

# Subject Index

$\alpha$ -cardinal, 158  
 $\alpha$ -finite, 155  
 $\alpha$ -finite injury, 175  
 $\alpha$ -jump, 199  
 $\alpha$ -recursive, 155  
 $\alpha$ -recursive in, 162  
 $\alpha$ -recursively enumerable, 154  
 $A$ -correct, 217  
Addison equivalence, 48  
admissible ordinals, 154, 174  
admissible sets, 151  
analytical in  $Y$ , 42  
analytical predicates, 3

Baire category, 97, 108  
basis theorems, 52, 74, 92, 250  
 $\beta$ -recursion, 227  
boldface, 42  
boundedness,  $\Sigma_1^1$ , 20  
bounding arguments, 81

category, 97  
ccc forcing, 273  
choice,  $\Sigma_1^1$ , 67  
closure condition, 7  
closure ordinals, 76  
cofinality,  $\Sigma_2$ , 181  
Cohen forcing, 94  
comprehension,  $\Delta_1^1$ , 67  
constructibility, 82  
constructive in  $Y$ , 43  
constructive ordinals, 10  
converges, 234  
countable chain selection, 277  
countably closed forcing, 265

Davis uniqueness, 42  
density for  $\omega$ , 212  
divergence-admissibility split, 257  
dynamic methods, 184

$E$ -recursive, 234  
 $E$ -recursively enumerable, 236, 241  
effective bounding, 263  
effective transfinite recursion, 10, 238

fine structure, 207  
first order definable, 154  
forcing, 94, 98, 265, 273  
forcing computations, 259  
full ordinal rank, 64  
function quantifiers, 4

Gandy forcing, 108  
Gandy selection, 244  
Gandy topology, 108  
genericity, 95, 101, 104  
Grilliot selection, 284

$H$ -sets, 22  
Harrington's plus-two theorem, 299  
HYP, 23  
hyperarithmetic, 23  
hyperarithmetic predicates of reals, 44  
hyperarithmetic quantifiers, 59  
hyperarithmetic reducibility, 44  
hyperdegrees, incomparable, 46  
hyperdegrees, minimal, 106  
hyperjump, 48  
hyperregular, 135, 167

incomparable hyperdegrees, 46  
inductive definitions, 76

Kechris's basis theorem, 250  
Kleene's  $O$ , 8  
Kreisel compactness, 70

Louveau separation, 107

MacQueen-Harrington selection, 284  
maximal sets, 145  
measureability of  $\Pi_1^1$ , 47  
metacomplete, 133  
metacomputable, 123  
metafinite, 117  
metafinite computations, 121  
metarecursive, 117  
metarecursive in, 127  
metarecursively enumerable, 117  
minimal hyperdegrees, 106  
monotonic, 76

## 344 Subject Index

- Moschovakis selection, 287
- Moschovakis witnesses, 249
- Mostowski's conjecture, 59
  
- natural enumeration of  $L(\alpha)$ , 155
- natural enumeration of  $O$ , 9
- negative requirements, 221
- non-enumerability, 266
- normal forms, 5
- Normann schemes, 233
- Normann selection, 279
- notations for ordinals, 8
  
- objects of type  $\alpha$ , 291
- ordinal analysis of  $\Pi_1^1$  sets, 18
- ordinal rank, 63
- partial  $E$ -recursive, 234
- partial recursive functions, 3
- perfect forcing, 98
- perfect subsets, 71, 84
- persistent, 26
- $\Pi_1^1$  sets, 18
- plus-one theorems, 290
- positive, 77
- positive requirements, 220
- Post's problem, uniform solution, 191
- Post's problem for  $\alpha$ , 177, 182
- Post's problem for admissible sets, 189
- Post's problem for  $E$ -recursion, 328
- priority arguments, 138, 169, 219, 338
- projectum,  $\Sigma_2$ , 208
- projectum,  $\Sigma_1$ , 157
- projectum, tame  $\Sigma_1$ , 320
- projectum,  $E$ -recursively enumerable, 313
  
- ramified analytic hierarchy, 62
- RE cofinality, 318
- recursive enumerability on, 256
- recursive ordinals, 15, 241
- reduction, 35
- reflection, 242
- regular sets, 129, 131, 163, 165, 309
- Rogers and ETR, 11
  
- $\sigma\text{cf}(\alpha)$ , 181
- scattered, 86
- sections, 291
- selection, 32, 283, 304
- separation, 36
- separation, Louveau, 107
- Seq, 18
- sequence numbers, 18
- set quantifiers, 6
- Shore blocking, 186
- Shore's density theorem, 218
- Shore's splitting theorem, 204
- $\Sigma_1$ , Skolem function, 160
- $\Sigma_1^1$  boundedness, 20
- Silver's theorem, 112
- Simple, 134
- Simpson's dichotomy, 146
- singletons,  $\Pi_1^0$ , 37, 41
- singletons,  $\Pi_1^1$ , 81, 86
- Slaman's density theorem, 337
- Slaman's splitting theorem, 334
- Spector-Gandy theorem, 61
- stability, 159
  
- tame  $\Sigma_2$  projectum, 180
- tame  $\Sigma_2$  recursion, 194
- tame  $\Sigma_1$  cofinality, 323
- tameness, 179
- tree of possibilities, 261
- Turing jump, 22
- Turing jump hierarchy, 60
  
- uniformity, measure-theoretic, 88
- uniformization, 28, 87
- unique notations, 55
- uniqueness theorem, Spector's, 40
- universal computation tree, 237
  
- $\omega$ -sets, 133
- weak  $\Sigma_1$  admissibility, 211, 228
- wellfounded relations, 16