By roling a dice you get an exam topic from $\{2, 3, ..., 7\} \setminus \{x\}$ where x is the topic you may exclude before.

closed folder exam part	open folder exam part
2. **Definition of Markov processes**	
Def 2.1 Markov process, Thm 2.3 equivalences (without proof) Def 2.4 transition function	proof of Thm 2.3
3. **Existence of a Markov process**	
Cor 3.3 existence MP	Def 3.1 Thm 3.2
4. **Strong Markov Processes**	
(1) stopping times and optional times	
Def 4.1 stopping time, Def 4.3 right-cont. filtr., Def 4.5 $\mathcal{F}_\tau, \mathcal{F}_{\tau+}$, Def 4.7 optional time	Lemma 4.8
(2) strong Markov property	
Def 4.12 strong Markov	Def 4.10, Proposition 4.13
(3) Lévy processes are strong Markov	
Def 4.14 Lévy process, Thm 4.15 strong Markov prop for Lévy (without proof)	Remark 4.16, proof of Thm 4.15
(4) right-continuous filtrations	
	Def 4.19 Thm 4.20
5. **The semigroup/generator approach**	
(1) contraction semigroups	
Def 5.1 semigroup, Def 5.2 $\mathcal{B}_E$	Lemma 5.3 without proof

(2) infinitesimal generator

Def 5.4 infinitesimal generator	Thm 5.6 without proof

(3) Martingales and Dynkin's formula

Def 5.7 martingale	Thm 5.8 with proof

6. **Weak solutions of SDEs and martingale problems**

	Def 6.1, 6.4, Thm 6.5, Def 6.7, Cor 6.8

7. **Feller processes**

(1) Feller semigroups, Feller transition functions, Feller processes

	Def 7.1, 7.4, 7.6 Prop 7.2 without proof Prop 7.5 without proof

(2) càdlàg modifications of Feller processes

Def 7.7 Lévy process in law	Thm 7.8 without proof Lemma 7.9. Lemma 7.10 Thm 7.11.

Exercises:
-1- (1) (2) (3)(5)
-2- (2) (3) (4)
-3- (1)(2) (3)
-4- (2)(4)(5)
-5- (2) (3)
-6- (2)(3)(4)
-7- coming