

INDEX

A				Cell	29, 72
Acceleration	20			Characteristics, d.c. generator	169-189
Acceptor	376			" " motor	232-239
A.C. circuit	192			" vacuum diode	353
" generator	124			" semiconductor	
Accumulators	79			diode	380
Active component—current	248			Charge	59, 301
" power	247			Charging	83
Addition of phasors	144			Chemical effect	23, 58
Admittance	331, 334			" equivalent	63, 65
Alternating e.m.f.	125			Choke	194
Alternator	112, 121			Circuit (a.c.) <i>R</i>	198
Ammeter	11			" " <i>L</i>	200
Ampere	2, 22, 100			" " <i>R</i> and <i>L</i>	202
" hour	23, 81			" " <i>R</i> and <i>C</i>	210
" -turn	103			" (d.c.)	1
Amplitude	140			Cold-cathode lamp	366
Angular velocity	140			Commutation	128, 162
Anode	60, 351, 368			Commutator	162
" characteristic	353			Compensating leads	345
" resistance (a.c.)	354			Component of a phasor	147
" " (d.c.)	354			Compound-connection, generator	184
Apparent power	247			" " motor	229
Armature	160			Condenser	194
" core	160			Conductance	5, 331, 334
" reaction	174			Conduction control	374
" windings	160, 163			Conductors	37, 306
Artificial magnets	88			Copper loss	290
Atom	301			" voltmeter	61
Atomic weight	63, 64			Cosine rule	146
Average value	149			Coulomb	23, 305
B				Co-valent bonding	373
Back e.m.f.	66, 224			Critical resistance	176, 180
Battery	6, 7, 29			Cumulative connection	185, 236
Bearings	163			Current	1, 4
B-H curve	170			" equation, motor	225
Bias (forward)	378			Cycle	140
" (reverse)	378			D	
Brushes	124, 162			Daniell cell	75
C				D.C. generator	127, 167, 172
Calorie	18			" machine	158
Capacitance	207			" motor	223
Capacitive reactance	194, 208			Delta connection	265, 269
Capacitor	194, 313, 314			Depolariser	74
" current	317			Derived units	20
" systems	315			Dielectric	312
Capacity	81			Differential connection	185, 239
Cathode	60, 351			Diode characteristic, vacuum	353
" -ray oscilloscope	367			" " semicon-	380
" " tube	367			ductor	380
				" vacuum	351
				" junction	378

Discharge lamp	362
Donor	376
Drum winding	133
Dry cell	78
Dynamic characteristic, diode (vacuum)	353, 357
Dynamic characteristic, diode (semiconductor)	382
Dynamic electricity	305
" induction	117
E	
Eddy-current coefficient	294
" " loss	290, 293
Effective value	149
Efficiency	27, 81, 82
Electric charge	58, 59, 301
" circuit—see Circuit	
" flux	313
" field	304
" flux intensity	313
Electrical energy	27, 52
" units	22
Electrochemical equivalent	63
Electrode	59
Electrolysis	59
Electrolyte	59
Electrolytic cell	60
Electromagnet	98
Electromagnetic induction	111
" force	100
Electromagnetism	93
Electromotive force	2, 6
" series	73
Electron	301
" emission	350
Electroscope	307
Electrostatics	301, 305
Element	301
E.M.F. equation, d.c. generator	168
" " " motor	225
Energy	21, 27, 49
Energy in magnetic field	292
" " electrostatic field	218
Equivalent-ring winding	166
Extrinsic conductivity	375
F	
Farad	208
Faraday's laws of electrolysis	62
" " " induction	112
Ferromagnetic materials	88
Field coils	160
" electric	311
" magnetic	89, 94, 96
Field system	158
Filament	351
Fleming's hand rules	122, 224
Fluorescent lamp	363

Flux, magnetic	90, 91, 101
" electric	311, 313
" density	91, 101
" linkages	112, 196
Focussing	369
Force	20, 100, 223
" , electric	311
" , line of	90
" , magnetising	103
Form factor	155
Frequency	140
Friction losses	290

G	
Galvanometer	338, 342
General series circuit	216
Generator, see d.c. generator	127
" " a.c. generator	124
Germanium	48, 371
Gramme-ring	131
Grid	368
Grouping of cells	29

H	
Heat energy	49
Heating effect	23, 49
Henry	195
Hertz	140
High tension	353
Holes	375
Horizontal component	147
Hysteresis coefficient	293
" loop	290
" loss	290, 293

I	
Impedance	192
Impedances in series	213, 215, 331
" " parallel	249, 251, 332
Impurity conductivity	375
Induced e.m.f.	114, 116, 119
Inductance	113, 193, 200
Induction	111
Inductive impedances (in series)	213
" and capacitive " (in series)	215
" reactance	193, 196
Inductor	193
Instantaneous value	126, 139
Instrumentation	346

J	
Joule	20, 21
Junction diode	378

K	
Kirchhoff's Laws	4, 324, 329

L	
Lag	142

Rectifier	361, 381	Strength of field	314
Regulation	256	Superposition of current theorem	327
Reluctance	104, 281	Surface density	310
Residual magnetism	169	Susceptance	331, 334
Resistance	2, 25, 37, 44, 69	Susceptibility	98
" measurement	338		
Resistivity	38	T	
Resonance	217	Temperature coefficient	41
Reverse bias	378	" measurement	340, 343
Right-hand rule	97, 122	Terminal p.d.	7
Root mean square	143, 149	Tesla	92
		Thermionic devices	350
S		" emission	351
Saturation effect, magnetic	92, 169, 279	Thermistor	48
" " vacuum diode	353	Thermocouple	343
Secondary cell	75, 79	Time-base	370
" coil	144	Torque equation (motor)	231
Self-excitation	176, 183	" controlling factors	231
" inductance	195	Transient	196
" induction	115	Trigonometrical representation	142
Semiconductor	48, 371		
Separate excitation	174	U	
Series circuit (a.c.)	3, 4, 213, 331	Unbalanced load	268
" " (d.c.)	3, 4	Units	18, 20, 22
Series-connected generator	183		
" " motor	229	V	
Series connection	30	Vacuum diode	351
" -parallel circuit (a.c.)	337	Valency	63, 64
" " " (d.c.)	7	Vertical component	147
" " connection	32	Virtual value	150
Shaft	162	Volt	24
Shell	302, 372	Voltage	2, 4, 24
Shunt	12	" equation, generator	168
" -connected generator	175	" " motor	225
" " motor	228	Voltage resonance	217
Siemens	5, 324	Voltaic cell	60, 70
Sinewave (sinusoidal)	139, 142	Voltmeter	60, 61
S.I. system	19	Voltmeter	11
Slope resistance	354		
Solenoid	96	W	
Solid-state devices	371	Water voltmeter	60
Space charge	351	Watt	20, 21
Specific heat capacity	50	Wave winding	163, 166
" resistance	38	Waveform	139
Speed control (field)	241	Weber	91, 122
" " (voltage)	242	Weston standard cell	352
" controlling factor, motor	227	Wheatstone bridge	329, 338
" equation	226	Windage losses	290
Star connection	265	Work	21
Starters (motor)	240		
Static characteristics, diode		Y	
(vacuum)	353, 354	Yoke	158
Static characteristics, diode			
(semiconductor)	382	Z	
Static electricity	305	Zener effect	380