SGSITS Indore, Department of Computer Engineering
Information and Network Security
MID SEMESTER-II Question Paper

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1   Problem set– Part 2

1. (a) Answer the following question: (Marks: 2)

   You receive the following email from the Help Desk:

   Dear Sgsits Gsuite Email User,

   Beginning next week, we will be deleting all inactive email accounts in order to create space for more users. You are required to send the following information in order to continue using your email account. If we do not receive this information from you by the end of the week, your email account will be closed.

   *Name (first and last):

   *Email Login:

   *Password:

   *Date of birth:

   *Alternate email:

   Please contact the Sgsits Web Serives Team with any questions.

   Thank you for your immediate attention.

   What should you do?

   (b) Let x be an element of Z_n and y denote its multiplicative-inverse-mod-n. (Marks: 3)

      (i) When does y exist?

      (ii) Give the equation that x and y satisfy.

2. (a) Evaluate the following (Marks: 3)

      (i) $5^{45x} \bmod 10$

      (ii) $8^{86x} \bmod 10$

      NOTE: x represents the $\#letters\_in\_your\_name + surname \bmod 10$. For example, if your name is "MUNNA CIRCUIT", the value of x will be $12 \bmod 10 = 2$, where $\#letters\_in\_your\_name + surname = 12$.

   (b) What are the main differences between symmetric-key and asymmetric-key cryptography? Which one is mostly used, and why? (Marks: 2)

3. Draw the SSL Protocol stack and explain each of the protocol of SSL protocol stack. (Marks: 5)

4. Differentiate between MIME and S/MIME Protocol. (Marks: 5)