**SOLUTION OF THE MID TERM PAPER**

**For definitions, please, consult the class notes or book.**

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| **Define an equivalence relation. Let a relation in be defined by iff Is an equivalence relation?**  **A relation in be defined by iff is not reflexive, symmetric and transitive, so not an equivalence relation.** |
| **Define Fibbonacci numbers. Also find and .**  **By using, , we can easily find**  **and** |
| **What is divisibility and also prove that if is a positive odd integer, then,**  **n is positive odd integer (given), so we can take, Now use the induction method as we have discussed in class.** |
| **What is Fundamental Theorem of Arithmetic and also show that if both are odd then there does not exist an integer**  **Both are odd, we can take, Now , which is even and every cannot be written as perfect squire.** |
| 1. **Multiply,**      1. **Use sieve of Eratosthenes to find primes less than 100.**   **Method has been discussed with detail in class notes.**   1. **Find for** |