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D.K.M.COLLEGE FOR WOMEN (AUTONOMOUS), VELLORE-1

**SEMESTER EXAMINATIONS**

**NOVEMBER – 2018 15SMA3A**

# SKILL BASED SUBJECT – I: NUMBER THEORY

**Time : 2 Hrs Max. Marks : 50**

**SECTION-A (10 x 2 = 20)**

**Answer ALL the questions.**

1. *Define perfect number.*
2. *Define common divisor with example.*
3. *State fundamental theorem of arithmetic.*
4. *Find the canonical factorization of 2450.*
5. *Define congruence.*
6. *Mention any two properties of congruence.*
7. *Find the order of 2(mod 7).*
8. *Define Indices.*
9. *What is signature?*
10. *Write the numerical plaintext for the word “MATH”.*

**SECTION-B (3x 10 = 30)**

**Answer any THREE of the following questions.**

1. *Let Sn then prove that Sn =*
2. *Define prime, prime counting function and state Birichlet’s theorem.*
3. *Solve the system of linear congruence*

1. *Solve 3x5 = 5(mod 7).*
2. *Explain Cryptology in detail.*

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