Name (print): ____________________________________________

**INSTRUCTIONS:**

- Keep your eyes on your own paper, and do your best to prevent anyone else from seeing your work.
- Do NOT communicate with anyone other than the professor/proctor for ANY reason in ANY language in ANY manner.
- This is exam is closed book, closed notes, no calculator, and no computer.
- Turn all mobile devices off and put them away now. You cannot have them on your desk.
- Write neatly and clearly. What I cannot read, I will assume to be incorrect.
- Stop writing immediately when told to do so at the end of the exam. I will take 5 points off your exam if I have to tell you multiple times to do so.
- Academic misconduct will not be tolerated and will be referred immediately to the Emory Honor Council. Penalties for misconduct will be a zero on this exam, an F grade in the course, and/or other disciplinary action that may be applied by the Emory Honor Council.

**TIME:** This exam has 9 questions on 10 pages including the title page. Please check to make sure all pages are included. You will have 75 minutes to complete this exam.

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*I commit to uphold the ideals of honor and integrity by refusing to betray the trust bestowed upon me as a member of the Emory community. I have also read and understand the requirements and policies outlined above.*

Signature: ____________________________________________

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1. For each of the following terms write a 1-2 sentence explanation/definition.

   (a) (2 points) packet

   (b) (2 points) spear phishing

   (c) (2 points) client

   (d) (2 points) malware

   (e) (2 points) URL or uniform resource locator

   (f) (2 points) zombie computer
2. (8 points) In class and in your readings, the data-information-knowledge continuum was discussed. For each of the following scenarios, give an example of each part of this continuum and illustrate how data, information, and knowledge are inter-related.

   (a) A biological conservation organization which is studying endangered plant species.

   (b) A utility company which wants to bring down average customer power usage during the summer.
3. Given the spreadsheet below, evaluate each of the following formulas. If the formula will
generate an error, you can simply write “error”. You do not need to specify the type of
error. **Use quotation marks to clearly differentiate text from numbers.**

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<td>03:35:00 AM</td>
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<td>3</td>
<td>07/18/05</td>
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(a) (1 point) =MONTH(A2)  
(b) (1 point) =DAY(A3)  
(c) (1 point) =DATE(YEAR(TODAY()), MONTH(A3), DAY(A1))  
(d) (1 point) =IF(MONTH(TODAY()) > MONTH(A1), "Yes", "No")  
(e) (1 point) =TIME(14,12,21)  
(f) (1 point) =HOUR(B2) - MIN(B1)  
(g) (1 point) =SUBSTITUTE(UPPER(A2), "O", "a")  
(h) (1 point) =LEN(A1)  
(i) (1 point) =SEARCH("e", A1)
4. (12 points) Each of the following items is an issue that a business must address in order to design, develop, and deploy its data systems. For each item listed below, give an example which clearly demonstrates why the issue is a crucial one for businesses to consider in their data management strategy.

(a) Data sourcing

(b) Data quality

(c) Data hosting
5. (4 points) List two arguments for and two arguments against net neutrality.

6. (3 points) When visiting websites, we can type in a human-readable address like http://www.google.com or we can type in an address that looks something like http://74.125.224.72. Explain why either of these addresses will work. What system or service allows us to translate human readable addresses to numbers like those above?

7. (6 points) Consider the following web address:
http://news.emory.edu/stories/2013/03/aids_vaccine_200_bicycle_ride/campus.html
Split this address into its components listed below.

- file
- top level domain
- host name
- path
- protocol
- domain
8. (7 points) Define the term “social engineering” and give three examples of how it could be used to compromise an organization’s information security.
9. Consider the database illustrated on the next page which keeps track of employees and what projects there are working on. In this picture, a relationship of “Many” has been illustrated with an infinity symbol.

(a) (2 points) For the Projects table, list one field and one record.

(b) (3 points) You need to be able to track which employees are project managers. How would you modify the database to include this information? Draw your answer on the next page (page 9).

(c) (4 points) Assume a project can have 1 and only 1 manager assigned to oversee it. What is the best way to incorporate this requirement into the database? Draw your answer on the next page (page 9) and justify why your method is the best way to accomplish this requirement.

(d) (5 points) Now assume that a project can be managed by more than 1 manager. In other words, a project may have multiple managers and multiple workers assigned to it. Modify the database to accommodate this managerial structure. Draw your answer on page 10 and justify why your way is the best way to modify the database. If you add new table(s), you do not need to populate it/them with sample data. However, be sure to indicate relationships to other tables correctly.