Part 7 – Information Systems, Social Implications, Security and Privacy

7.1) (4 points) – Indicate which type of intellectual property doctrine allows copyrighted material to be used for scholarly purposes. How is this different from content in the Public Domain?

7.2) (4 points) – What are the main components on an **asymmetric** encrypted communication? Explain briefly how a message is transmitted. Give a brief example. You can use a diagram to aid your explanation.

7.3) (2 Points) – Provide two examples of reserved rights – restrictions - that can be placed on a work when using a Creative Commons license.

7.4) (2 points – 1 point each) - For problems 1 and 2, indicate whether each statement is TRUE (T) or FALSE (F).

1. Cookies are pieces of data which web servers store in your browser's cache as an identifier token to, generally speaking, personalize the user's browsing experience.

❏ True
❏ False

2. Just as HTTP is an extension of the hypertext markup language (HTML), HTTPS is an extension of HTTP and therefore an extension of HTML.

❏ True
❏ False

7.5) (1 pt each) - For problems 1 to 4, indicate your answer by drawing a circle around the letter corresponding to your choice. Circle only one choice.

1. Mostly everything which travels on the networks' wires pertinent to browsing the web is:
   A. bits containing HTML, CSS and JavaScript for webpages responses/requests.
   B. complex programs, which are sent from the server to the client machines to execute malware code.
   C. spyware to siphon our information.
   D. None of the above

2. Online-banking and personal information updates are examples of things you should:
   A. never do on unknown public networks in case someone is attempting to intercept unsecured communications.
   B. do anyway, regardless of your location, since there are no risks of your data being stolen.
   C. never do in unknown places since someone could take your wallet/purse or personal belongings while you're not paying attention.
   D. never do, as they provide no benefits.

3. A network protocol is:
   A. a group of source files which aid your network card to complete the communication process.
   B. what allows us to snap some seriously cool selfies and put them on Instagram.
   C. a set of rules which networked devices follow in order to standardize communications across different networks.
   D. what always needs to be complied by personal computers such that they are accepted into networked environments.

4. The opposite of asymmetric encryption is:
   A. symmetric, which is comprised of a single key for encrypt and decrypt.
   B. no encryption whatsoever, to avoid computation penalties during communications.
   C. symmetric, which is comprised of a third party system to mediate secure communications.
   D. None of the above

Initials: _____

Part 8 – Databases

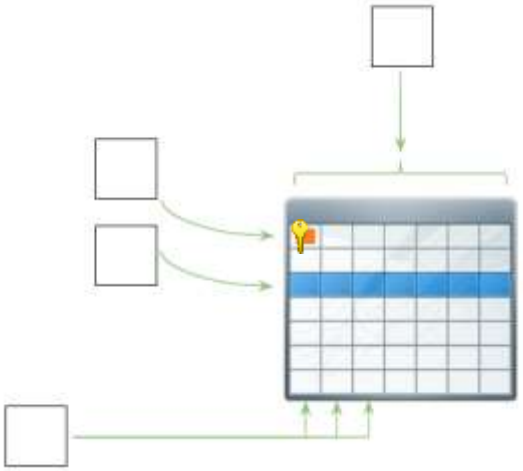
8.1) (4 points) – Indicate which components belong to each part by entering the corresponding letter into the appropriate box:

A. Table

B. Record

C. Primary Key

D. Attributes



8.2) (2 points - 1 point each) - For problems 1 and 2, indicate your answer by drawing a circle around the letter corresponding to your choice. Circle only one choice.

1. At an enterprise level, the most used databases are of the _____ type.
   A. Hierarchical
   B. Relational
   C. Object-Oriented
   D. NoSQL

2. When designing tables for databases, it is not practical nor a good practice to use a single gigantic table to hold all the information available for the system. In practice, we use many tables whose information is linked via:
   A. Primary keys and Foreign keys
   B. Foreign keys and other Foreign keys
   C. Nothing, we just match multiple values until we find the right combination between tables
   D. None of the above since there is only a single master table to hold all the available information.

8.3) (6 points) – In the space provided to the left of each Term, enter the letter of the Description that most closely matches the Term.

Description	Term
A. Connections between tables	____ Database
B. Unique record identifier	____ Relation
C. Row	____ Relationship
D. Column name	____ Primary Key
E. Table	____ Attribute
F. Connected Tables	____ Entity

Initials: _____

Part 9 – Spreadsheets

9.1) (4 points)

1. Provide the formula for cell F8 that will calculate the Discount (in dollars). In order to receive a Discount, the Client must have purchased more than 2 units. The Discount percentage is based on the Type of client. This formula must be able to be copied (using the fill handle) to calculate the discounts correctly for the other customers in the same column.

	A	B	C	D	E	F
1						
2		Client Type	Discount %			
3		Elite	0.05			
4		Elite Plus	0.08			
5		Standard	0.03			
6						
7		Customer	Type	Price	Units	Discount $
8		Sheen	Elite	15	3	

F8: _____

9.2) (4 points)

2. On the Excel spreadsheet for the previous question, write a formula using **IF**, **>** to find the greatest value on C3, C4, C5. Assume that the formula would be placed on C6. Use nested IFs.
Hint: if (C3 is greater than C4, if (C3 is greater than C5, then C3, otherwise, C5), if (C4 is greater than C5, then C4, otherwise C5))

C6: _____

9.3) (4 points)

3. On the spreadsheet below, write an IF function for cell D2 to detect if F2 has a value or not. (hint: use ISBLANK function). If F2 is blank, you should put "Blank" in the destination cell (on D2).

	A	B	C	D	E	F
1						
2					Rate	10%

D2: _____

Initials: _____