

SUBJECTS FOR BASIC NOTIONS QUIZ MAR 15

- Truth tables for basic connectives (and/or/if X, then Y/not/iff).
- Form of argument by contradiction.
- Form of argument by contrapositive.
- Form of standard argument to prove $\exists x.P(x)$.
- Form of standard argument to prove $\forall x.P(x)$.
- Form of standard argument to prove $A \Rightarrow B$.
- The axioms (up to and including the 8th).
- Definition of union of sets (pairs and families).
- Definition of intersection of sets (pairs and families).
- Definition of $\{x \in A \mid P(x)\}$.
- Definition of $\{a, b\}$.
- Definition of $\{a\}$.
- Definition of \emptyset .
- Definition of disjoint.
- Standard argument for use of disjunction.
- Standard argument for equality of sets.
- Definition of (a, b) , and its key property.
- Definition of Domain.
- Definition of Range.
- Definition of (binary) relation.
- Definition of inverse relation.
- Definition of image of a set under a relation.
- Definition of function.
- Definition of surjection (onto function).
- Definition of injection (one-to-one function).
- Definition of cartesian product of a system of sets.
- Definition of equivalence relation.
- Definition of partition.
- Definitions of the different properties of orders.
- Definition of the principle of complete induction.

- Definition of ω .
- Definition of addition, multiplication, and exponentiation of natural numbers.
- Definition of equipotent.
- Definition of finite.
- Definition of F -closed set.
- Definition of $\text{Cl}_F(X)$.
- Definition of ordinal and cardinal.
- The second form of the axiom of choice.
- Definition of denumerable and countable.