery को Specification को आधारमा Fuel Demand संशोधन गरिएको छ

९. Norms for Works Road and Bridges, 2075 मा उल्लेख रहेको Plant र Machinery बाहेकका Plant र Machinery लाई सुचीबाट हटायो

Calculation को लागि प्रयोग गरिएको Sheet :

OWNING AND OPERATING COST ANALYSIS			
Machine's Basic Information			
Equipment:		Manufactured year:	Code No.
Make:		Fuel Type	
Model:		Diesel (SFC):	(ltr/ho-hr)
Power (hp):	hp	Petrol (SFC):	(ltr/ho-hr)
Capacity:		Load factor (FF):	
Purchase / Estimated Price (PP):		Time factor (TF):	
Useful Life (N):		Fuel Rate:	(Rs/ltr)
Total Useful life Hours (H):		Fuel Consumption:	(L/hr)
Uses Hours per year (h):		Energy consumed:	(kwh)
Tyre cost per unit (C):		Electric Charge:	(Rs/unit)
Total no. of tyres (tn):		Energy consumed rate:	(unit/hr)
Tyre replacement costs (TRC):		Repair factor (RF):	
Tyre Average Life (hrs) (TL):		Servicing factor (SF):	
Special wear item cost (SWIC):			
Interest Rate (R):			
Operator Monthly Salary + Allowance (OS)			
OWNERSHIP COSTS			
1	Purchase Price less tyre (P) (Rs) (including accessories and installation)		
2	Estimated Salvage Value (S) (Rs)		
3	Annual (Rs/yr)		
4	Insurance (Rs/yr)		
5	Taxes / Licence etc. (Rs/yr)		
6	Storage etc. (Rs/yr)		
7	Average Annual Investment		
8	Annual Interest Cost (Rs)		
9	Annual Ownership Cost (Rs)		
10	Estimated Hourly Ownership Cost (Rs/hr)		
OPERATION COSTS			
11	Repair and Maintenance Cost (Rs/hr)		
12	Tyre Replacement Cost (Rs/hr)		
13	Fuel Cost (Rs/hr)		
14	Servicing (Oil, filters, grease ... etc.) (Rs/hr)		
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)		
16	Operator's hourly charge (Salary+allowances) (Rs/hr)		
17	Estimated Hourly Operating Cost (Rs/hr)		
18	Total Hourly Owning and Operating Cost (Rs/hr)		

4/2/21

1/2

Handwritten signature

Handwritten signature

Handwritten signature

Sample Description

S/N	Equipment	Primary Usage	Ownership Cost (NR&I)	Fuel/Electricity	Oil/Air/Fen. Expenses	Servicing	Maintenance	Operational Costs	Total Est. Cost
1	Air compressor/air compressor with pressure breaker	General	152	510	101	72	50	709	500
2	Asphalt Plant (Batch mix HMP/Continuous planting Mix Plant)	Asphalt/Gravel Production	693	18,902	281	103	170	19,873	20,566
3	Bricklay Plant	Concrete Production	352	853	251	24	86	1,276	1,628
4	Refrigerator pump	Dried Milk Stabilization	20	24	0	3	5	34	57
5	Electric boiler	Bitumen Heating	40	625	0	31	0	696	573
6	Bitumen pressure distributor/Bitumen Distributor/Bitumen Sprayer	Bitumen Spray	443	1,192	205	63	170	1,833	2,078
7	Chip spreader	Surface Dressing/Chips Seal/Octa Res.	130	655	233	30	64	934	1,129
8	Cold mix plant	Cold Mix/Asphalt/Pre-mix	375	550	115	60	75	735	1,205
9	Concrete Pump	Concrete	50	275	155	5	10	478	558
10	Crane	Lifting	325	871	200	145	336	1,539	2,419
11	Crane (5 T)	Lifting	689	808	205	105	170	1,055	1,557
12	Crane (5 T capacity)	Lifting	1,147	1,318	233	163	431	2,115	3,361
13	Crane with grab bucket/dredger crane	Dredging	1,005	536	205	125	200	1,337	2,337
14	Dumper	Earthwork	300	1,275	175	320	660	2,271	3,571
15	Drilling machine with bit and accessories	Earth hole Drilling	125	17	205	24	35	387	507
16	Electric generator	Electricity	77	405	101	10	17	532	513
17	Electric hand grater (HDEP work)	Pipe Drilling	105	0	0	0	10	22	127
18	Electric heating plate	Cumulation work	53	12	0	5	12	33	83
19	Emulsion pressure distributor	Emulsion distribution	78	104	101	21	8	277	263
20	Excavator	Excavation/Earthwork	625	258	118	165	275	1,554	2,474
21	Spout Injection Equipment	Crack Repair	68	12	145	12	24	103	234
22	Grinding pump with agitator	PSC Bridge construction related	147	24	18	28	56	228	373
23	Hacking Machine	Jacking purpose	42	17	101	5	16	242	264
24	Hydraulic Jack (40 tonne capacity)	Bearing Installation/Repair	105	0	0	0	4	4	109
25	Hydraulic Jack (required capacity capacity 200 tonne)	Bearing Installation/Repair	255	60	0	0	4	64	320
26	Jack hammer/Rock drill/Portable rock drifter		22	140	0	10	90	263	285
27	Louder	Material Loading	543	981	115	229	392	1,621	2,164
28	Mastic cooker	Mastic Asphalt Production	60	277	230	485	32	1,009	1,072
29	Mixer machines/Concrete Mixture Machine	Concrete Production	31	173	0	4	16	203	235
30	Mobile slurry seal equipment	Maintenance	211	545	205	192	258	1,231	1,442
31	Mulching roller	Laying	1,012	700	118	277	525	1,531	2,697
32	Paver finisher	Asphalt	773	624	295	321	763	1,833	2,700
33	Piling rig (with all accessories)	Pile Construction upto 1.2m	1,600	703	253	162	272	1,374	2,974
34	Pneumatic roller/power harrow	Light Compaction	54	131	110	18	25	252	346
35	Pneumatic roller/Pneumatic tire roller	Compaction	533	737	115	227	527	1,510	2,178
36	Pre-mix Mixer	Pre-mix Production	115	2,185	235	50	100	2,535	2,650
37	Road marking machine	Thermoplastic Painting	97	177	0	55	25	197	268
38	Road sweeper/Mechanical broom	Sweeping	297	576	115	181	95	950	1,277

Handwritten signatures and initials at the bottom of the page.

Department of Roads

Sample Calculation :

SN	Equipments	Activity/ Usages	Ownership Cost (NRs/Hr)	Fuel/Electricity	Crew/Assistant F Charges	Servicing	Maintenance	Total Operation Cost	Total Hire Cost
39	Screw Jack		53	0	0	0	0	0	53
40	Smooth wheeled roller/Smooth 3 wheeled steel roller	Compaction	173	486	18	174	143	921	1,095
41	Stripping Jack with pump	Prestraining	104	12	0	40	109	18	285
42	Lipper	Transportation/Carry	148	608	205	181	35	1,099	1,247
43	Tractor with ripper attachment/Tractor Trolley	Ripping/Carry	83	406	205	125	90	825	908
44	Truck 1st body/Trailer	Carry	532	972	205	588	429	2,192	2,724
46	Vibratory roller	Compaction	481	655	115	151	367	1,311	1,792
48	Water Tanker	Watering	270	385	118	181	85	799	1,069
47	Wet mix plant	Base Production	433	380	205	125	273	916	1,349

42.

B

release

AL

20/2/20

19

Department of Roads

Fuel/Electricity Demand :

Rate :

SN	Equipments	Activity/ Usages	Rate :			Fuel/Electricity
			80	12	90	
			Fuel (L/hr)	Electricity (Units/hr)	Fuel Oil (Heating) (L/hr)	
1	Air compressor /compressor with pneumatic breaker	General	5.73	0.00	0.00	516.10
2	Asphalt Plant (Batch mix HMP/Drum mix plant/Hot Mix Plant)	Asphalt/DBM Production	6.81	15.00	200.00	18,802.08
3	Batching Plant	Concrete Production	6.14	25.00	0.00	852.86
4	Bentonite pump	Drilled Hole Stabilization	0.00	2.00	0.00	24.00
5	Bitumen boiler	Bitumen Heating	1.96	0.00	5.00	626.40
6	Bitumen pressure distributor/Bitumen Distributor/ Bitumen Sprayer	Bitumen Spray	10.24	0.00	3.00	1,181.80
7	Chiu spreader	Surface Dressing/Chips Seal/Otta Seal	7.06	0.00	0.00	635.04
9	Cold mix plant	Cold Mix Asphalt/Premix	3.89	20.00	0.00	589.82
9	Concrete Pump	Concreting	3.05	0.00	0.00	275.40
10	Crane	Lifting	10.13	0.00	0.00	911.25
11	Crane (3 T)	Lifting	6.75	0.00	0.00	607.50
12	Crane 15 t capacity	Lifting	14.63	0.00	0.00	1,318.25
13	Crane with grab bucket/dredger crane	Dredging	8.96	0.00	0.00	806.40
14	Dozer	Earthwork	14.14	0.00	0.00	1,272.96
15	Drilling machine with bit and accessories	Earth Hole Drilling	1.30	0.00	0.00	116.64
16	Electric generator	Electricity	4.54	0.00	0.00	408.24
17	Electric hand driller (HDEP work)	Hole Drilling	0.00	1.00	0.00	12.00
18	Electric heating plate	Connection work	0.00	1.00	0.00	12.00
19	Emulsion pressure distributor	Emulsion distribution	1.15	0.00	0.00	103.68
20	Excavator	Excavation/Earthwork	14.40	0.00	0.00	1,296.00
21	Grout Injection Equipment	Crack Repair	0.00	1.00	0.00	12.00
22	Grouting pump with agitator	PSC Bridge construction related	0.00	2.00	0.00	24.00
23	Hacking Machine	Jacketing purpose	1.30	0.00	0.00	116.64
24	Hydraulic Jack (40 tonne capacity)	Bearing Installation/Repair	0.00	0.00	0.00	0.00
25	Hydraulic Jack (required capacity normally 200 tonne)	Bearing Installation/Repair	0.00	5.00	0.00	60.00
26	Jack hammer /Rock drill / Portable rock driller		1.82	0.00	0.00	145.80
27	Loader	Material Loading	8.79	0.00	0.00	881.28
28	Mastic cooker	Mastic Asphalt Production	0.00	1.00	2.88	271.20

Department of Roads

Fuel/Electricity Demand :

SN	Equipments	Activity/ Usages	Fuel (L/hr)	Electcnlty (Units/hr)	Fuel Oil (Heating) (L/hr)	Fuel/Electricity
29	Mixture machine/Concrete Mixture Machine	Concrete Production	1.82	0.00	0.00	172.80
30	Mobile slurry seal equipment	Maintenance	6.07	0.00	0.00	546.21
31	Motor grader	Laying	8.87	0.00	0.00	780.30
32	Paver finisher	Asphalt	8.94	0.00	0.00	824.24
33	piling rig (with all accessories)	Pile Construction upto 1.2m	7.84	0.00	0.00	705.50
34	Plate compactor/power rammer	Light Compaction	1.48	0.00	0.00	131.22
35	Pneumatic roller/Pneumatic tired roller	Compaction	8.19	0.00	0.00	737.28
36	Premix Mixer	Premix Production	4.25	0.00	20.00	2,182.73
37	Road marking machine	Thermoplastic Painting	1.30	0.00	0.00	116.64
38	Road sweeper/Mechanical broom	Sweeping	6.40	0.00	0.00	576.00
39	Screw Jack		0.00	0.00	0.00	0.00
40	Smooth wheeled roller/Smooth 3 wheeled steel roller	Compaction	5.40	0.00	0.00	486.00
41	Stressing jack with pump	Prestressing	0.00	1.00	0.00	12.00
42	Tipper	Transportation/Carry	6.78	0.00	0.00	608.40
43	Tractor with ripper attachment/Tractor Trolley	Ripping/Carry	4.50	0.00	0.00	405.00
44	Truck flat body/Trailer	Carry	10.80	0.00	0.00	972.00
45	Vibratory roller	Compaction	7.28	0.00	0.00	655.20
46	Water Tanker	Watering	4.32	0.00	0.00	388.80
47	Wet mix plant	Base Production	0.00	30.00	0.00	360.00

482.

[Handwritten signatures and initials]

Department of Roads

Sample Calculation :

SN	Equipments	Fuel/Electricity	Crew, day	District Rate of Crew/day		District Rate of Crew's =30x Daily Rate(1*20)	Assistant, day	District Rate of Assistant/day		Crew	Scaffolding	Maintenance	Total Operation Cost
				Saline	Skilled			Helper/Unskilled	Helper/Unskilled				
1	Air compressor (compressor with pneumatic breaker)	515.11	1.00	700.00	110.00				100.00	4.00	50.00	700.00	
2	Asphalt Paver (Batch mix HMP/Drum mix plant) (lot mix plant)	18,302.95	1.00	920.00	118.27		2.00	600.00	173.08	291.08	178.33	19,375.05	
3	Balancing plant	339.98	1.00	920.00	118.27		2.00	600.00	173.08	291.08	44.00	1,273.37	
4	Bananae pump	24.00									2.50	26.50	
5	Baumhaler	620.40									1.33	621.73	
6	Bunch measure distributor/Filler	1,181.00	1.00	920.00	118.27		1.00	600.00	88.54	204.81	62.00	1,655.26	
7	Cryopressor	855.00	1.00	920.00	118.27		1.00	600.00	88.54	204.81	62.00	1,655.26	
8	Concrete pump	589.92	1.00	920.00	118.27						50.00	639.92	
9	Concrete Pump	275.40	1.00	920.00	118.27		1.00	600.00	88.54	204.81	50.00	477.80	
10	Cranes	911.25	1.00	920.00	118.27		1.00	600.00	88.54	204.81	145.00	1,598.58	
11	Cranes (2 T)	607.00	1.00	920.00	118.27		1.00	600.00	88.54	204.81	128.00	1,088.77	
12	Crane 15 ton capacity	1,870.20	1.00	920.00	118.27		1.00	600.00	88.54	204.81	160.00	2,114.98	
13	Crane with grab bucket/crawler crane	808.40	1.00	920.00	118.27		1.00	600.00	88.54	204.81	120.00	1,333.21	
14	Crane	272.88	1.00	920.00	118.27						330.00	2,372.28	
15	Drilling machine with bit and accessories	118.84	1.00	920.00	118.27		1.00	600.00	88.54	204.81	24.00	331.49	
16	Electric generator	408.74	1.00	920.00	118.27				100.00	10.00	18.00	536.74	
17	Electric hand drill (1.5HP/20A)	12.00									10.00	22.00	
18	Electric heating cable	12.00									10.00	22.00	
19	Emulsion pressure spray lance	103.88	1.00	920.00	118.27				100.00	4.00	5.00	212.88	
20	Excavator	2,550.00	1.00	920.00	118.27						180.00	1,869.27	
21	Excavator Equipment	12.00	1.00	920.00	118.27						24.00	194.27	
22	Excavating pump with agitator	27.00	1.00	920.00	118.27				118.27	28.00	68.00	233.27	
23	Excavator Machine	118.84	1.00	920.00	118.27				120.00	8.00	15.00	241.84	
24	Hydraulic Jack (20 tons capacity)	0.00									4.00	4.00	
25	Hydraulic Jack (required capacity normally 200 tonnes)	60.00									4.00	64.00	
26	Jack hammer (Rock drill) Portable rock drill	145.98									88.00	233.98	
27	Jack	991.29	1.00	920.00	118.27				118.27	226.00	362.00	1,320.56	
28	Jackhammer	271.29	1.00	920.00	118.27		1.00	600.00	88.54	204.81	32.00	1,333.31	
29	Machine machine/Concrete vibrator Machine	172.00		920.00							14.00	186.00	
30	Mobile surveying equipment	548.21	1.00	920.00	118.27		1.00	600.00	88.54	204.81	192.00	1,283.02	
31	Motor grader	780.30	1.00	920.00	118.27						257.00	1,037.30	
32	Power loader	954.21	1.00	920.00	118.27		1.00	600.00	88.54	204.81	785.00	1,334.02	
33	Printing (with all accessories)	735.80	1.00	920.00	118.27		1.00	600.00	88.54	204.81	270.00	1,374.41	
34	Pneumatic power hammer	151.27	1.00	920.00	118.27				118.27	18.00	25.00	294.27	
35	Pneumatic roller/Pneumatic tread roller	737.28	1.00	920.00	118.27				118.27	237.00	627.00	1,009.55	
36	Roller Mixer	2,182.43	1.00	920.00	118.27		1.00	600.00	88.54	204.81	90.00	2,567.33	
37	Road marking machine	118.84									55.00	173.84	
38	Road sweeper/Mechanical sweeper	679.00	1.00	920.00	118.27						181.00	860.00	
39	Screw Jack	3.00									0.00	3.00	
40	Smooth wheel roller/Smooth wheel roller	436.00	1.00	920.00	118.27				118.27	170.83	143.00	750.00	
41	Scaffolding with pump	12.00									43.00	55.00	
42	Tractor	608.40	1.00	920.00	118.27		1.00	600.00	88.54	204.81	85.00	1,088.21	

[Handwritten signatures and initials]

Department of Roads

Sample Calculation:

SK	Equipment	Fuel/Electricity	Crew, day	District Rate of Crew/Day	District Rate of Crew/Day - 30% Daily Rate (8*28)	Assistant/Day	District Rate of Assistant/Day	District Rate of Assistant/Day - 30% Daily Rate (8*28)	Crew	Servicing	Maintenance	Total Operation Cost
			Skilled	Skilled	Skilled	Helper/Unskilled	Helper/Unskilled	Helper/Unskilled				
42	Tractor w/ ripper attachment/Tractor Trolley	105.00	1.00	820.00	118.27	1.00	300.00	95.54	204.81	125.83	88.00	524.64
44	Truck flat body/Trailer	575.00	1.00	820.00	118.27	1.00	300.00	95.54	264.81	508.00	428.83	2,191.91
45	Motor roller	665.00	1.00	820.00	118.27				118.27	151.00	357.00	1,311.27
43	Water Tanker	300.00	1.00	820.00	118.27				118.27	181.00	95.00	792.27
47	Wet mix plant	350.00	1.00	820.00	118.27	1.00	300.00	95.54	237.91	155.00	228.00	915.91

12
reducing
2000
11

2) Detailed Calculation Sheets

102.

D

10/10/10

10/10/10

10/10/10

10/10/10

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information				
Equipment:	Ditching Mixing Plant		Manufactured year:	Code No: 3
Make:			Fuel type:	
Model:			Diesel (SFC):	0.16 (lt/hr/hp-hr)
Power (hp):	60	hp	Petrol (SFC):	0.72 (lt/hr/hp-hr)
Capacity:	15-20	cum	Load factor (LF):	0.8
Purchase / Estimated Price (PP):	4400000		Time factor (TF):	0.8
Useful life (N):	20		Fuel Rate:	97.34513 (Rs/lt)
Total Useful life Hours (H):	20000		Fuel Consumption:	6.14 (L/hr)
Uses Hours per year (h):	1000		Energy consumed:	25 (kwh)
Tyre cost per unit (Ct):	0		Electric Charge:	(Rs/unit)
Total no. of Tyres (tn):			Energy consumed rate	(unit/hr)
Tyre replacement costs (TRC):	0		Repair factor (RF):	0.4
Tyre Average Life (hrs) (T _a):	0		Servicing factor (SF):	0.2
Special wear item cost (SWIC):			Interest Rate (IR):	10%
Operator Monthly Salary + Allowance (OS)				

OWNERSHIP COSTS		
1	Purchase Price less tyre (PI (Rs)) including accessories and installation:	4400000
2	Estimated Salvage Value (SV) (Rs)	440000
3	Annual Depreciation (Rs/yr)	108000
4	Insurance (Rs/yr)	44000
5	Taxes / Licence etc. (Rs/yr)	44000
6	Storage etc. (Rs/yr)	44000
7	Average Annual Investment	220000
8	Annual Interest Cost (Rs)	22000
9	Annual Ownership Cost (Rs)	352000
10	Estimated Hourly Ownership Cost (Rs/hr)	352.00

OPERATION COSTS		
11	Repair and Maintenance Cost (Rs/hr)	88.00
12	Tyre Replacement Cost (Rs/hr)	0.00
13	Fuel Cost (Rs/h)	598.09
14	Servicing (Oil, filters, grease ... etc.) (Rs/hr)	44.00
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)	0.00
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)	0.00
17	Estimated Hourly Operating Cost (Rs/hr)	730.09
18	Total Hourly Owning and Operating Cost (Rs/hr)	1082.09

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information				
Equipment:	Bitumen Pressure Distributor		Manufactured year:	Code No: 4
Make:			Fuel Type	Fuel Oil Consumption 3.00 (l/hr)
Model:			Diesel (SFC):	0.16 (ltr/hp-hr)
Power (hp):	100	hp	Petrol (SFC):	0.22 (ltr/hp-hr)
Capacity:	1750	sqm/hr	Load factor (LF):	0.8
Purchase / Estimated Price (PP):	6500000		Time factor (TF):	0.8
Useful Life (N):	20		Fuel Rate:	97.34513 (Rs/ltr)
Total Useful life Hours (H):	20000		Fuel Consumption:	10.24 (l/hr)
Uses / hours per year (h):	1000		Energy consumed:	(kwh)
Tyre cost per unit (Ct):	40000		Electric Charge:	(Rs/unit)
Total no. of Tyres (tn):	6		Energy consumed rate:	(unit/hr)
Tyre replacement costs (TRC):	240000		Repair factor (RF):	0.4
Tyre Average Life (hrs) (TL):	3000		Servicing factor (SF):	0.2
Special wear item cost (SWIC):			Fuel Oil Rate	97.34513
Interest Rate (IR):	10%			
Operator Monthly Salary + Allowance (OS)				
OWNERSHIP COSTS				
1	Purchase Price less tyre (?) (Rs) (including accessories and installation)			6260000
2	Estimated Salvage Value (S) (Rs)			650000
3	Annual Depreciation (Rs/yr)			280500
4	Insurance (Rs/yr)			65000
5	Taxes / Licence etc. (Rs/yr)			65000
6	Storage etc. (Rs/yr)			
7	Average Annual Investment			325000
8	Annual interest Cost (Rs)			32500
9	Annual Ownership Cost (Rs)			413000
10	Estimated Hourly Ownership Cost (Rs/hr)			443.00
OPERATION COSTS				
11	Repair and Maintenance Cost (Rs/hr)			125.20
12	Tyre Replacement Cost (Rs/hr)			51.03
13	Fuel Cost (Rs/hr)			996.87
14	Servicing (Oil, filters, grease etc.) (Rs/hr)			62.60
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)			0.00
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)			0.00
17	Estimated Hourly Operating Cost (Rs/hr)			1235.65
18	Total Hourly Owning and Operating Cost (Rs/hr)			1678.65

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information					
Equipment:	Bitumen Boiler Oil Fired		Manufactured year:	Code No: 5	
Make:			Fuel Type	Fuel Oil Consumption	2.00
Model:			Fuel	Diesel (SFC):	0.16
Power (hp):	25	hp		Petrol (SFC):	0.22
Capacity:	1500	ltr		Load factor (LF):	0.7
Purchase / Estimated Price (PP):	500000			Time factor (TF):	0.7
Useful Life (N):	20			Fuel Rate:	97.34513
Total Useful Life (Hours) (H):	15000		Fuel Consumption:	1.96	(Rs/ltr)
Uses Hours per year (h):	750		Energy consumed:		(L/hr)
Tyre cost per unit (C):			Electric Charge:		(kwh)
Total no. of Tyres (cn):			Energy consumed rate:		(Rs/unit)
Tyre replacement costs (TRC):	0		Repair factor (RF):	0.25	(unit/hr)
Tyre Average Life (hrs) (TL):			Service factor (SF):	0.1	
Special wear item cost (SWIC):			Fuel Oil Rate	97.34513	
Interest Rate (IR):	10%				
Operator Monthly Salary + Allowance (OS)					
OWNERSHIP COSTS					
1	Purchase Price less Tyre (P) (Rs) (Including accessories and installation)				500000
2	Estimated Salvage Value (S) (Rs)				50000
3	Annual Depreciation (Rs/yr)				22500
4	Insurance (Rs/yr)				5000
5	Taxes / Licence etc. (Rs/yr)				
6	Storage etc. (Rs/yr)				
7	Average Annual Investment				75000
8	Annual Interest Cost (Rs)				2500
9	Annual Ownership Cost (Rs)				30000
10	Estimated Hourly Ownership Cost (Rs/hr)				40.00
OPERATION COSTS					
11	Repair and Maintenance Cost (Rs/hr)				8.33
12	Tyre Replacement Cost (Rs/hr)				0.00
13	Fuel Cost (Rs/hr)				190.80
14	Servicing (Oil, filters, grease ... etc.) (Rs/hr)				3.33
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)				0.00
16	Operator's hourly charge (Salary- allowances) (Rs/hr)				0.00
17	Estimated Hourly Operating Cost (Rs/hr)				202.46
18	Total Hourly Owning and Operating Cost (Rs/hr)				242.46

422

Q

[Handwritten signature]

[Handwritten signature]

[Handwritten signature]

[Handwritten signature]

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information				
Equipment:	Concrete Pump		Manufactured year:	Code No.:
Make:			Fuel Type	
Model:			Diesel (SFC):	0.20 (ltr/hp-hr)
Power (hp):	25	hp	Petrol (SFC):	0.22 (ltr/hp-hr)
Capacity:	30-40	cum/hr	Load factor (FF):	0.9
Purchase / Estimated Price (FP):	400000		Time factor (TF):	0.85
Useful Life (N):	20		Fuel Rate:	97.94513 (Rs/ltr)
Total Useful life Hours (H):	8000		Fuel Consumption:	3.06 (L/hr)
Uses Hours per year (h):	800		Energy consumed:	(kwh)
Tyre cost per unit (C):	0		Electric Charge:	(Rs/unit)
Total no. of Tyres (tn):			Energy consumed rate:	(unit/hr)
Tyre replacement costs (TRC):	0		Repair factor (RF):	0.2
Tyre Average Life (hrs) (TL):	0		Servicing factor (SF):	0.1
Special wear item cost (SWIC):			Interest Rate (IR):	10%
Operator Monthly Salary + Allowance (OS):				
OWNERSHIP COSTS				
1	Purchase Price less tyre (P) (Rs) (Including accessories and installation)			400000
2	Estimated Salvage Value (S) (Rs)			40000
3	Annual Depreciation (Rs/yr)			36000
4	Insurance (Rs/yr)			4000
5	Taxes / Licence etc. (Rs/yr)			
6	Storage etc. (Rs/yr)			
7	Average Annual Investment			238000
8	Annual Interest Cost (Rs)			23800
9	Annual Ownership Cost (Rs)			63800
10	Estimated Hourly Ownership Cost (Rs/hr)			79.75
OPERATION COSTS				
11	Repair and Maintenance Cost (Rs/hr)			10.00
12	Tyre Replacement Cost (Rs/hr)			0.00
13	Fuel Cost (Rs/hr)			297.88
14	Servicing (Oil, filters, grease ... etc.) (Rs/hr)			5.00
15	Special wear items (blade, teeth, buckets ... etc.) (Rs/hr)			0.00
16	Operator's hourly charge (Salary+allowances) (Rs/hr)			0.00
17	Estimated Hourly Operating Cost (Rs/hr)			312.88
18	Total Hourly Owning and Operating Cost (Rs/hr)			392.63

2

2

2

2

2

2

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information				
Equipment:	Concrete Mixture	Manufactured year:	Code No.	9
Make:		Fuel Type		
Model:		Fuel	Diesel (SFC):	0.6 (ltr/hp-hr)
Power (hp):	5 hp		Petrol (SFC):	0.22 (ltr/hp-hr)
Capacity:	0.4 cum		Load factor (FF):	0.8
Purchase / Estimated Price (PP):	400000		Time factor (TF):	0.8
Useful Life (N):	15		Fuel Rate :	97.34513 (Rs/ltr)
Total Useful life / hours (H):	15000		Fuel Consumption:	1.92 (L/hr)
Uses Hours per year (h):	1000		Energy consumed:	(kwh)
Tyre cost per unit (Ct):	0		Electric Charge:	(Rs/unit)
Total no. of Tyres (tn):			Energy consumed rate	(unit/hr)
Tyre replacement costs (TRC):	0			
Tyre Average Life (hrs) (TL):	0	Repair factor (RF):	0.4	
Special wear item cost (SWIC):		Servicing factor (SF):	0.1	
Interest Rate (IR):	10%			
Operator Monthly Salary + Allowance (OS)				
OWNERSHIP COSTS				
1	Purchase Price less tyre (P) (Rs) (including accessories and installation)			400000
2	Estimated Salvage Value (S) (Rs)			40000
3	Annual Depreciation (Rs/yr)			24000
4	Insurance (Rs/yr)			4000
5	Taxes / Licence etc. (Rs/yr)			
6	Storage etc. (Rs/yr)			
7	Average Annual Investment			26667
8	Annual Interest Cost (Rs)			2667
9	Annual Ownership Cost (Rs)			30667
10	Estimated Hourly Ownership Cost (Rs/hr)			30.67
OPERATION COSTS				
11	Repair and Maintenance Cost (Rs/hr)			10.67
12	Tyre Replacement Cost (Rs/hr)			0.00
13	Fuel Cost (Rs/hr)			185.90
14	Servicing (Oil, filters, grease ... etc.) (Rs/hr)			2.67
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)			0.00
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)			0.00
17	Estimated Hourly Operating Cost (Rs/hr)			200.24
18	Total Hourly Owning and Operating Cost (Rs/hr)			230.90

Handwritten initials

Handwritten signature

Handwritten signature

Handwritten mark

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information				
Equipment:	Crane		Manufactured year:	Code No. 13
Make:			Fuel Type	
Model:			Diesel (SFC):	0.16 (ltr/hp-hr)
Power (hp):	75	hp	Petrol (SFC):	0.22 (ltr/hp-hr)
Capacity:	3	ton	Load factor (FF):	0.75
Purchase / Estimated Price (PP):	6500000		Time factor (TF):	0.75
Useful Life (N):	20		Fuel Rate :	97.34513 (Rs/ltr)
Total Useful life Hours (H):	15000		Fuel Consumption:	6.75 (L/hr)
Uses Hours per year (h):	750		Energy consumed:	(kwh)
Tyre cost per unit (Ct):	30000		Electric Charge:	(Rs/unit)
Total no. of Tyres (tn):	4		Energy consumed rate:	(unit/hr)
Tyre replacement costs (TRC):	120000			
Tyre Average Life (hrs) (TL):	3000		Repair factor (RF):	0.4
Special wear item cost (SWIC):			Servicing factor (SF):	0.25
Interest Rate (IR):	10%			
Operator M'thly Salary + Allowance (OS)				
OWNERSHIP COSTS				
1	Purchase Price less tyre (P) (Rs) (including accessories and installation)			6380000
2	Estimated Salvage Value (S) (Rs)			650000
3	Annual Depreciation (Rs/yr)			286500
4	Insurance (Rs/yr)			65000
5	Taxes / Licence etc. (Rs/yr)			65000
6	Storage etc. (Rs/yr)			
7	Average Annual Investment			325000
8	Annual Interest Cost (Rs)			32500
9	Annual Ownership Cost (Rs)			445000
10	Estimated Hourly Ownership Cost (Rs/hr)			598.67
OPERATION COSTS				
11	Repair and Maintenance Cost (Rs/hr)			170.13
12	Tyre Replacement Cost (Rs/hr)			42.21
13	Fuel Cost (Rs/hr)			657.08
14	Servicing (Oil, filters, grease etc.) (Rs/hr)			106.33
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)			0.00
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)			0.00
17	Estimated Hourly Operating Cost (Rs/hr)			975.75
18	Total Hourly Owning and Operating Cost (Rs/hr)			1574.42

Handwritten mark

Handwritten signature

Handwritten signature

Handwritten mark

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information				
Equipment:	Dozer Track		Manufactured year:	Code No. 15
Make:	Komatsu		Fuel Type	
Model:	D53E		Diesel (SFC):	0.16 (ltr/hp-hr)
Power (hp):	130	hp	Petrol (SFC):	0.22 (ltr/hp-hr)
Capacity:	200/120/150	cum/hr	Load factor (FF):	0.85
Purchase / Estimated Price (PP):	15000000		Time factor (TF):	0.8
Useful Life (N):	15		Fuel Rate:	97.34513 (Rs/ltr)
Total Useful life Hours (H):	15000		Fuel Consumption:	14.14 (L/hr)
Uses Hours per year (h):	1000		Energy consumed:	(kwh)
Tyre cost per unit (Ct):			Electric Charge:	(Rs/unit)
Total no. of Tyres (tr):			Energy consumed rate:	(unit/hr)
Tyre replacement costs (TRC):	0		Repair factor (RF):	0.55
Tyre Average Life (hrs) (TL):			Servicing factor (SF):	0.33
Special wear items cost (SWIC):	80000			
Interest Rate (IR):	10%			
Operator M'thly Salary + Allowance (OS)				
OWNERSHIP COSTS				
1	Purchase Price less tyre (P) (Rs); Including accessories and installation)			15000000
2	Estimated Salvage Value (S) (Rs)			1500000
3	Annual Depreciation (Rs/yr)			900000
4	Insurance (Rs/yr)			150000
5	Taxes / Licence etc. (Rs/yr)			150000
6	Storage etc. (Rs/yr)			
7	Average Annual Investment			1000000
8	Annual Interest Cost (Rs)			100000
9	Annual Ownership Cost (Rs)			1300000
10	Estimated Hourly Ownership Cost (Rs/hr)			1300.00
OPERATION COSTS				
11	Repair and Maintenance Cost (Rs/hr)			550.00
12	Tyre Replacement Cost (Rs/hr)			0.00
13	Fuel Cost (Rs/hr)			1376.85
14	Servicing (Oil, filters, grease etc.) (Rs/hr)			330.00
15	Special wear items (blade, tooth, bucket..... etc.) (Rs/h)			80.00
16	Operator's hourly charge (Salary + allowances) (Rs/hr)			0.00
17	Estimated Hourly Operating Cost (Rs/hr)			2336.85
18	Total Hourly Owning and Operating Cost (Rs/hr)			3636.85

SA
M
Lubon
Raj
A.C

6

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information				
Equipment:	Front End Loader, Wheeled	Manufactured year:	Code No.	17
Make:	Komatsu/Equivalent	Fuel Type		
Model:	WA95/Equivalent	Fuel	Diesel (SFC):	0.16 (ltr/hp-hr)
Power (hp):	90 hp		Petrol (SFC):	0.22 (ltr/hp-hr)
Capacity:	60/25 cum/hr		Load factor (FF):	0.85
Purchase / Estimated Price (PP):	6500000		Time factor (TF):	0.8
Useful Life (N):	15	Electric	Fuel Rate :	97.34513 (Rs/ltr)
Total Useful life Hours (H):	15000		Fuel Consumption:	9.79 (L/hr)
Uses Hours per year (h):	1000		Energy consumed:	(kwh)
Tyre cost per unit (Ct):	75000		Electric Charge:	(Rs/unit)
Total no. of Tyres (In):	4		Energy consumed rate	(unit/hr)
Tyre replacement costs (TRC):	300000			
Tyre Average Life (hrs) (TL):	3000		Repair factor (RF):	0.55
Special wear item cost (SWIC):	60000		Servicing factor (SF):	0.33
Interest Rate (IR):	10%			
Operator Monthly Salary + Allowance (OS)				
OWNERSHIP COSTS				
1	Purchase Price less tyre (P) (Rs) (Including accessories and installation)			6200000
2	Estimated Salvage Value (S) (Rs)			650000
3	Annual Depreciation (Rs/yr)			370000
4	Insurance (Rs/yr)			65000
5	Taxes / Licence etc. (Rs/yr)			65000
6	Storage etc. (Rs/yr)			
7	Average Annual Investment			433333
8	Annual Interest Cost (Rs)			43333
9	Annual Ownership Cost (Rs)			543333
10	Estimated Hourly Ownership Cost (Rs/hr)			543.33
OPERATION COSTS				
11	Repair and Maintenance Cost (Rs/hr)			227.33
12	Tyre Replacement Cost (Rs/hr)			79.14
13	Fuel Cost (Rs/hr)			953.20
14	Servicing (Oil, filters, grease etc.) (Rs/hr)			136.40
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)			60.00
16	Operator's hourly charge (Salary- allowances) (Rs/hr)			0.00
17	Estimated Hourly Operating Cost (Rs/hr)			1456.08
18	Total Hourly Owning and Operating Cost (Rs/hr)			1999.41



 dubn rajay JAL

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information					
Equipment:	Hotmix Plant		Manufactured year:	Code No.	2A
Make:			Fuel Type	Fuel Oil Consumption	5.00 ltr/ton
Model:			Fuel	Diesel (SFC):	0.16 ltr/hp-hr
Power (hp):	60	hp		Petrol (SFC):	0.22 ltr/hp-hr
Capacity:	40	ton/hr		Load factor (FF):	0.8
Purchase / Estimated Price (PP):	6500000			Time factor (TF):	0.9
Useful Life (N):	20			Fuel Rate :	97.3451327 (Rs/ltr)
Total Useful life Hours (H):	15000		Electric	Fuel Consumption:	6.912 (L/hr)
Uses Hours per year (h):	750			Energy consumed:	15 (kwh)
Tyre cost per unit (Ct):				Electric Charge:	12 (Rs/unit)
Total no. of Tyres (tn):				Energy consumed rate	15 (unit/hr)
Tyre replacement costs (IRC):	0				
Tyre Average Life (hrs) (TL):			Repair factor (RF):	0.4	
Special wear item cost (SWIC):			Servicing factor (SF):	0.25	
Interest Rate (IR):	10%		Fuel Oil Rate	97.3451327 (Rs/ltr)	
Operator Monthly Salary + Allowance (OS)					
OWNERSHIP COSTS					
1	Purchase Price less tyre (P) (Rs) (Including accessories and installation)				6500000
2	Estimated Salvage Value (S) (Rs)				650000
3	Annual Depreciation (Rs/yr)				292500
4	Insurance (Rs/yr)				65000
5	Taxes / licence etc. (Rs/yr)				65000
6	Storage etc. (Rs/yr)				65000
7	Average Annual Investment				325000
8	Annual Interest Cost (Rs)				32500
9	Annual Ownership Cost (Rs)				520000
10	Estimated Hourly Ownership Cost (Rs/hr)				693.33
OPERATION COSTS					
11	Repair and Maintenance Cost (Rs/hr)				173.33
12	Tyre Replacement Cost (Rs/hr)				0.00
13	Fuel Cost (Rs/hr)				852.85
14	Servicing (Oil, filters, grease etc.) (Rs/hr)				108.33
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)				0.00
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)				0.00
17	Estimated Hourly Operating Cost (Rs/hr)				1134.52
18	Total Hourly Owning and Operating Cost (Rs/hr)				1827.85

Handwritten marks

Handwritten signature

Handwritten signature

Handwritten mark

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information

Equipment:	Hydraulic Excavator	Manufactured year:	Code No.	27
Make:		Fuel Type		
Model:		Diesel (SFC):	0.16	(ltr/hp-hr)
Power (hp):	150 hp	Petrol (SFC):	0.22	(ltr/hp-hr)
Capacity:	1 cum	Load factor (FF):	0.75	
Purchase / Estimated Price (PP):	9000000	Time factor (TF):	0.8	
Useful Life (N):	12	Fuel Rate :	97.34513	(Rs/ltr)
Total Useful life Hours (H):	28000	Fuel Consumption:	14.40	(L/hr)
Uses Hours per year (h):	1500	Energy consumed:		(kwh)
Tyre cost per unit (Ct):		Electric Charge:		(Rs/unit)
Total no. of Tyres (tn):		Energy consumed rate		(unit/hr)
Tyre replacement costs (TRC):	0	Repair factor (RF):	0.55	
Tyre Average Life (hrs) (TL):		Servicing factor (SF):	0.33	
Special wear item cost (SWIC):	40000			
Interest Rate (IR):	10%			
Operator Monthly Salary + Allowance (OS)				

OWNERSHIP COSTS

1	Purchase Price less tyre (P) (Rs) (including accessories and installation)	9000000
2	Estimated Salvage Value (S) (Rs)	900000
3	Annual Depreciation (Rs/yr)	675000
4	Insurance (Rs/yr)	90000
5	Taxes / Licence etc. (Rs/yr)	90000
6	Storage etc. (Rs/yr)	
7	Average Annual Investment	750000
8	Annual Interest Cost (Rs)	75000
9	Annual Ownership Cost (Rs)	930000
10	Estimated Hourly Ownership Cost (Rs/hr)	620.00

OPERATION COSTS

11	Repair and Maintenance Cost (Rs/hr)	275.00
12	Tyre Replacement Cost (Rs/hr)	0.00
13	Fuel Cost (Rs/hr)	1401.77
14	Servicing (Oil, filters, grease etc.) (Rs/hr)	265.00
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)	26.67
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)	0.00
17	Estimated Hourly Operating Cost (Rs/hr)	1868.44
18	Total Hourly Owning and Operating Cost (Rs/hr)	2488.44

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information					
Equipment:	Mastik Cooker	Manufactured year:	Code No.	32	
Make:		Fuel Type	Fuel Oil Consumption	5.00	ltr/ton
Model:		Fuel	Diesel (SFC):	0.4	(ltr/hp-hr)
Power (hp):	10 hp		Petrol (SFC):	0.22	(ltr/hp-hr)
Capacity:	1 ton/hr		Load factor (FF):	0.8	
Purchase / Estimated Price (PP):	800000		Time factor (TF):	0.9	
Useful Life (N):	15		Fuel Rate :	97.34513	(Rs/ltr)
Total Useful life Hours (H):	15000	Electric	Fuel Consumption:	2.88	(L/hr)
Uses Hours per year (h):	1000		Energy consumed:	1	(kwh)
Tyre cost per unit (C1):			Electric Charge:	12	(Rs/unit)
Total no. of Tyres (In):			Energy consumed rate	8.64	(unit/hr)
Tyre replacement costs (TRC):	0		Repair factor (RF):	0.3	
Tyre Average Life (hrs) (TL):		Servicing factor (SF):	0.1		
Special wear item cost (SWIC):		Fuel Oil Rate	97.34513	(Rs/ltr)	
Interest Rate (IR):	10%				
Operator Monthly Salary + Allowance (OS)					
OWNERSHIP COSTS					
1	Purchase Price less tyre (P) (Rs) (Including accessories and installation)				800000
2	Estimated Salvage Value (S) (Rs)				80000
3	Annual Depreciation (Rs/yr)				48000
4	Insurance (Rs/yr)				8000
5	Taxes / Licence etc. (Rs/yr)				8000
6	Storage etc. (Rs/yr)				
7	Average Annual Investment				53333
8	Annual Interest Cost (Rs)				5333
9	Annual Ownership Cost (Rs)				69333
10	Estimated Hourly Ownership Cost (Rs/hr)				69.33
OPERATION COSTS					
11	Repair and Maintenance Cost (Rs/hr)				16.00
12	Tyre Replacement Cost (Rs/hr)				0.00
13	Fuel Cost (Rs/hr)				292.35
14	Servicing (Oil, filters, grease etc.) (Rs/hr)				5.33
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)				0.00
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)				0.00
17	Estimated Hourly Operating Cost (Rs/hr)				313.69
18	Total Hourly Owning and Operating Cost (Rs/hr)				383.02

Dr. N.

Quon

Handwritten signature

Handwritten signature

Handwritten mark

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information				
Equipment:	Mechanica, Broom Hydraulic	Manufactured year:	Code No.	33
Make:		Fuel Type		
Model:		Fuel	Diesel (SFC):	0.4 (ltr/hp-hr)
Power (hp):	25 hp		Petrol (SFC):	0.22 (ltr/hp-hr)
Capacity:	1250 sqm/hr		Load factor (FF):	0.8
Purchase / Estimated Price (PP):	3500000		Time factor (T):	0.8
Useful Life (N):	15		Fuel Rate :	97.34513 (Rs/ltr)
Total Useful life Hours (H):	15000	Electric	Fuel Consumption:	6.40 (L/hr)
Uses Hours per year (h):	1000		Energy consumed:	(kwh)
Tyre cost per unit (Ct):	25000		Electric Charge:	(Rs/unit)
Total no. of Tyres (tn):	4		Energy consumed rate	(unit/hr)
Tyre replacement costs (TRC):	100000			
Tyre Average Life (hrs) (T):	3000	Repair factor (RF):	0.3	
Special wear item cost (SWIC):	100000	Servicing factor (SF):	0.15	
Interest Rate (IR):	10%			
Operator Monthly Salary + Allowance (OS)				
OWNERSHIP COSTS				
1	Purchase Price less tyre (P) (Rs)(including accessories and installation)			3400000
2	Estimated Salvage Value (S) (Rs)			350000
3	Annual Depreciation (Rs/yr)			203333
4	Insurance (Rs/yr)			35000
5	Taxes / Licences etc. (Rs/yr)			35000
6	Storage etc. (Rs/yr)			
7	Average Annual Investment			233333
8	Annual Interest Cost (Rs)			23333
9	Annual Ownership Cost (Rs)			296667
10	Estimated Hourly Ownership Cost (Rs/hr)			296.67
OPERATION COSTS				
11	Repair and Maintenance Cost (Rs/hr)			68.00
12	Tyre Replacement Cost (Rs/hr)			26.38
13	Fuel Cost (Rs/hr)			623.01
14	Servicing (Oil, filters, grease ... etc.) (Rs/hr)			34.00
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)			100.00
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)			0.00
17	Estimated Hourly Operating Cost (Rs/hr)			851.39
18	Total Hourly Owning and Operating Cost (Rs/hr)			1148.06



OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information				
Equipment:	Motor Grader		Manufactured year:	Code No. 34
Make:	Komatsu/Equivalent		Fuel Type	
Model:	GD300A/ Equivalent		Diesel (SFC):	0.1 (ltr/hp-hr)
Power (hp):	120	hp	Petrol (SFC):	0.22 (ltr/hp-hr)
Capacity:	200/200/50	cum/hr	Load factor(LF):	0.85
Purchase / Estimated Price (PP):	12000000		Time factor(TF):	0.85
Useful Life (N):	15		Fuel Rate :	97.34513 (Rs/ltr)
Total Useful life Hours (H):	15000		Fuel Consumption:	8.67 (l/hr)
Uses / hours per year (h):	1000		Energy consumed:	(kwh)
Tyre cost per unit (Ct):	60000		Electric Charge:	(Rs/unit)
Total no. of Tyres (tn):	6		Energy consumed rate	(unit/hr)
Tyre replacement costs (TRC):	360000		Repair factor (RF):	0.33
Tyre Average Life (hrs) (TL):	3000		Servicing factor (SF):	0.33
Special wear item cost (SWIC):	200000			
Interest Rate (IR):	10%			
Operator M'thly Salary + Allow'nce (OS)				
OWNERSHIP COSTS				
1	Purchase Price less tyre (P) (Rs) (Including accessories and installation)			11640000
2	Estimated Salvage Value (S) (Rs)			1200000
3	Annual Depreciation (Rs/yr)			696000
4	Insurance (Rs/yr)			120000
5	Taxes / Licence etc. (Rs/yr)			120000
6	Storage etc. (Rs/yr)			
7	Average Annual Investment			800000
8	Annual Interest Cost (Rs)			80000
9	Annual Ownership Cost (Rs)			1016000
10	Estimated Hourly Ownership Cost (Rs/hr)			1016.00
OPERATION COSTS				
11	Repair and Maintenance Cost (Rs/hr)			256.08
12	Tyre Replacement Cost (Rs/hr)			94.97
13	Fuel Cost (Rs/hr)			843.98
14	Servicing (Oil, filters, grease ... etc.) (Rs/hr)			256.08
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)			200.00
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)			0.00
17	Estimated Hourly Operating Cost (Rs/hr)			1651.11
18	Total Hourly Owning and Operating Cost (Rs/hr)			2667.11

15/02

Subor

[Handwritten signature]

[Handwritten mark]

[Handwritten mark]

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information				
Equipment:	Mobile slurry seal equipment	Manufactured year:	Code No.	35
Make:		Fuel Type		
Model:		Fuel	Diesel (SFC):	0.12 (ltr/hp-hr)
Power (hp):	70 hp		Petrol (SFC):	0.22 (ltr/hp-hr)
Capacity:	2700 sqm/hr		Load factor (FF):	0.85
Purchase / Estimated Price (PP):	2500000		Time factor (TF):	0.85
Useful life (N):	15	Electric	Fuel Rate:	97.34513 (Rs/ltr)
Total Useful life Hours (H):	15000		Fuel Consumption:	6.07 (L/hr)
Uses Hours per year (h):	1000		Energy consumed:	(kwh)
Tyre cost per unit (Ct):	20000		Electric Charge:	(Rs/unit)
Total no. of Tyres (tn):	4		Energy consumed rate	(unit/hr)
Tyre replacement costs (TRC):	80000			
Tyre Average Life (hrs) (TL):	3000		Repair factor (RF):	0.4
Special wear item cost (SWIC):			Servicing factor (SF):	0.2
Interest Rate (IR):	10%			
Operator Monthly Salary + Allowance (OS):				
OWNERSHIP COSTS				
1	Purchase Price less tyre (P) (Rs) (including accessories and installation)			2420000
2	Estimated Salvage Value (S) (Rs)			250000
3	Annual Depreciation (Rs/yr)			144667
4	Insurance (Rs/yr)			25000
5	Taxes / Licence etc. (Rs/yr)			25000
6	Storage etc. (Rs/yr)			
7	Average Annual Investment			166667
8	Annual Interest Cost (Rs)			16667
9	Annual Ownership Cost (Rs)			211333
10	Estimated Hourly Ownership Cost (Rs/hr)			211.33
OPERATION COSTS				
11	Repair and Maintenance Cost (Rs/hr)			64.53
12	Tyre Replacement Cost (Rs/hr)			21.10
13	Fuel Cost (Rs/hr)			590.79
14	Servicing (Oil, filters, grease etc.) (Rs/hr)			32.27
15	Special wear items (blade, teeth, bucket etc.) (Rs/h)			0.00
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)			0.00
17	Estimated Hourly Operating Cost (Rs/hr)			708.69
18	Total Hourly Owning and Operating Cost (Rs/hr)			920.02



OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information				
Equipment:	Paver finisher mechanical		Manufactured year:	Code No. 37
Make:			Fuel Type	
Model:			Fuel	Diesel (SFC): 0.06 (ltr/hp-hr)
Power (hp):	160	hp		Petrol (SFC): 0.22 (ltr/hp-hr)
Capacity:	100	ton/hr		Load factor (FF): 0.85
Purchase / Estimated Price (PP):	9000000			Time factor (TF): 0.85
Useful Life (N):	15			Fuel Rate: 97.34513 (Rs/ltr)
Total Useful life Hours (H):	15000			Fuel Consumption: 6.94 (L/hr)
Uses Hours per year (h):	1000			Energy consumed: (kwh)
Tyre cost per unit (Ct):	20000			Electric Charge: (Rs/unit)
Total no. of Tyres (n):	4			Energy consumed rate (unit/hr)
Tyre replacement costs (TRC):	80000			
Tyre Average Life (hrs) (L):	10000		Repair factor (RF): 0.4	
Special wear item cost (SWIC):			Surviving factor (SF): 0.2	
Interest Rate (IR):	10%			
Operator Monthly Salary + Allowance (OS)				
OWNERSHIP COSTS				
1	Purchase Price less tyre (P) (Rs) (Including accessories and installation)			8920000
2	Estimated Salvage Value (S) (Rs)			900000
3	Annual Depreciation (Rs/yr)			534667
4	Insurance (Rs/yr)			90000
5	Taxes / Licence etc. (Rs/yr)			
6	Storage etc. (Rs/yr)			90000
7	Average Annual Investment			600000
8	Annual Interest Cost (Rs)			60000
9	Annual Ownership Cost (Rs)			774667
10	Estimated Hourly Ownership Cost (Rs/hr)			774.67
OPERATION COSTS				
11	Repair and Maintenance Cost (Rs/hr)			237.87
12	Tyre Replacement Cost (Rs/hr)			50.05
13	Fuel Cost (Rs/hr)			675.19
14	Servicing (Oil, filters, grease etc.) (Rs/hr)			118.93
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/hr)			0.00
16	Operator's hourly charge (Salary+allowances) (Rs/hr)			0.00
17	Estimated Hourly Operating Cost (Rs/hr)			1092.04
18	Total Hourly Owning and Operating Cost (Rs/hr)			1866.71

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information				
Equipment:	Piling Rig with Bantonlla pump	Manufactured year:	Core No.	38
Make:		Fuel Type		
Model:		Fuel	Diesel (SFC):	0.1 (ltr/hp-hr)
Power (hp):	160 hp		Petrol (SFC):	0.22 (ltr/hp-hr)
Capacity:	2 RM/hr		Load factor (LF):	0.7
Purchase / Estimated Price (PP):	4000000		Time factor (TF):	0.7
Useful Life (N):	10		Fuel Rate:	97.34513 (Rs/ltr)
Total Useful life Hours (H):	30000		Fuel Consumption:	7.84 (L/hr)
Uses Hours per year (h):	3000	Electric	Energy consumed:	(kwh)
Tyre cost per unit (CT):			Electric Charge:	(Rs/unit)
Total no. of Tyres (tn):			Energy consumed rate	(unit/hr)
Tyre replacement costs (TRC):	0			
Tyre Average Life (hrs) (TL):		Repair factor (RF):	0.2	
Special wear item cost (SWIC):	500000	Servicing factor (SF):	0.2	
Interest Rate (IR):	10%			
Operator Monthly Salary + Allowance (OS)				

OWNERSHIP COSTS

1	Purchase Price less tyre (P) (Rs) (including accessories and installation)	4000000
2	Estimated Salvage Value (S) (Rs)	400000
3	Annual Depreciation (Rs/yr)	3600000
4	Insurance (Rs/yr)	400000
5	Taxes / Licence etc. (Rs/yr)	400000
6	Storage etc. (Rs/yr)	
7	Average Annual Investment	4000000
8	Annual Interest Cost (Rs)	400000
9	Annual Ownership Cost (Rs)	4800000
10	Estimated Hourly Ownership Cost (Rs/hr)	1600.00

OPERATION COSTS

11	Repair and Maintenance Cost (Rs/hr)	266.67
12	Tyre Replacement Cost (Rs/hr)	0.00
13	Fuel Cost (Rs/hr)	763.19
14	Servicing (Oil, filters, grease etc.) (Rs/hr)	266.67
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)	166.67
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)	0.00
17	Estimated Hourly Operating Cost (Rs/hr)	1469.19
18	Total Hourly Owning and Operating Cost (Rs/hr)	3069.19

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information				
Equipment:	Pneumatic Road Roller	Manufactured year:	Code No.	39
Make:		Fuel Type		
Model:		Diesel (SFC):	0.16	(ltr/hp-hr)
Power (hp):	80 hp	Petrol (SFC):	0.22	(ltr/hp-hr)
Capacity:	25 cum/hr	Load factor(FF):	0.8	
Purchase / Estimated Price (PP):	6000000	Time factor(TF):	0.8	
Useful Life (N):	20	Fuel Rate :	97.34513	(Rs/ltr)
Total Useful life Hours (H):	15000	Fuel Consumption:	8.19	(L/hr)
Uses Hours per year (h):	750	Energy consumed:		(kwh)
Tyre cost per unit (Ct):	40000	Electric Charge:		(Rs/unit)
Total no. of Tyres (tn):	8	Energy consumed rate		(unit/hr)
Tyre replacement costs (TRC):	320000			
Tyre Average Life (hrs) (TL):	6000	Repair factor (RF):	0.25	
Special wear item cost (SWIC):	0	Servicing factor (SF):	0.15	
Interest Rate (IR):	10%			
Operator M'thly Salary + Allow'nce(OS)				
OWNERSHIP COSTS				
1	Purchase Price less tyre (P) (Rs)(Including accessories and installation)			5680000
2	Estimated Salvage Value (S) (Rs)			600000
3	Annual Depreciation (Rs/yr)			254000
4	Insurance (Rs/yr)			60000
5	Taxes / Licence etc. (Rs/yr)			60000
6	Storage etc. (Rs/yr)			
7	Average Annual Investment			300000
8	Annual Interest Cost (Rs)			30000
9	Annual Ownership Cost (Rs)			404000
10	Estimated Hourly Ownership Cost (Rs/hr)			538.67
OPERATION COSTS				
11	Repair and Maintenance Cost (Rs/hr)			94.67
12	Tyre Replacement Cost (Rs/hr)			207.24
13	Fuel Cost (Rs/hr)			797.45
14	Servicing (Oil, filters, grease ... etc.) (Rs/hr)			56.80
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)			0.00
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)			0.00
17	Estimated Hourly Operating Cost (Rs/hr)			1150.16
18	Total Hourly Owning and Operating Cost (Rs/hr)			1688.83

Handwritten signatures and initials:
 J
 10/ *Quon* *subing* *SL*
 6-

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information				
Equipment:	stressing juck with pump & acc		Manufactured year:	Code No. 41
Make:			Fuel Type	
Model:			Fuel	Diesel (S/C): 0.16 (ltr/hp-hr)
Power (hp):	10	Lhp		Petrol (SFC): 0.22 (ltr/hp-hr)
Capacity:	RM/hr			Load factor (LF): 0.9
Purchase / Estimated Price (PP):	400000			Time factor (TF): 0.85
Useful life (N):	10			Fuel Rate : 97.34513 (Rs/ltr)
Total Useful life Hours (H):	5000			Fuel Consumption: 1.10 (L/hr)
Uses Hours per year (h):	500			Energy consumed: 1 (kwh)
Tyre cost per unit (Ct):				Electric Charge: 12 (Rs/unit)
Total no. of Tyres (tn):				Energy consumed rate 12 (unit/hr)
Tyre replacement costs (TRC):	0			
Tyre Average Life (hrs) (TI):			Repair factor (RF): 0.25	
Special wear item cost (SWIC):			Servicing factor (SF): 0.1	
Interest Rate (IR):	10%			
Operator Monthly Salary + Allowance (OS)				
OWNERSHIP COSTS				
1	Purchase Price less tyre (P) (Rs) (Including accessories and installation)			400000
2	Estimated Salvage Value (S) (Rs)			40000
3	Annual Depreciation (Rs/yr)			36000
4	Insurance (Rs/yr)			4000
5	Taxes / Licence etc. (Rs/yr)			4000
6	Storage etc. (Rs/yr)			4000
7	Average Annual Investment			40000
8	Annual Interest Cost (Rs)			4000
9	Annual Ownership Cost (Rs)			52000
10	Estimated Hourly Ownership Cost (Rs/hr)			104.00
OPERATION COSTS				
11	Repair and Maintenance Cost (Rs/hr)			20.00
12	Tyre Replacement Cost (Rs/hr)			0.00
13	Fuel Cost (Rs/hr)			12.00
14	Servicing (Oil, filters, grease ... etc.) (Rs/hr)			8.00
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)			0.00
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)			0.00
17	Estimated Hourly Operating Cost (Rs/hr)			40.00
18	Total Hourly Owning and Operating Cost (Rs/hr)			144.00

M. Zubin

Handwritten signature

Handwritten mark

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information					
Equipment:	Road Marking Machine		Manufactured year:	Code No.	14
Make:			Fuel Type	Fuel Oil Consumption	2.00 ltr/hr
Model:			Fuel	Diesel (SFC):	0.16 (ltr/hp-hr)
Power (hp):	10	hp		Petrol (SFC):	0.22 (ltr/hp-hr)
Capacity:	100	sqm/hr		Load factor (FF):	0.9
Purchase / Estimated Price (PP):	500000			Time factor (TF):	0.9
Useful Life (N):	10		Electric	Fuel Rate :	97.34513 (Rs/ltr)
Total Useful life Hours (H):	6000			Fuel Consumption:	1.296 (L/hr)
Uses Hours per year (h):	600			Energy consumed:	(kwh)
Tyre cost per unit (CI):				Electric Charge:	(Rs/unit)
Total no. of Tyres (tn):				Energy consumed rate	0 (unit/hr)
Tyre replacement costs (TRC):	0			Repair factor (RF):	0.25
Tyre Average Life (hrs) (TL):				Servicing factor (SF):	0.1
Special wear item cost (SWIC):				Fuel Oil Rate	97.34513 (Rs/ltr)
Interest Rate (IR):	10%				
Operator M'thly Salary + Allowance (OS)					
OWNERSHIP COSTS					
1	Purchase Price less tyre (P) (Rs) (Including accessories and installation)				500000
2	Estimated Salvage Value (S) (Rs)				50000
3	Annual Depreciation (Rs/yr)				45000
4	Insurance (Rs/yr)				5000
5	Taxes / Licence etc. (Rs/yr)				
6	Storage etc. (Rs/yr)				
7	Average Annual Investment				50000
8	Annual Interest Cost (Rs)				5000
9	Annual Ownership Cost (Rs)				55000
10	Estimated Hourly Ownership Cost (Rs/hr)				91.67
OPERATION COSTS					
11	Repair and Maintenance Cost (Rs/hr)				20.83
12	Tyre Replacement Cost (Rs/hr)				0.00
13	Fuel Cost (Rs/hr)				126.16
14	Servicing (Oil, filters, grease etc.) (Rs/hr)				8.33
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)				0.00
16	Operator's hourly charge (Salary- allowances) (Rs/hr)				0.00
17	Estimated Hourly Operating Cost (Rs/hr)				155.33
18	Total Hourly Owning and Operating Cost (Rs/hr)				246.99

g
gubon *adity* *g.c.*
g

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information				
Equipment:	Smooth Wheeled Roller	Manufactured year:	Code No.	45
Make:		Fuel Type		
Model:	8 ton	Fuel	Diesel (SFC):	0.16 (ltr/hp-hr)
Power (hp):	60 hp		Petrol (SFC):	0.22 (ltr/hp-hr)
Capacity:	70/25 cum/hr		Load factor(LF):	0.75
Purchase / Estimated Price (PP):	4000000		Time factor(TF):	0.75
Useful Life (N):	15		Fuel Rate :	97.34513 (Rs/ltr)
Total Useful life Hours (H):	30000	Electric	Fuel Consumption:	5.40 (L/hr)
Uses Hours per year (h):	2000		Energy consumed:	(kwh)
Tyre cost per unit (Ct):			Electric Charge:	(Rs/unit)
Total no. of Tyres (tn):			Energy consumed rate	(unit/hr)
Tyre replacement costs (TRC):	0			
Tyre Average Life (hrs) (TL):		Repair factor (RF):	0.3	
Special wear item cost (SWIC):		Servicing factor (SF):	0.1	
Interest Rate (IR):	10%			
Operator M ^{thly} Salary + Allowance(OS)				

OWNERSHIP COSTS

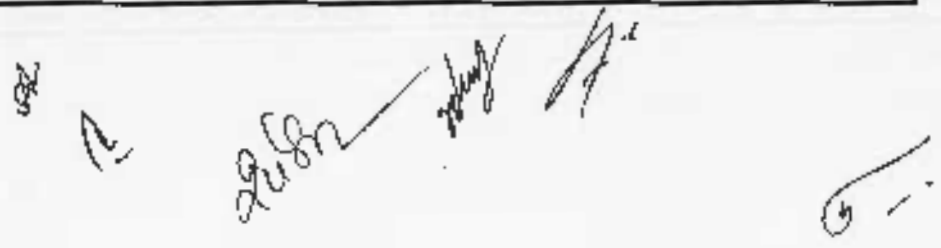
1	Purchase Price less Tyre (P) (Rs)(including accessories and installation)	4000000
2	Estimated Salvage Value (S) (Rs)	400000
3	Annual Depreciation (Rs/yr)	240000
4	Insurance (Rs/yr)	40000
5	Taxes / Licence etc. (Rs/yr)	40000
6	Storage etc. (Rs/yr)	
7	Average Annual Investment	266667
8	Annual Interest Cost (Rs)	26667
9	Annual Ownership Cost (Rs)	346667
10	Estimated Hourly Ownership Cost (Rs/hr)	173.33

OPERATION COSTS

11	Repair and Maintenance Cost (Rs/hr)	40.00
12	Tyre Replacement Cost (Rs/hr)	0.00
13	Fuel Cost (Rs/hr)	525.66
14	Servicing (Oil, filters, grease etc.) (Rs/hr)	13.33
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)	0.00
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)	0.00
17	Estimated Hourly Operating Cost (Rs/hr)	579.00
18	Total Hourly Owning and Operating Cost (Rs/hr)	752.33

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information				
Equipment:	Smooth Wheeled Roller	Manufactured year:	Code No.	45
Make:		Fuel Type		
Model:	8 ton	Diesel (SFC):	0.16	(ltr/hp-hr)
Power (hp):	60 hp	Petrol (SFC):	0.27	(ltr/hp-hr)
Capacity:	70/75 cum/hr	Load factor (FF):	0.75	
Purchase / Estimated Price (PP):	4000000	Time factor (TF):	0.75	
Useful Life (N):	15	Fuel Rate:	97.34513	(Rs/ltr)
Total Useful Life Hours (H):	30000	Fuel Consumption:	5.40	(L/hr)
Uses Hours per year (h):	2000	Energy consumed:		(kwh)
Tyre cost per unit (Ct):		Electric Charge:		(Rs/unit)
Total no. of tyres (tn):		Energy consumed rate		(unit/hr)
Tyre replacement costs (IRC):	0			
Tyre Average Life (hrs) (TL):		Repair factor (RF):	0.3	
Special wear item cost (SWIC):		Servicing factor (SF):	0.1	
Interest Rate (IR):	10%			
Operator M'thly Salary + Allowance (OS)				
OWNERSHIP COSTS				
1	Purchase Price less tyre (P) (Rs) (including accessories and installation)			4000000
2	Estimated Salvage Value (S) (Rs)			400000
3	Annual Depreciation (Rs/yr)			240000
4	Insurance (Rs/yr)			40000
5	Taxes / Licence etc. (Rs/yr)			40000
6	Storage etc. (Rs/yr)			
7	Average Annual Investment			256667
8	Annual Interest Cost (Rs)			26667
9	Annual Ownership Cost (Rs)			346667
10	Estimated Hourly Ownership Cost (Rs/hr)			173.33
OPERATION COSTS				
11	Repair and Maintenance Cost (Rs/hr)			40.00
12	Tyre Replacement Cost (Rs/hr)			0.00
13	Fuel Cost (Rs/hr)			525.56
14	Servicing (Oil, filters, grease ... etc.) (Rs/hr)			13.33
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)			0.00
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)			0.00
17	Estimated Hourly Operating Cost (Rs/hr)			579.00
18	Total Hourly Owning and Operating Cost (Rs/hr)			752.33



OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information				
Equipment:	Tipper Truck		Manufactured year:	Code No. 47
Make:			Fuel Type	
Model:	(8 ton)		Diesel (SFC):	0.16 (ltr/hp-hr)
Power (hp):	100	hp	Petrol (SFC):	0.22 (ltr/hp-hr)
Capacity:	5.5	cum/hr	Load factor (LF):	0.65
Purchase / Estimated Price (PP):	3500000		Time factor (TF):	0.65
Useful Life (N):	15		Fuel Rate :	97.34513 (Rs/ltr)
Total Useful life Hours (H):	30000		Fuel Consumption:	6.76 (L/hr)
Uses Hours per year (h):	2000		Energy consumed:	(kwh)
Tyre cost per unit (Ct):	20000		Electric Charge:	(Rs/unit)
Total no. of Tyres (li):	6		Energy consumed rate	(unit/hr)
Tyre replacement costs (TRC):	120000			
Tyre Average Life (hrs) (TI):	3000		Repair factor (RF):	0.4
Special wear Item cost (SWIC):			Servicing factor (SF):	0.2
Interest Rate (IR):	10%			
Operator M'thly Salary + Allowance (OS)				
OWNERSHIP COSTS				
1	Purchase Price less tyre (P) (Rs) (Including accessories and installation)			3380000
2	Estimated Salvage Value (S) (Rs)			350000
3	Annual Depreciation (Rs/yr)			202000
4	Insurance (Rs/yr)			35000
5	Taxes / Licence etc. (Rs/yr)			35000
6	Storage etc. (Rs/yr)			
7	Average Annual Investment			233333
8	Annual Interest Cost (Rs)			23333
9	Annual Ownership Cost (Rs)			295333
10	Estimated Hourly Ownership Cost (Rs/hr)			147.67
OPERATION COSTS				
11	Repair and Maintenance Cost (Rs/hr)			45.07
12	Tyre Replacement Cost (Rs/hr)			9.76
13	Fuel Cost (Rs/hr)			658.05
14	Servicing (Oil, filters, grease etc.) (Rs/hr)			22.53
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/hr)			0.00
16	Operator's hourly charge (Salary + allowances) (Rs/hr)			0.00
17	Estimated Hourly Operating Cost (Rs/hr)			735.42
18	Total Hourly Owning and Operating Cost (Rs/hr)			883.08



OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information				
Equipment:	Tractor with Ripper	Manufactured year:	Code No.	52
Make:		Fuel Type		
Model:		Fuel	Diesel (SFC):	0.16 (ltr/hp-hr)
Power (hp):	50 hp		Petrol (SFC):	0.22 (ltr/hp-hr)
Capacity:	50 HP		Load factor (FF):	0.75
Purchase / Estimated Price (PP):	2000000		Time factor (TF):	0.75
Useful Life (N):	15	Electric	Fuel Rate :	97.34513 (Rs/ltr)
Total Useful life Hours (H):	30000		Fuel Consumption:	4.50 (L/hr)
Uses Hours per year (h):	2000		Energy consumed:	(kwh)
Tyre cost per unit (Ct):	25000		Electric Charge:	(Rs/unit)
Total no. of Tyres (tn):	4		Energy consumed rate:	(unit/hr)
Tyre replacement costs (TRC):	100000			
Tyre Average Life (hrs) (TL):	3000		Repair factor (RF):	0.4
Special wear item cost (SWIC):	10000		Servicing factor (SF):	0.2
Interest Rate (IR):	10%			
Operator M'thly Salary + Allowance (OS)				
OWNERSHIP COSTS				
1	Purchase Price less tyre (P) (Rs) (including accessories and installation)			1900000
2	Estimated Salvage Value (S) (Rs)			200000
3	Annual Depreciation (Rs/yr)			113333
4	Insurance (Rs/yr)			20000
5	Taxes / Licence etc. (Rs/yr)			20000
6	Storage etc. (Rs/yr)			
7	Average Annual Investment			133333
8	Annual Interest Cost (Rs)			13333
9	Annual Ownership Cost (Rs)			166667
10	Estimated Hourly Ownership Cost (Rs/hr)			83.33
OPERATION COSTS				
11	Repair and Maintenance Cost (Rs/hr)			25.33
12	Tyre Replacement Cost (Rs/hr)			8.14
13	Fuel Cost (Rs/hr)			438.05
14	Servicing (Oil, filters, grease etc.) (Rs/hr)			12.67
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)			5.00
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)			0.00
17	Estimated Hourly Operating Cost (Rs/hr)			489.19
18	Total Hourly Owing and Operating Cost (Rs/hr)			572.52

Handwritten signatures and initials:
 12/11/20
 20/11/20
 21/11/20
 22/11/20

Handwritten mark:
 5/1

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information				
Equipment:	Vibratory Roller	Manufactured year:	Code No.	5G
Make:		Fuel Type		
Model:	10 ton	Fuel	Diesel (SFC):	0.16 (ltr/hp-hr)
Power (hp):	100 hp		Petrol (SFC):	0.22 (ltr/hp-hr)
Capacity:	11 ton.km		Load factor (FF):	0.7
Purchase / Estimated Price (PP):	5000000		Time factor (TF):	0.65
Useful Life (N):	20		Fuel Rate :	97.3451327 (Rs/ltr)
Total Useful life Hours (H):	15000		Fuel Consumption:	7.28 (L/hr)
Uses Hours per year (h):	750		Energy consumed:	(kwh)
Tyre cost per unit (Ct):	40000		Electric Charge:	(Rs/unit)
Total no. of Tyres (tn):	2		Energy consumed rate	(unit/hr)
Tyre replacement costs (TRC):	80000			
Tyre Average Life (hrs) (TL):	3000	Repair factor (RF):	0.4	
Special wear item cost (SWIC):		Servicing factor (SF):	0.2	
Interest Rate (IR):	10%			
Operator M'thly Salary + Allowance (OS)				
OWNERSHIP COSTS				
1	Purchase Price less tyre (P) (Rs) (including accessories and installation)			4920000
2	Estimated Salvage Value (S) (Rs)			500000
3	Annual Depreciation (Rs/yr)			221000
4	Insurance (Rs/yr)			50000
5	Taxes / Licence etc. (Rs/yr)			50000
6	Storage etc. (Rs/yr)			
7	Average Annual Investment			250000
8	Annual Interest Cost (Rs)			25000
9	Annual Ownership Cost (Rs)			346000
10	Estimated Hourly Ownership Cost (Rs/hr)			461.33
OPERATION COSTS				
11	Repair and Maintenance Cost (Rs/hr)			132.20
12	Tyre Replacement Cost (Rs/hr)			28.14
13	Fuel Cost (Rs/hr)			708.67
14	Servicing (Oil, filters, grease ... etc.) (Rs/hr)			65.60
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)			0.00
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)			0.00
17	Estimated Hourly Operating Cost (Rs/hr)			933.61
18	Total Hourly Owning and Operating Cost (Rs/hr)			1394.94

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information				
Equipment:	Water Tanker		Manufactured year:	Code No. 57
Make:			Fuel Type	
Model:			Diesel (SFC):	0.17 (ltr/hp-hr)
Power (hp):	100	hp	Petrol (SFC):	0.27 (ltr/hp-hr)
Capacity:	5	Kl	Load factor (FF):	0.6
Purchase / Estimated Price (PP):	3000000		Time factor (TF):	0.6
Useful Life (N):	20		Fuel Rate :	97.34513 (Rs/ltr)
Total Useful life hours (h):	15000		Fuel Consumption:	4.32 (L/hr)
Uses hours per year (h):	750		Energy consumed:	(kwh)
Tyre cost per unit (Ct):	25000		Electric Charge:	(Rs/unit)
Total no. of Tyres (n):	8		Energy consumed rate	(unit/hr)
Tyre replacement costs (TRC):	150000			
Tyre Average Life (hrs) (LL):	3000		Repair factor (RF):	0.3
Special wear item cost (SWIC):			Servicing factor (Sf):	0.2
Interest Rate (IR):	10%			
Operator Monthly Salary + Allowance (OS)				
OWNERSHIP COSTS				
1	Purchase Price less tyre (P) (Rs) (including accessories and installation)			2850000
2	Estimated Salvage Value (S) (Rs)			300000
3	Annual Depreciation (Rs/yr)			127500
4	Insurance (Rs/yr)			30000
5	Taxes / Licence etc. (Rs/yr)			30000
6	Storage etc. (Rs/yr)			
7	Average Annual Investment			150000
8	Annual Interest Cost (Rs)			15000
9	Annual Ownership Cost (Rs)			202500
10	Estimated Hourly Ownership Cost (Rs/hr)			270.00
OPERATION COSTS				
11	Repair and Maintenance Cost (Rs/hr)			57.00
12	Tyre Replacement Cost (Rs/hr)			52.76
13	Fuel Cost (Rs/hr)			420.53
14	Servicing (Oil, filters, grease ... etc.) (Rs/hr)			38.00
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)			0.00
16	Operator's hourly charge (Salary + allowances) (Rs/hr)			0.00
17	Estimated Hourly Operating Cost (Rs/hr)			568.29
18	Total Hourly Owning and Operating Cost (Rs/hr)			838.29

Handwritten signatures and initials:
 M. G. ...
 ...
 ...

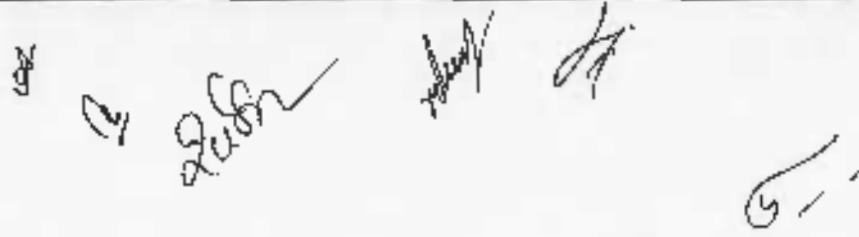
Handwritten mark:
 5-

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information					
Equipment:	Crane		Manufactured year:	Code No.	62
Make:			Fuel Type		
Model:	Rough terrain (10 ton)		Fuel	Diesel (SFC):	0.1 (ltr/hp-hr)
Power (hp):	180 hp			Petrol (SFC):	0.22 (ltr/hp-hr)
Capacity:	10	ton		Load factor (FF):	0.75
Purchase / Estimated Price (PP):	9000000			Time factor (TF):	0.75
Useful Life (N):	20		Electric	Fuel Rate :	97.34513 (Rs/ltr)
Total Useful life Hours (H):	15000			Fuel Consumption:	10.125 (L/hr)
Uses Hours per year (h):	750		Electric	Energy consumed:	(kwh)
Tyre cost per unit (Ct):	50000			Electric Charge:	(Rs/unit)
Total no. of Tyres (tn):	6			Energy consumed rate	(unit/hr)
Tyre replacement costs (TRC):	300000				
Tyre Average Life (hrs) (TL):	3000			Repair factor (RF):	0.4
Special wear item cost (SWIC):				Servicing factor (SF):	0.25
Interest Rate (IR):	10%				
Operator Monthly Salary + Allowance (OS)					
OWNERSHIP COSTS					
1	Purchase Price less tyre (P) (Rs) (including accessories and installation)				8700000
2	Estimated Salvage Value (S) (Rs)				900000
3	Annual Depreciation (Rs/yr)				390000
4	Insurance (Rs/yr)				90000
5	Taxes / Licence etc. (Rs/yr)				90000
6	Storage etc. (Rs/yr)				
7	Average Annual Investment				450000
8	Annual Interest Cost (Rs)				45000
9	Annual Ownership Cost (Rs)				615000
10	Estimated Hourly Ownership Cost (Rs/hr)				820.00
OPERATION COSTS					
11	Repair and Maintenance Cost (Rs/hr)				232.00
12	Tyre Replacement Cost (Rs/hr)				205.52
13	Fuel Cost (Rs/hr)				985.62
14	Servicing (Oil, filters, grease etc.) (Rs/hr)				145.00
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)				0.00
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)				0.00
17	Estimated Hourly Operating Cost (Rs/hr)				1468.14
18	Total Hourly Owning and Operating Cost (Rs/hr)				2288.14

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information				
Equipment:	Crane (15 ton)		Manufactured year:	Code No. 63
Make:			Fuel Type	
Model:	Rough terrain (15 ton)		Diesel (SFC):	0.13 (ltr/hp-hr)
Power (hp):	200	hp	Petrol (SFC):	0.22 (ltr/hp-hr)
Capacity:		ton	Load factor (FF):	0.75
Purchase / Estimated Price (PP):	12500000		Time factor (TF):	0.75
Useful Life (N):	20		Fuel Rate :	97.34513 (Rs/ltr)
Total Useful Life Hours (H):	15000		Fuel Consumption:	14.625 (L/hr)
Uses Hours per year (h):	750		Energy consumed:	(kwh)
Tyre cost per unit (Ct):	50000		Electric Charge:	(Rs/unit)
Total no. of Tyres (tn):	6		Energy consumed rate	(unit/hr)
Tyre replacement costs (TRC):	300000			
Tyre Average Life (hrs) (TL):	3000		Repair factor (RF):	0.4
Special wear item cost (SWIC):			Servicing factor (SF):	0.2
Interest Rate (IR):	10%			
Operator M'thly Salary + Allow'nce (US)				
OWNERSHIP COSTS				
1	Purchase Price less tyre (P) (Rs) (including accessories and installation)			12200000
2	Estimated Salvage Value (S) (Rs)			1250000
3	Annual Depreciation (Rs/yr)			547500
4	Insurance (Rs/yr)			125000
5	Taxes / Licence etc. (Rs/yr)			125000
6	Storage etc. (Rs/yr)			
7	Average Annual Investment			625000
8	Annual Interest Cost (Rs)			62500
9	Annual Ownership Cost (Rs)			860000
10	Estimated Hourly Ownership Cost (Rs/hr)			1146.67
OPERATION COSTS				
11	Repair and Maintenance Cost (Rs/hr)			325.33
12	Tyre Replacement Cost (Rs/hr)			105.52
13	Fuel Cost (Rs/hr)			1423.67
14	Servicing (Oil, filters, grease etc.) (Rs/hr)			162.67
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)			0.00
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)			0.00
17	Estimated Hourly Operating Cost (Rs/hr)			2017.19
18	Total Hourly Owning and Operating Cost (Rs/hr)			3163.86



OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information				
Equipment:	Crane with grab 0.75 capacity	Manufactured year:	Code No.	67
Make:		Fuel Type		
Model:	grab 0.75 capacity	Fuel	Diesel (SFC):	0.11 (ltr/hp-hr)
Power (hp):	100 hp		Petro: (SFC):	0.22 (ltr/hp-hr)
Capacity:	ton		Load factor (FF):	0.8
Purchase / Estimated Price (PP):	12000000		Time factor (TF):	0.8
Useful Life (N):	25		Fuel Rate:	97.34533274 (Rs/ltr)
Total Useful life Hours (H):	15000	Electric	Fuel Consumption:	8.96 (L/hr)
Uses Hours per year (h):	600		Energy consumed:	(kwh)
Tyre cost per unit (Ct):			Electric Charge:	(Rs/unit)
Total no. of Tyres (tn):			Energy consumed rate:	(unit/hr)
Tyre replacement costs (TRC):	0		Repair factor (RF):	0.25
Tyre Average Life (hrs) (TL):			Servicing factor (SF):	0.15
Special wear item cost (SWIC):	4000(x)			
Interest Rate (IR):	10%			
Operator Monthly Salary + Allowance (OS)				
OWNERSHIP COSTS				
1	Purchase Price less tyre (P) (Rs) (including accessories and installation)			12000000
2	Estimated Salvage Value (S) (Rs)			1200000
3	Annual Depreciation (Rs/yr)			432000
4	Insurance (Rs/yr)			120000
5	Taxes / Licence etc. (Rs/yr)			
6	Storage etc. (Rs/yr)			
7	Average Annual Investment			480000
8	Annual Interest Cost (Rs)			48000
9	Annual Ownership Cost (Rs)			600000
10	Estimated Hourly Ownership Cost (Rs/hr)			1000.00
OPERATION COSTS				
11	Repair and Maintenance Cost (Rs/hr)			200.00
12	Tyre Replacement Cost (Rs/hr)			0.00
13	Fuel Cost (Rs/hr)			872.21
14	Servicing (Oil, filters, grease etc.) (Rs/hr)			120.00
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)			666.67
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)			0.00
17	Estimated Hourly Operating Cost (Rs/hr)			1858.88
18	Total Hourly Owning and Operating Cost (Rs/hr)			2858.88

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information					
Equipment:	Grouting Injection gun		Manufactured year:	Code No.	69
Make:			Fuel Type		
Model:			Diesel (SFC):	0.16	(ltr/hp-hr)
Power (hp):	15	Ehp	Petrol (SFC):	0.22	(ltr/hp-hr)
Capacity:	ton		Load factor (LF):	0.8	
Purchase / Estimated Price (PP):	150000		Time factor (TF):	0.8	
Useful Life (N):	5		Fuel Rate:	97.34513	(Rs/ltr)
Total Useful life Hours (H):	2500		Fuel Consumption:		(L/hr)
Uses / hours per year (h):	500		Energy consumed:	1	(kwh)
Tyre cost per unit (Ct):			Electric Charge:	17	(Rs/unit)
Total no. of Tyres (tn):			Energy consumed rate:	17	(unit/hr)
Tyre replacement costs (TRC):	0				
Tyre Average Life (hrs) (TL):			Repair factor (RF):	0.4	
Special wear item cost (SWC):			Servicing factor (SF):	0.2	
Interest Rate (IR):	10%				
Operator Monthly Salary + Allowance (OS)					
OWNERSHIP COSTS					
1	Purchase Price less tyre (P) (Rs) (including accessories and installation)			150000	
2	Estimated Salvage Value (S) (Rs)			15000	
3	Annual Depreciation (Hs/yr)			27000	
4	Insurance (Rs/yr)			1500	
5	Taxes / Licence etc. (Rs/yr)			1500	
6	Storage etc. (Rs/yr)			750	
7	Average Annual Investment			30000	
8	Annual Interest Cost (HS)			3000	
9	Annual Ownership Cost (Rs)			33750	
10	Estimated Hourly Ownership Cost (Rs/hr)			67.50	
OPERATION COSTS					
11	Repair and Maintenance Cost (Rs/hr)			24.00	
12	Tyre Replacement Cost (Rs/hr)			0.00	
13	Fuel Cost (Rs/hr)			0.00	
14	Servicing (Oil, filters, grease ... etc.) (Rs/hr)			12.00	
15	Special wear items (blade, teeth, bucket, ... etc.) (Rs/h)			0.00	
16	Operator's hourly charge (Salary + allowances) (Rs/hr)			0.00	
17	Estimated Hourly Operating Cost (Rs/hr)			36.00	
18	Total Hourly Owning and Operating Cost (Rs/hr)			103.50	

Handwritten signatures and initials:
 10/2/2020
 10/2/2020
 10/2/2020
 10/2/2020

Handwritten mark:
 5

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information					
Equipment:	General	Manufactured year:	Code No.	70	
Make:		Fuel Type			
Model:		Fuel	Diesel (SFC):	0.12	(ltr/hp-hr)
Power (hp):	70 hp		Petrol (SFC):	0.22	(ltr/hp-hr)
Capacity:	35 KVA		Load factor (LF):	0.6	
Purchase / Estimated Price (PP):	1000000		Time factor (TF):	0.9	
Useful Life (N):	15		Fuel Rate:	97.34513	(Rs/ltr)
Total Useful life Hours (H):	15000		Fuel Consumption:	4.54	(L/hr)
Uses Hours per year (h):	1000		Energy consumed:		(kwh)
Tyre cost per unit (Ct):			Electric Charge:		(Rs/unit)
Total no. of Tyres (tn):			Energy consumed rate		(unit/hr)
Tyre replacement costs (TRC):	0				
Tyre Average Life (hrs) (TL):		Repair factor (RF):	0.25		
Special wear item cost (SWIC):		Servicing factor (SF):	0.15		
Interest Rate (IR):	10%				
Operator M'thly Salary + Allowance (OS)					
OWNERSHIP COSTS					
1	Purchase Price less tyre (P) (Rs) (including accessories and installation)				1000000
2	Estimated Salvage Value (S) (Rs)				100000
3	Annual Depreciation (Rs/yr)				60000
4	Insurance (Rs/yr)				10000
5	Taxes / Licence etc. (Rs/yr)				
6	Storage etc. (Rs/yr)				
7	Average Annual Investment				66667
8	Annual Interest Cost (Rs)				6667
9	Annual Ownership Cost (Rs)				76667
10	Estimated Hourly Ownership Cost (Rs/hr)				76.67
OPERATION COSTS					
11	Repair and Maintenance Cost (Rs/hr)				16.67
12	Tyre Replacement Cost (Rs/hr)				0.00
13	Fuel Cost (Rs/hr)				441.56
14	Servicing (Oil, filters, grease etc.) (Rs/hr)				10.00
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)				0.00
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)				0.00
17	Estimated Hourly Operating Cost (Rs/hr)				468.22
18	Total Hourly Owning and Operating Cost (Rs/hr)				544.89

SPR
2
20/05/22
20/05/22
20/05/22
20/05/22

5

OWNING AND OPERATING COST ANALYSIS

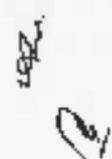
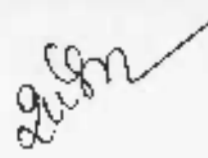


Machine's Basic Information				
Equipment:	Jack for lifting	Manufactured year:	Code No.	74
Make:		Fuel Type		
Model:	(10 ton category)	Fuel	Diesel (SFC):	0.16 (ltr/hp-hr)
Power (hp):	hp		Petrol (SFC):	0.22 (ltr/hp-hr)
Capacity:			Load factor (LF):	0.8
Purchase / Estimated Price (PP):	200000		Time factor (TF):	0.9
Useful Life (N):	5		Fuel Rate:	97.34513 (Rs/ltr)
Total Useful life Hours (H):	2000		Fuel Consumption:	0.00 (L/hr)
Uses Hours per year (h):	400		Energy consumed:	(kwh)
Tyre cost per unit (Ct):			Electric Charge:	(Rs/unit)
Total no. of Tyres (tn):			Energy consumed rate:	(unit/hr)
Tyre replacement costs (TRC):	0		Repair factor (RF):	0.4
Tyre Average Life (lins) (TL):		Servicing factor (SF):	0.2	
Special wear item cost (SWIC):				
Interest Rate (IR):	10%			
Operator Monthly Salary + Allowance (OS)				
OWNERSHIP COSTS				
1	Purchase Price less tyre (P) (Rs) (Including accessories and Installation)			200000
2	Estimated Salvage Value (S) (Rs)			20000
3	Annual Depreciation (Rs/yr)			36000
4	Insurance (Rs/yr)			2000
5	Taxes / Licence etc. (Rs/yr)			
6	Storage etc. (Rs/yr)			
7	Average Annual Investment			40000
8	Annual Interest Cost (Rs)			4000
9	Annual Ownership Cost (Rs)			42000
10	Estimated Hourly Ownership Cost (Rs/hr)			105.00
OPERATION COSTS				
11	Repair and Maintenance Cost (Rs/hr)			40.00
12	Tyre Replacement Cost (Rs/hr)			0.00
13	Fuel Cost (Rs/hr)			0.00
14	Servicing (Oil, filters, grease etc.) (Rs/hr)			20.00
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)			0.00
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)			0.00
17	Estimated Hourly Operating Cost (Rs/hr)			60.00
18	Total Hourly Owning and Operating Cost (Rs/hr)			165.00

Handwritten signatures and initials

Handwritten mark

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information				
Equipment:	Wcl mix plant 75TPH	Manufactured year:	Code No.	82
Make:		Fuel Type		
Model:	(~75 ton/hr)	Fuel	Diesel (SFC):	0.16 (ltr/hp-hr)
Power (hp):	hp		Petrol (SFC):	0.22 (ltr/hp-hr)
Capacity:	ton		Load factor(LF):	0.8
Purchase / Estimated Price (PP):	5000000		Time factor(TF):	0.8
Useful Life (N):	15		Fuel Rate :	97.34513 (Rs/ltr)
Total Useful life Hours (H):	15000		Fuel Consumption:	0.00 (L/hr)
Uses Hours per year (h):	1000	Electric	Energy consumed:	30 (kwh)
Tyre cost per unit (Ct):			Electric Charge:	12 (Rs/unit)
Total no. of Tyres (tn):			Energy consumed rate	360 (unit/hr)
Tyre replacement costs (TRC):	0			
Tyre Average Life (hrs) (TL):		Repair factor (RF):	0.3	
Special wear item cost (SWIC):		Servicing factor (SF):	0.2	
Interest Rate (IR):	10%			
Operator M'ly Salary + Allow'nce(OS)				
OWNERSHIP COSTS				
1	Purchase Price less Tyre (P) (Rs)(Including accessories and installation)			5000000
2	Estimated Salvage Value (S) (Rs)			500000
3	Annual Depreciation (Rs/yr)			300000
4	Insurance (Rs/yr)			50000
5	Taxes / Licence etc. (Rs/yr)			50000
6	Storage etc. (Rs/yr)			
7	Average Annual Investment			333333
8	Annual Interest Cost (Rs)			33333
9	Annual Ownership Cost (Rs)			433333
10	Estimated Hourly Ownership Cost (Rs/hr)			433.33
OPERATION COSTS				
11	Repair and Maintenance Cost (Rs/hr)			100.00
12	Tyre Replacement Cost (Rs/hr)			0.00
13	Fuel Cost (Rs/hr)			360.00
14	Servicing (Oil, filters, grease etc.) (Rs/hr)			66.67
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)			0.00
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)			0.00
17	Estimated Hourly Operating Cost (Rs/hr)			526.67
18	Total Hourly Owning and Operating Cost (Rs/hr)			960.00



OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information				
Equipment:	Screw Jack	Manufactured year:	Code No.	86
Make:		Fuel Type		
Model:		Fuel	Diesel (SFC):	0.16 (ltr/hp-hr)
Power (hp):	hp		Petrol (SFC):	0.22 (ltr/hp-hr)
Capacity:			Load factor (FF):	0.8
Purchase / Estimated Price (PP):	25000		Time factor (TF):	0.9
Useful Life (N):	2		Fuel Rate :	97.34513 (Rs/ltr)
Total Useful life Hours (H):	500	Electric	Fuel Consumption:	0.00 (L/hr)
Uses Hours per year (h):	250		Energy consumed:	(kwh)
Tyre cost per unit (Ct):			Electric Charge:	(Rs/unit)
Total no. of Tyres (tn):			Energy consumed rate	(unit/hr)
Tyre replacement costs (TRC):	0			
Tyre Average Life (hrs) (TL):		Repair factor (RF):	0	
Special wear item cost (SWIC):		Servicing factor (SF):	0	
Interest Rate (IR):	10%			
Operator M'thly Salary + Allowance (OS)				
OWNERSHIP COSTS				
1	Purchase Price less tyre (P) (Rs) (including accessories and installation)			25000
2	Estimated Salvage Value (S) (Rs)			2500
3	Annual Depreciation (Rs/yr)			11250
4	Insurance (Rs/yr)			250
5	Taxes / Licence etc. (Rs/yr)			250
6	Storage etc. (Rs/yr)			125
7	Average Annual Investment			12500
8	Annual Interest Cost (Rs)			1250
9	Annual Ownership Cost (Rs)			13125
10	Estimated Hourly Ownership Cost (Rs/hr)			52.50
OPERATION COSTS				
11	Repair and Maintenance Cost (Rs/hr)			0.00
12	Tyre Replacement Cost (Rs/hr)			0.00
13	Fuel Cost (Rs/hr)			0.00
14	Servicing (Oil, filters, grease etc.) (Rs/hr)			0.00
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)			0.00
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)			0.00
17	Estimated Hourly Operating Cost (Rs/hr)			0.00
18	Total Hourly Owning and Operating Cost (Rs/hr)			52.50

Handwritten notes and signatures:
 a:
 a/c
 a/c
 a/c



Handwritten mark:
 6

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information				
Equipment:	Electric Heating Plate	Manufactured year:	Code No.	87
Make:		Fuel Type		
Model:		Fuel	Diesel (SFC):	0.16 (ltr/hp-hr)
Power (hp):	2 Ehp		Petrol (SFC):	0.22 (ltr/hp-hr)
Capacity:			Load factor (FF):	0.8
Purchase / Estimated Price (PP):	150000		Time factor (TF):	0.9
Useful Life (N):	5		Fuel Rate :	97.34513 (Rs/ltr)
Total Useful life Hours (H):	2500	Electric	Fuel Consumption:	(L/hr)
Uses Hours per year (h):	500		Energy consumed:	1 (kwh)
Tyre cost per unit (Ct):			Electric Charge:	12 (Rs/unit)
Total no. of Tyres (tn):			Energy consumed rate:	8.64 (unit/hr)
Tyre replacement costs (TRC):	0		Repair factor (RF):	0.2
Tyre Average Life (hrs) (TL):		Servicing factor (SF):	0.1	
Special wear item cost (SWIC):				
Interest Rate (IR):	10%			
Operator M'ly Salary + Allow'nce (OS)				
OWNERSHIP COSTS				
1	Purchase Price less Tyre (P) (Rs) (Including accessories and installation)			150000
2	Estimated Salvage Value (S) (Rs)			15000
3	Annual Depreciation (Rs/yr)			27000
4	Insurance (Rs/yr)			1500
5	Taxes / Licence etc. (Rs/yr)			
6	Storage etc. (Rs/yr)			
7	Average Annual Investment			30000
8	Annual Interest Cost (Rs)			3000
9	Annual Ownership Cost (Rs)			31500
10	Estimated Hourly Ownership Cost (Rs/hr)			63.00
OPERATION COSTS				
11	Repair and Maintenance Cost (Rs/hr)			12.00
12	Tyre Replacement Cost (Rs/hr)			0.00
13	Fuel Cost (Rs/hr)			12.00
14	Servicing (Oil, filters, grease ... etc.) (Rs/hr)			6.00
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/hr)			0.00
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)			0.00
17	Estimated Hourly Operating Cost (Rs/hr)			30.00
18	Total Hourly Owning and Operating Cost (Rs/hr)			93.00

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information				
Equipment:	Electric hand drill or	Manufactured year:	Code No.	88
Make:		Fuel Type:		
Model:		Diesel (SFC):	0.16	(ltr/hp-hr)
Power (hp):	1 Hp	Petrol (SFC):	0.22	(ltr/hp-hr)
Capacity:		Load factor(L):	0.8	
Purchase / Estimated Price (P):	100000	Time factor(TF):	0.9	
Useful life (N):	5	Fuel Rate :	9 / 34513	(Rs/ltr)
Total Useful life Hours (%):	1000	Fuel Consumption:		(L/hr)
Uses Hours per year (h):	200	Energy consumed:	1	(kwh)
Tyre cost per unit (Ct):		Electric Charge:	12	(Rs/unit)
Total no. of Tyres (tn):		Energy consumed rate	8.64	(unit/hr)
Tyre replacement costs (TRC):	0			
Tyre Average Life (hrs) (TL):		Repair factor (RF):		
Special wear item cost (SWIC):	2000	Servicing factor (SF):		
Interest Rate (IR):	10%			
Operator Monthly Salary + Allowance(OS)				
OWNERSHIP COSTS				
1	Purchase Price less tyre (P) (Rs)(including accessories and installation)			100000
2	Estimated Salvage Value (S) (Rs)			10000
3	Annual Depreciation (Rs/yr)			18000
4	Insurance (Rs/yr)			1000
5	Taxes / Licence etc. (Rs/yr)			
6	Storage etc. (Rs/yr)			
7	Average Annual Investment			20000
8	Annual Interest Cost (Rs)			2000
9	Annual Ownership Cost (Rs)			21000
10	Estimated Hourly Ownership Cost (Rs/hr)			105.00
OPERATION COSTS				
11	Repair and Maintenance Cost (Rs/hr)			0.00
12	Tyre Replacement Cost (Rs/hr)			0.00
13	Fuel Cost (Rs/hr)			0.00
14	Servicing (Oil, Filters, grease etc.) (Rs/hr)			0.00
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)			10.00
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)			0.00
17	Estimated Hourly Operating Cost (Rs/hr)			10.00
18	Total Hourly Owning and Operating Cost (Rs/hr)			115.00

6

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information				
Equipment:	Bitumen/ Emulsion Sprayer		Manufactured year:	Code No. 89
Make:			Fuel Type:	Fuel Oil Consumption 5.00 (ltr/ton)
Model:				Diesel (SFC): 0.16 (ltr/hp-hr)
Power (hp):	10	hp		Petrol (SFC): 0.22 (ltr/hp-hr)
Capacity:	1000L			Load factor(LF): 0.8
Purchase / Estimated Price (PP):	600000			Time factor(TF): 0.9
Useful Life (N):	15			Fuel Rate : 97.34513274 (Rs/ltr)
Total Useful life Hours (H):	15000			Fuel Consumption: 1.15 (L/hr)
Uses Hours per year (h):	1000			Energy consumed: 0 (kwh)
Tyre cost per unit (CU):				Electric Charge: 0 (Rs/unit)
Total no. of Tyres (tn):				Energy consumed rate 0 (unit/hr)
Tyre replacement costs (TRC):	0			
Tyre Average Life (hrs) (TL):				Repair factor (RF): 0.2
Special wear item cost (SWIC):				Servicing factor (SF): 0.1
Interest Rate (IR):	10%			Fuel Oil Rate: 97.34513274 (Rs/ltr)
Operator Monthly Salary - Allowance(US)				
OWNERSHIP COSTS				
1	Purchase Price less tyre (P) (Rs) (including accessories and installation)			600000
2	Estimated Salvage Value (S) (Rs)			60000
3	Annual Depreciation (Rs/yr)			36000
4	Insurance (Rs/yr)			6000
5	Taxes / Licence etc. (Rs/yr)			
6	Storage etc. (Rs/yr)			
7	Average Annual Investment			40000
8	Annual Interest Cost (Rs)			4000
9	Annual Ownership Cost (Rs)			46000
10	Estimated Hourly Ownership Cost (Rs/hr)			46.00
OPERATION COSTS				
11	Repair and Maintenance Cost (Rs/hr)			8.00
12	Tyre Replacement Cost (Rs/hr)			0.00
13	Fuel Cost (Rs/hr)			112.14
14	Servicing (Oil, filters, grease ... etc.) (Rs/hr)			1.00
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)			0.00
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)			0.00
17	Estimated Hourly Operating Cost (Rs/hr)			124.14
18	Total Hourly Owning and Operating Cost (Rs/hr)			170.14

61

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information				
Equipment:	Jack hammer/ Rock drill	Manufactured year:	Code No.	92
Make:		Fuel Type		
Model:	(Rock drilling 3.2 cum/hr)	Diesel (SFC):	0.4	(ltr/hp-hr)
Power (hp):	5 hp	Petrol (SFC):	0.22	(ltr/hp-hr)
Capacity:	3.2 cum/hr	Load factor (FF):	0.9	
Purchase / Estimated Price (PP):	100000	Time factor (TF):	0.9	
Useful Life (N):	10	Fuel Rate :	97.34513	(Rs/ltr)
Total Useful life (hours) (H):	5000	Fuel Consumption:	1.62	(L/hr)
Uses Hours per year (h):	500	Energy consumed:		(kwh)
Tyre cost per unit (CT):		Electric Charge:		(Rs/unit)
Total no. of Tyres (tn):		Energy consumed rate		(unit/hr)
Tyre replacement costs (TRC):	0			
Tyre Average Life (hrs) (TL):		Repair factor (RF):	0.25	
Special wear item cost (SWIC):	25000	Servicing factor (SI):	0.15	
Interest Rate (IR):	10%			
Operator Monthly Salary + Allowance (OS)				
OWNERSHIP COSTS				
1	Purchase Price less tyre (P) (Rs) (Including accessories and installation)			100000
2	Estimated Salvage Value (S) (Rs)			10000
3	Annual Depreciation (Rs/yr)			9000
4	Insurance (Rs/yr)			1000
5	Taxes / Licence etc. (Rs/yr)			
6	Storage etc. (Rs/yr)			
7	Average Annual Investment			10000
8	Annual Interest Cost (Rs)			1000
9	Annual Ownership Cost (Rs)			11000
10	Estimated Hourly Ownership Cost (Rs/hr)			22.00
OPERATION COSTS				
11	Repair and Maintenance Cost (Rs/hr)			5.00
12	Tyre Replacement Cost (Rs/hr)			0.00
13	Fuel Cost (Rs/hr)			157.70
14	Servicing (Oil, Filters, grease etc.) (Rs/hr)			3.00
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/hr)			50.00
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)			0.00
17	Estimated Hourly Operating Cost (Rs/hr)			215.70
18	Total Hourly Owning and Operating Cost (Rs/hr)			237.70

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information					
Equipment:	Rotary drill		Manufacturer year:	Code No.	95
Make:			Fuel Type		
Model:	6"/8"/10"		Diesel (SFC):	0.16	(ltr/hp-hr)
Power (hp):	10 hp		Petrol (SFC):	0.22	(ltr/hp-hr)
Capacity:			Load factor(LF):	0.9	
Purchase / Estimated Price (PP):	300000		Time factor(TF):	0.9	
Useful Life (N):	5		Fuel Rate :	97.34513	(lts/ltr)
Total Useful life Hours (H):	2500		Fuel Consumption:	1.30	(l./hr)
Uses Hours per year (h):	500		Energy consumed:		(kwh)
Tyre cost per unit (Ct):			Electric Charge:		(lts/unit)
Total no. of Tyres (tr.):			Energy consumed rate		(unit/hr)
Tyre replacement costs (TRC):	0				
Tyre Average Life (h:s) (TL):			Repair factor (RF):	0.3	
Special wear item cost (SWIC):	50000		Servicing factor (SF):	0.2	
Interest Rate (IR):	10%				
Operator Monthly Salary + Allowance (OS)					
OWNERSHIP COSTS					
1	Purchase Price less tyre (P) (Rs) (including accessories and installation)				300000
2	Estimated Salvage Value (S) (Rs)				30000
3	Annual Depreciation (Rs/yr)				54000
4	Insurance (Rs/yr)				3000
5	Taxes / Licence etc. (Rs/yr)				
6	Storage etc. (Rs/yr)				
7	Average Annual Investment				60000
8	Annual Interest Cost (Rs)				6000
9	Annual Ownership Cost (Rs)				53000
10	Estimated Hourly Ownership Cost (Rs/hr)				126.00
OPERATION COSTS					
11	Repair and Maintenance Cost (Rs/hr)				36.00
12	Tyre Replacement Cost (Rs/hr)				0.00
13	Fuel Cost (Rs/hr)				126.16
14	Servicing (Oil, filters, grease etc.) (Rs/hr)				24.00
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)				100.00
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)				0.00
17	Estimated Hourly Operating Cost (Rs/hr)				286.16
18	Total Hourly Owning and Operating Cost (Rs/hr)				412.16



OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information					
Equipment:	Bentonic Pump		Manufactured year:	Code No.	98
Make:			Fuel Type		
Model:			Diesel (SFC):	0.16	(ltr/hp-hr)
Power (hp):			Petrol (SFC):	0.22	(ltr/hp-hr)
Capacity:			Load factor (LF):	0.9	
Purchase / Estimated Price (PP):	25000		Time factor (TF):	0.9	
Useful Life (N):	2		Fuel Rate:		(Rs/ltr)
Total Useful Life (hours) (H):	1000		Fuel Consumption:		(L/hr)
Uses Hours per year (h):	500		Energy consumed:	2	(kwh)
Tyre cost per unit (CL):			Electric Charge:	12	(Rs/unit)
Total no. of tyres (Ln):			Energy consumed rate:	19.74	(unit/hr)
Tyre replacement costs (TRC):	0		Repair factor (RF):	0.3	
Tyre Average Life (hrs) (TL):			Servicing factor (SF):	0.1	
Special wear item cost (SWC):					
Interest Rate (IR):	10%				
Operator M'thly Salary + Allowance (OS)					
OWNERSHIP COSTS					
1	Purchase Price less tyre (P) (Rs) (Including accessories and installation)				25000
2	Estimated Salvage Value (S) (Rs)				2500
3	Annual Depreciation (Rs/yr)				11250
4	Insurance (Rs/yr)				250
5	Taxes / Licence etc. (Rs/yr)				
6	Storage etc. (Rs/yr)				
7	Average Annual Investment				12500
8	Annual Interest Cost (Rs)				1750
9	Annual Ownership Cost (Rs)				12750
10	Estimated Hourly Ownership Cost (Rs/hr)				25.50
OPERATION COSTS					
11	Repair and Maintenance Cost (Rs/hr)				7.50
12	Tyre Replacement Cost (Rs/hr)				0.00
13	Fuel Cost (Rs/hr)				0.00
14	Servicing (Oil, filters, grease etc.) (Rs/hr)				2.50
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)				0.00
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)				0.00
17	Estimated Hourly Operating Cost (Rs/hr)				10.00
18	Total Hourly Owning and Operating Cost (Rs/hr)				35.50









OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information					
Equipment:	Chips Spreader		Manufactured year:	Code No.	98
Make:			Fuel Type		
Model:			Fuel	Diesel (SFC):	0.14 (ltr/hp-hr)
Power (hp):	140	hp		Petrol (SFC):	0.22 (ltr/hp-hr)
Capacity:	6	cum/hr		Load factor (LF):	0.6
Purchase / Estimated Price (PP):	3500000			Time factor (TF):	0.6
Useful Life (N):	15		Fuel Rate:	97.34513 (Rs/ltr)	
Total Useful Life Hours (H):	22500		Fuel Consumption:	7.06 (L/hr)	
Uses Hours per year (h):	1500		Energy consumed:	(kwh)	
Tyre cost per unit (C):	25000		Electric Charge:	(Rs/unit)	
Total no. of Tyres (tn):	6		Energy consumed rate:	(unit/hr)	
Tyre replacement costs (TRC):	150000				
Tyre Average Life (hrs) (TL):	3000		Repair factor (RF):	0.3	
Special wear item cost (SWC):			Service factor (SF):	0.2	
Interest Rate (IR):	10%				
Operator Monthly Salary + Allowance (OS)					
OWNERSHIP COSTS					
1	Purchase Price less tyre (P) (Rs) (including accessories and installation)				3750000
2	Estimated Salvage Value (%) (Rs)				150000
3	Annual Depreciation (Rs/yr)				200000
4	Insurance (Rs/yr)				15000
5	Taxes etc. (Rs/yr)				35000
6	Taxes / Licence etc. (Rs/yr)				
7	Storage etc. (Rs/yr)				233333
8	Annual Interest Cost (Rs)				23333
9	Annual Ownership Cost (Rs)				293333
10	Estimated Hourly Ownership Cost (Rs/hr)				195.56
OPERATION COSTS					
11	Repair and Maintenance Cost (Rs/hr)				44.57
12	Tyre Replacement Cost (Rs/hr)				19.58
13	Fuel Cost (Rs/hr)				686.87
14	Servicing (Oil, filters, grease etc.) (Rs/hr)				29.18
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)				0.00
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)				0.00
17	Estimated Hourly Operating Cost (Rs/hr)				780.89
18	Total Hourly Owning and Operating Cost (Rs/hr)				976.45

2
 2008
 6

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information				
Equipment:	Grouting pump with agitator		Manufactured year:	Code No. 98
Make:			Fuel Type	
Model:			Diesel (SFC):	0.16 (ltr/hp-hr)
Power (hp):			Petrol (SFC):	0.22 (ltr/hp-hr)
Capacity:			Load factor (LF):	0.9
Purchase / Estimated Price (PP):	350000	Fuel	Time factor (TF):	0.9
Useful Life (N):	5		Fuel Rate:	(Rs/ltr)
Total Useful life (hours) (H):	2500		Fuel Consumption:	(L/hr)
Uses (hours per year) (h):	500		Energy consumed:	(kwh)
Tyre cost per unit (CT):		Electric	Electric Charge:	12 (Rs/unit)
Total no. of Tyres (Tr):			Energy consumed rate	19.44 (unit/hr)
Tyre replacement costs (TRC):	0		Repair factor (RF):	0.4
Tyre Average Life (hrs) (TU):			Servicing factor (SF):	0.2
Special wear item cost (SWIC):				
Interest Rate (IR):	10%			
Operator Monthly Salary + Allowance (OS)				
OWNERSHIP COSTS				
1	Purchase Price less tyre (P) (Rs) (including accessories and installation)			350000
2	Estimated Salvage Value (S) (Rs)			35000
3	Annual Depreciation (Rs/yr)			63000
4	Insurance (Rs/yr)			3500
5	Taxes / Licence etc. (Rs/yr)			
6	Storage etc. (Rs/yr)			
7	Average Annual Investment			70000
8	Annual Interest Cost (Rs)			7000
9	Annual Ownership Cost (Rs)			73500
10	Estimated Hourly Ownership Cost (Rs/hr)			147.00
OPERATION COSTS				
11	Repair and Maintenance Cost (Rs/hr)			56.00
12	Tyre Replacement Cost (Rs/hr)			0.00
13	Fuel Cost (Rs/hr)			24.00
14	Servicing (Oil, filters, grease etc.) (Rs/hr)			28.00
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/hr)			0.00
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)			0.00
17	Estimated Hourly Operating Cost (Rs/hr)			108.00
18	Total Hourly Owning and Operating Cost (Rs/hr)			255.00

A
 M
 S
 S
 S
 S

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information					
Equipment:	Premix Mixture		Manufactured year:	Code No.	98
Make:			Fuel Type		
Model:			Diesel (SFC):	0.15	(ltr/hp-hr)
Power (hp):	35	hp	Petrol (SFC):	0.22	(ltr/hp-hr)
Capacity:			Load factor (LF):	0.9	
Purchase / Estimated Price (PP):	1500000		Time factor (TF):	0.9	
Useful Life (N):	15		Fuel Rate:	97.34513	(Rs/ltr)
Total Useful life Hours (H):	15000		Fuel Consumption:	4.25	(L/hr)
Uses Hours per year (h):	1000		Energy consumed:		(kwh)
Tyre cost per unit (Ct):			Electric Charge:		(Rs/unit)
Total no. of Tyres (tn):			Energy consumed rate:	0.00	(unit/hr)
Tyre replacement costs (TRC):	0		Repair factor (RF):	0.25	
Tyre Average Life (hrs) (TL):			Servicing factor (SF):	0.25	
Special wear item cost (SWIC):					
Interest Rate (R):	10%				
Operator M'thly Salary - Allowance (OS)					
OWNERSHIP COSTS					
1	Purchase Price less tyre (P) (Rs) (including accessories and installation)				1500000
2	Estimated Salvage Value (S) (Rs)				150000
3	Annual Depreciation (Rs/yr)				90000
4	Insurance (Rs/yr)				25000
5	Taxes / Licence etc. (Rs/yr)				
6	Storage etc. (Rs/yr)				
7	Average Annual Investment				100000
8	Annual Interest Cost (Rs)				20000
9	Annual Ownership Cost (Rs)				115000
10	Estimated Hourly Ownership Cost (Rs/hr)				115.00
OPERATION COSTS					
11	Repair and Maintenance Cost (Rs/hr)				25.00
12	Tyre Replacement Cost (Rs/hr)				0.00
13	Fuel Cost (Rs/hr)				413.96
14	Servicing (Oil, filters, grease ..., etc.) (Rs/hr)				25.00
15	Special wear items (blade, teeth, bucket..., etc.) (Rs/hr)				0.00
16	Operator's hourly charge (Salary) allowances (Rs/hr)				0.00
17	Estimated Hourly Operating Cost (Rs/hr)				463.96
18	Total Hourly Owing and Operating Cost (Rs/hr)				578.96



 SPS
 12
 [Signature]
 [Signature]
 [Signature]
 [Signature]

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information				
Equipment:	Cutter(Bitumen Pavement/RCC Lutter)	Manufactured year:	Code No.	98
Make:		Fuel Type		
Model:		Diesel (SFC):	0.15	(ltr/hp-hr)
Power (hp):	10 hp	Petrol (SFC):	0.22	(ltr/hp-hr)
Capacity:		Load factor(LF):	0.9	
Purchase / Estimated Price (PP):	200000	Time factor(TF):	0.9	
Useful Life (N):	5	Fuel Rate :	97	(Rs/ltr)
Total Useful life Hours (H):	5000	Fuel Consumption:	1.22	(L/hr)
Uses Hours per year (h):	1000	Energy consumed:		(kwh)
Tyre cost per unit (Ct):		Electric Charge:		(Rs/unit)
Total no. of Tyres (cn):		Energy consumed rate:	0.00	(unit/hr)
Tyre replacement costs (TRC):	0	Repair factor (RF):	0.3	
Tyre Average Life (hrs) (TL):		Servicing factor (SF):	0.2	
Special wear item cost (SWIC):	30000			
Interest Rate (IR):	10%			
Operator M'chly Salary + Allow'nce(OS)				

OWNERSHIP COSTS

1	Purchase Price less tyre (P) (Rs)(including accessories and installation)	200000
2	Estimated Salvage Value (S) (Rs)	20000
3	Annual (Rs/yr)	30000
4	Insurance (Rs/yr)	
5	Taxes / Licence etc. (Rs/yr)	
6	Storage etc. (Rs/yr)	
7	Average Annual Investment	40000
8	Annual Interest Cost (Rs)	4000
9	Annual Ownership Cost (Rs)	40000
10	Estimated Hourly Ownership Cost (Rs/hr)	40.00

OPERATION COSTS

11	Repair and Maintenance Cost (Rs/hr)	12.00
12	Tyre Replacement Cost (Rs/hr)	0.00
13	Fuel Cost (Rs/hr)	118.27
14	Servicing (Oil, filters, grease etc.) (Rs/hr)	8.00
15	Special wear items (blades, teeth, bucket..... etc.) (Rs/hr)	30.00
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)	0.00
17	Estimated Hourly Operating Cost (Rs/hr)	168.27
18	Total Hourly Owing and Operating Cost (Rs/hr)	208.27

Handwritten mark

Handwritten mark

Handwritten signature

Handwritten signature

Handwritten signature

Handwritten mark

3) पुर्ब स्वीकृत दर

५५.१

R

[Handwritten signature]

[Handwritten signature]

[Handwritten signature]

[Handwritten signature]

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information

Equipment:	Plate Compactor	Manufactured year:	Code No.	76
Make:		Fuel Type		
Model:		Diesel (SFC):	0.1	(ltr/hp hr)
Power (hp):	18 hp	Petrol (SFC):	0.77	(ltr/hp-hr)
Capacity:		Load factor (LF):	0.9	
Purchase / Estimated Price (PP):	700000	Time factor (TF):	0.9	
Useful Life (N):	15	Fuel Rate :	97.34513	(Rs/ltr)
Total Useful life Hours (H):	15000	Fuel Consumption:	1.46	(L/hr)
Uses Hours per year (H):	1000	Energy consumed:		(kwh)
Tyre cost per unit (CI):		Electric Charge:		(Rs/unit)
Total no. of Tyres (tn):		Energy consumed rate		(unit/hr)
Tyre replacement costs (TRC):	0			
Tyre Average Life (hrs) (TL):		Repair factor (RF):	0.4	
Special wear item cost (SWIC):		Servicing factor (SF):	0.2	
Interest Rate (IR):	10%			
Operator M'thly Salary + Allowance (OS)				

OWNERSHIP COSTS

1	Purchase Price less tyre (P) (Rs) (Including accessories and installation)	700000
2	Estimated Salvage Value (S) (Rs)	70000
3	Annual Depreciation (Rs/yr)	42000
4	Insurance (Rs/yr)	7000
5	Taxes / Licence etc. (Rs/yr)	
6	Storage etc. (Rs/yr)	
7	Average Annual Investment	46667
8	Annual Interest Cost (Rs)	4667
9	Annual Ownership Cost (Rs)	53667
10	Estimated Hourly Ownership Cost (Rs/hr)	53.67

OPERATION COSTS

11	Repair and Maintenance Cost (Rs/hr)	18.67
12	Tyre Replacement Cost (Rs/hr)	0.00
13	Fuel Cost (Rs/hr)	141.93
14	Servicing (Oil, filters, grease ... etc.) (Rs/hr)	9.33
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)	0.00
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)	0.00
17	Estimated Hourly Operating Cost (Rs/hr)	169.93
18	Total Hourly Owning and Operating Cost (Rs/hr)	223.60

Handwritten signatures and initials:

Handwritten mark:

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information				
Equipment:	Truck Trailer 25 ton	Manufactured year:	Crde No.	78
Make:		Fuel Type		
Model:	(25 ton capacity)	Fuel	Diesel (SFC):	0.1 (ltr/hp-hr)
Power (hp):	180 hp		Petrol (SFC):	0.22 (ltr/hp-hr)
Capacity:	30 ton		Load factor (FF):	0.8
Purchase / Estimated Price (PP):	4000000		Time factor (TF):	0.75
Useful Life (N):	15		Fuel Rate :	97.34513 (Rs/ltr)
Total Useful life Hours (H):	15000		Fuel Consumption:	10.80 (L/hr)
Uses Hours per year (h):	1000		Energy consumed:	(kwh)
Tyre cost per unit (CL):	30000		Electric Charge:	(Rs/unit)
Total no. of Tyres (tn):	10		Energy consumed rate	(unit/hr)
Tyre replacement costs (TRC):	300000			
Tyre Average Life (hrs) (TL):	3000	Repair factor (RF):	0.3	
Special wear item cost (SWIC):		Servicing factor (SF):	0.15	
Interest Rate (IR):	10%			
Operator Monthly Salary + Allowance (OS)				
OWNERSHIP COSTS				
1	Purchase Price less tyre (P) (Rs) (including accessories and installation)			3700000
2	Estimated Salvage Value (S) (Rs)			400000
3	Annual Depreciation (Rs/yr)			220000
4	Insurance (Rs/yr)			40000
5	Taxes / Licence etc. (Rs/yr)			40000
6	Storage etc. (Rs/yr)			
7	Average Annual Investment			2320000
8	Annual Interest Cost (Rs)			232000
9	Annual Ownership Cost (Rs)			537000
10	Estimated Hourly Ownership Cost (Rs/hr)			532.00
OPERATION COSTS				
11	Repair and Maintenance Cost (Rs/hr)			74.00
12	Tyre Replacement Cost (Rs/hr)			79.14
13	Fuel Cost (Rs/hr)			1051.33
14	Servicing (Oil, filters, grease ... etc.) (Rs/hr)			37.00
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/hr)			0.00
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)			0.00
17	Estimated Hourly Operating Cost (Rs/hr)			1241.47
18	Total Hourly Owning and Operating Cost (Rs/hr)			1773.47

Handwritten signatures and initials:
 1. A large signature, possibly "A. Zafar".
 2. A signature, possibly "M. Khan".
 3. A signature, possibly "S. Khan".
 4. A signature, possibly "A. Khan".

Handwritten mark:
 A circled number "6".

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information

Equipment:	Hacking Machine	Manufactured year:	Code No.	98
Make:		Fuel Type:		
Model:		Diesel (SI C):	0.16	(ltr/hp-hr)
Power (hp):	70 hp	Petrol (SI C):	0.22	(ltr/hp-hr)
Capacity:		Load factor (FL):	0.9	
Purchase / Estimated Price (PP):	100000	Time factor (TF):	0.9	
Useful Life (N):	5	Fuel Rate:	97.34513	(Rs/ltr)
Total Useful life Hours (H):	2500	Fuel Consumption:	1.30	(L/hr)
Uses Hours per year (Y):	500	Energy consumed:		(kwh)
Tyre cost per unit (CU):		Electric Charge:		(Rs/unit)
Total no. of Tyres (In):		Energy consumed rate:	0.00	(unit/hr)
Tyre replacement costs (TRC):	0	Repair factor (RF):	0.4	
Tyre Average Life (hrs) (TL):		Servicing factor (SF):	0.2	
Special wear item cost (SWIC):				
Interest Rate (IR):	10%			
Operator M'ly Salary + Allowance (OS)				

OWNERSHIP COSTS

1	Purchase Price less tyre (P) (Rs) (including accessories and installation)	100000
2	Estimated Salvage Value (S) (Rs)	10000
3	Annual Depreciation (Rs/yr)	18000
4	Insurance (Rs/yr)	1000
5	Taxes / Licence etc. (Rs/yr)	
6	Storage etc. (Rs/yr)	
7	Average Annual Investment	20000
8	Annual Interest Cost (Rs)	2000
9	Annual Ownership Cost (Rs)	21000
10	Estimated Hourly Ownership Cost (Rs/hr)	42.00

OPERATION COSTS

11	Repair and Maintenance Cost (Rs/hr)	16.00
12	Tyre Replacement Cost (Rs/hr)	0.00
13	Fuel Cost (Rs/hr)	136.16
14	Servicing (Oil, filters, grease etc.) (Rs/hr)	8.00
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)	0.00
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)	0.00
17	Estimated Hourly Operating Cost (Rs/hr)	150.16
18	Total Hourly Owning and Operating Cost (Rs/hr)	192.16

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information

Equipment:	Cold Mix Plant	Manufactured year:	Code No.	SR
Make:		Fuel Type		
Model:		Diesel (SFC):	0.16	(ltr/hp-hr)
Power (hp):	30 hp	Petrol (SFC):	0.22	(ltr/hp-hr)
Capacity:		Load factor (LF):	0.9	
Purchase / Estimated Price (PP):	50000.00	Time factor (TF):	0.9	
Useful Life (N):	20	Fuel Rate:	97.35	(Rs/ltr)
Total Useful life Hours (H):	20000	Fuel Consumption:	3.89	(L/hr)
Days Hours per year (h):	2100	Energy consumed:	20	(kwh)
Tyre cost per unit (CU):		Electric Charge:	2.2	(Rs/unit)
Total no. of Tyres (tn):		Energy consumed rate	194.40	(unit/hr)
Tyre replacement costs (TRC):	0			
Tyre Average Life (hrs) (TL):		Repair factor (RF):	0.3	
Special wear item cost (SWIC):		Servicing factor (SF):	0.2	
Interest Rate (IR):	10%			
Operator M'thly Salary + Allowance (OS)				

OWNERSHIP COSTS

1	Purchase Price less tyre (P) (Rs) including accessories and installation	50000.00
2	Estimated Salvage Value (S) (Rs)	5000.00
3	Annual Depreciation (Rs/yr)	2250.00
4	Insurance (Rs/yr)	500.00
5	Taxes / Licence etc. (Rs/yr)	500.00
6	Storage etc. (Rs/yr)	250.00
7	Average Annual Investment	2500.00
8	Annual Interest Cost (Rs)	250.00
9	Annual Ownership Cost (Rs)	3750.00
10	Estimated Hourly Ownership Cost (Rs/hr)	375.00

OPERATION COSTS

11	Repair and Maintenance Cost (Rs/hr)	75.00
12	Tyre Replacement Cost (Rs/hr)	0.00
13	Fuel Cost (Rs/hr)	618.48
14	Servicing (Oil, filters, grease ..., etc.) (Rs/hr)	50.00
15	Special wear items (blade, teeth, bucket, ..., etc.) (Rs/hr)	0.00
16	Operator's hourly charge (Salary+ allowances) (Rs/hr)	0.00
17	Estimated Hourly Operating Cost (Rs/hr)	743.48
18	Total Hourly Owning and Operating Cost (Rs/hr)	1118.48

SR

1

Handwritten signature

Handwritten signature

Handwritten signature

Handwritten mark

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information				
Equipment:	Hydraulic Jack 200L		Manufactured year:	Code No. 74
Make:			Fuel Type	
Model:			Diesel (SFC):	0.16 (ltr/hp-hr)
Power (hp):		hp	Petrol (SFC):	0.72 (ltr/hp-hr)
Capacity:			Load factor (FF):	0.8
Purchase / Estimated Price (PP):	2000000		Time factor (TF):	0.9
Useful Life (N):	15		Fuel Rate :	97.34513 (Rs/ltr)
Total Useful life Hours (H):	9000		Fuel Consumption:	0.00 (L/hr)
Uses Hours per year (h):	600		Energy consumed:	5 (kwh)
Tyre cost per unit (Ct):			Electric Charge:	12 (Rs/unit)
Total no. of Tyres (tn):			Energy consumed rate:	43.20 (unit/hr)
Tyre replacement costs (TRC):	0		Repair factor (RF):	0.25
Tyre Average Life (hrs) (TL):			Servicing factor (SF):	0.15
Special wear item cost (SWIC):				
Interest Rate (IR):	10%			
Operator M'thly Salary + Allow'nce(OS)				
OWNERSHIP COSTS				
1	Purchase Price less tyre (P) (Rs) (Including accessories and installation)			2000000
2	Estimated Salvage Value (S) (Rs)			200000
3	Annual Depreciation (Rs/yr)			120000
4	Insurance (Rs/yr)			20000
5	Taxes etc. (Rs/yr)			
6	Taxes / Licence etc. (Rs/yr)			
7	Storage etc. (Rs/yr)			133333
8	Annual Interest Cost (Rs)			13333
9	Annual Ownership Cost (Rs)			153333
10	Estimated Hourly Ownership Cost (Rs/hr)			255.56
OPERATION COSTS				
11	Repair and Maintenance Cost (Rs/hr)			55.56
12	Tyre Replacement Cost (Rs/hr)			0.00
13	Fuel Cost (Rs/ltr)			60.00
14	Servicing (Oil, filters, grease etc.) (Rs/hr)			33.33
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)			0.00
16	Operator's hourly charge (Salary+allowances) (Rs/hr)			0.00
17	Estimated Hourly Operating Cost (Rs/hr)			148.89
18	Total Hourly Owning and Operating Cost (Rs/hr)			404.44

20/10/2020

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information

Equipment:	Premix Mixture	Manufactured year:	Code No.	98
Make:		Fuel type:		
Model:		Diesel (SI C):	0.15	(lt/hr-hr)
Power (hp):	35 hp	Petrol (SI C):	0.22	(lt/hr-hr)
Capacity:		Load factor (LF):	0.9	
Purchase / Estimated Price (PP):	150000	Time factor (TF):	0.9	
Useful Life (NI):	15	Fuel Rate:	97.34513	(Rs/lt)
Total Useful life Hours (IH):	15000	Fuel Consumption:	4.75	(L/hr)
Uses Hours per year (n):	1000	Energy consumed:		(kwh)
Tyre cost per unit (CC):		Electric Charge:		(Rs/unit)
Total no. of Tyres (TI):		Energy consumed rate:	0.00	(unit/hr)
Tyre replacement costs (TRC):	0	Repair factor (RF):	0.25	
Tyre Average life (hrs) (TI):		Servicing factor (SF):	0.25	
Special wear item cost (SWIC):				
Interest Rate (IR):	10%			
Operator M'thly Salary + Allowance (OS)				

OWNERSHIP COSTS

1	Purchase Price less tyre (P) (Rs) (including accessories and installation)	150000
2	Estimated Salvage Value (S) (Rs)	15000
3	Annual Depreciation (Rs/yr)	90000
4	Insurance (Rs/yr)	15000
5	Taxes / Licence etc. (Rs/yr)	
6	Storage etc. (Rs/yr)	
7	Average Annual Investment	100000
8	Annual Interest Cost (Rs)	10000
9	Annual Ownership Cost (Rs)	115000
10	Estimated Hourly Ownership Cost (Rs/hr)	215.00

OPERATION COSTS

11	Repair and Maintenance Cost (Rs/hr)	25.00
12	Tyre Replacement Cost (Rs/hr)	0.00
13	Fuel Cost (Rs/hr)	413.96
14	Servicing (Oil, filters, grease etc.) (Rs/hr)	25.00
15	Special wear items (blade, touch, bucket, etc.) (Rs/h)	0.00
16	Operator's hourly charge (Salary + allowances) (Rs/hr)	0.00
17	Estimated Hourly Operating Cost (Rs/hr)	463.96
18	Total Hourly Owning and Operating Cost (Rs/hr)	578.96

22

2

[Handwritten signatures]

[Handwritten signature]

[Handwritten mark]

OWNING AND OPERATING COST ANALYSIS

Machine's Basic Information

Equipment:	Cutter (Blumen Pflanzung/RCC Cutter)	Manufactured year:	Code No:
Make:		Fuel Type:	
Model:		Diesel (SFC):	0.15
Power (hp):	20 hp	Petrol (SFC):	0.27
Capacity:		Load factor (LF):	0.4
Purchase / Estimated Price (PF):	200000	Time factor (TF):	0.9
Useful Life (N):	5	Fuel rate:	97
Total Useful Life Hours (H):	5000	Fuel Consumption:	1.22
Uses Hours per year (h):	1100	Energy consumed:	
Tyre cost per unit (CT):		Electric Charge:	
Total no. of Tyres (tn):		Energy consumed rate:	0.00
Tyre replacement costs (TRC):	0	Repair factor (RF):	0.3
Tyre Average Life (hrs) (TL):		Servicing factor (SF):	0.2
Special wear item cost (SWIC):	30000		
Interest Rate (IR):	10%		
Operator M'thly Salary + Allowance (OS)			

OWNERSHIP COSTS

1	Purchase Price less tyre (P) (Rs) including accessories and installation	200000
2	Estimated Salvage Value (S) (Rs)	20000
3	Annual (Rs/yr)	36000
4	Insurance (Rs/yr)	
5	Taxes / License etc. (Rs/yr)	
6	Storage etc. (Rs/yr)	
7	Average Annual Investment	40000
8	Annual Interest Cost (Rs)	4000
9	Annual Ownership Cost (Rs)	40000
10	Estimated Hourly Ownership Cost (Rs/hr)	40.00

OPERATION COSTS

11	Repair and Maintenance Cost (Rs/hr)	17.00
12	Tyre Replacement Cost (Rs/hr)	0.00
13	Fuel Cost (Rs/hr)	118.27
14	Servicing (oil, filters, grease etc.) (Rs/hr)	8.00
15	Special wear items (blade, teeth, bucket..... etc.) (Rs/h)	30.00
16	Operator's hourly charge (Salary + allowances) (Rs/hr)	0.00
17	Estimated Hourly Operating Cost (Rs/hr)	168.27
18	Total Hourly Owning and Operating Cost (Rs/hr)	208.27

SA
12/
[Signature]
[Signature]
[Signature]
[Signature]



पत्र संख्या :- ४१०७७/७८

मिति:- २०७७/१२/३१

चलानी नम्बर :- २०५

विषय: Norms/Rate of Plant and Machinery for Estimating Guideline I

- श्री योजना तथा अनुगमन/पुल/संभार/यान्त्रिक/विकास सहायता कार्यान्वयन महाशाखा ।
- श्री संघीय सडक सुपरिवेक्षण तथा अनुगमन कार्यालय दमक/काठमाडौं/पोखरा/सुर्खेत ।
- श्री उत्तरदक्षिण व्यापारिक मार्ग विस्तार आयोजना निर्देशनालय, ललितपुर ।
- श्री आयोजना निर्देशनालय, (ए.डि.वि.) काठमाडौं ।
- श्री हुलाकी राजमार्ग आयोजना निर्देशनालय, काठमाडौं ।
- श्री मदनभण्डारी राजमार्ग आयोजना निर्देशनालय, काठमाडौं ।
- श्री सडक सुधार विकास आयोजना, काठमाडौं ।
- श्री हेभी इन्विजपमेन्ट डिभिजन/यान्त्रिक कार्यालयहरू सबै ।
- श्री सडक डिभिजनहरू सबै ।
- श्री योजना कार्यालयहरू सबै ।

सडक विभाग वा अन्तर्गत मातहत हुने विभिन्न निर्माण कार्यहरूको लागत अनुमान तयार गर्ने प्रयोजनको लागि मिति २०७७/१२/३१ को विभागिय निर्णयानुसार संशोधित Guideline For Estimating Equipment Ownership and Operating Costs यसैसाथ संलग्न गरि पठाईएको व्यहोरा निर्देशानुसार अनुसोध गर्नु।


महेश कुमार पराजुली
सि. डि. ई.

श्रीमान महानिदेशक ज्यू,
सड़क विभाग

विषय : संसोधित Guideline for Estimating Equipment Ownership and Operating Costs स्वीकृतिको लागि पेश गरिएको बारे ।

उपरोक्त विषयमा, मिति २०७७/१२/२४ को विभागीय निर्णय अनुसार गठित समितिले मिति २०७५/१०/०८ मा स्वीकृत Guideline for Estimating Equipment Ownership and Operating Costs को निम्न Issues विस्तेषण गरि, समय सापेक्ष संसोधनको प्रस्ताव यो पत्र साथ संलग्न गरि स्वीकृति हुन सिफारिश गर्दछौ ।



निम्न :

१. Ownership Cost Calculation
२. Ownership Cost Calculation गर्दा Taxes and Storage/License Cost
३. Plant र Machinery को Capital Cost (Purchase Cost)
४. Maintenance र Service Cost calculation गर्ने प्रयोग हुने क्रमसः Repair factor (RF) र Servicing factor (SF) को Value
५. Repair and Maintenance Cost र Service Cost
६. Crew/Assistant Cost
७. Plant र Machinery को Specification को आधारमा Fuel Demand

संयोजक
सदस्य -
सदस्य -
सदस्य -
सदस्य -
सदस्य -

सु.ई. प्रभात कुमार झा, संधीय सराक सुपरिवेक्षण तथा अनुगमन कार्यालय, सुर्खेत ।
सि.डी.ई. रमेश कुमार सिंह, श्री रा.वि. योजना, अनुगमन तथा मूल्यांकन शाखा, ललितपुर,
सि.डी.ई. महेश कुमार पराजुली, श्री स.वि. यान्त्रिक महाशाखा, ललितपुर ।
सि.डी.ई. शौरभ बज्राचार्य, गुणस्तर, अनुसन्धान तथा विकास केन्द्र, ललितपुर ।
इन्जिनियर केशव कप्रसाद ओझा, श्री स.वि. संभार महाशाखा, ललितपुर ।
इन्जिनियर अमित कुमार वर्मा, श्री स.वि. गुत्त महाशाखा, ललितपुर ।

श्री यान्त्रिक महाशाखा

७/१२/२०

श्री पराजुली जी
१२/१२/२०
श्री मुरारी
श्री मुरारी