Final

Not required: inclusion-exclusion, Law of total probability and Bayes formula, Negative binomial, hypergeometric, Gamma, beta, calculate distribution of a function of a rv, how to calculate the distribution of sum of independent rv (but need to know the result in the examples, in particular normal distribution, poisson distribution), bivariate normal, conditional expectation, exact definition of convergence, and anything already removed in class although not mentioned above

There will be "proof" question similar to slide 62 of Ch 2.

Final

There is no need to memorize density/pmf, expectation, variance except for binomial (since you need to use that for CI/test).

When asked to "perform/conduct a hypothesis test", calculate the rejection region and make decision (remember to always first write down the two hypotheses). Calculate the p-value only when explicitly asked

Final

CI: no mentioning one-sided or two-sided, use two-sided for one-sided, will mention whether we need a lower-bound or upper-bound

Test: someone claims/suspect it is larger than/different from…, test (refute) the claim/it there evidence that supports (contradicts) the claim?

Is there evidence that it is larger?

No explicit mentioning, use two-sided

No statistical table

You will be asked to express probability in terms of Phi (p-value, type I/II error, for example, and this will be stated in the exam paper)

For critical value of t distribution, use $t_{9,0.1}$ for example (the problem will also remind you when you are supposed to use this), but other numerical parts still need to calculate

Remember $z_{0.025}=1.96$, $z_{0.05}=1.645$,

Final

"the data follows a normal distribution with known standard deviation..." -> use Z statistic with a normal distribution

"Suppose … follows a normal distribution." and the problem tell you "sample standard deviation" -> use student t distribution

"Suppose that we do not know the distribution of…" (that is do not know it follows a normal distribution), and the problem tell you "sample standard deviation" -> use normal distribution

Actually, it is often easier just to look at whether the problem ask you to use Normal/t quantile