UNIVERSITY OF GHANA

B.SC INFORMATION TECHNOLOGY, FIRST SEMESTER EXAMINATIONS: 2015/2016
CSIT 303: HUMAN COMPUTER INTERACTION (3 CREDITS)

INSTRUCTION:
Answer Any FOUR (4) Questions

TIME ALLOWED:
TWO AND A HALF (2½) HOURS

Question 1 [25 Marks]

A. Describe the processes of interaction design. **[9 Marks]**

B. Describe your opinion of why collaborative interfaces, such as email, are much more popular than others, such as video-conferencing. **[8 Marks]**

C. Successful designers must be able to go beyond the intuitive judgements and look for helpful guidance. Such guidance is available in the form of guidelines, principles and theories. Explain the differences between design guidelines, principles and theories. Provide one example for each of them. **[8 Marks]**

Question 2 [25 Marks]

A. Iterative design processes are commonly used for interactive systems development. How is iterative design processes performed in the development? **[5 Marks]**

A. Why is it so important to carry out the usability evaluation as early as possible in

the design process? To create a user scenario is important in the design process, why?
[5 Marks]

     A. Why is it important to design interfaces to promote recognition rather than recall?

[5 Marks]

     A. In certain interfaces, it is necessary to inform users of an abnormal condition or time-dependent information. It is important that the display of this information catches the user's attention. Suggest **_FIVE_** ways a designer can successfully attract attention.
[10 Marks]

Question 3 [25 Marks]

     A. Briefly describe the four pillars of user interface design.   **[5 Marks]**

     I. What is meant by user-centered design?   **[5 Marks]**
     II. How does evaluation fit into user-centered design lifecycle?   **[5 Marks]**

     A. Most mobile phones in the market are not designed for elderly people to use. Assuming that you are asked to design one for elderly users who are over 70 to be able to use easily. What kind of methods will you use for the requirement analysis? Why?

[5 Marks]

     I. After the requirement analysis, you made some paper prototype and will evaluate the usability aspect of your design, what kind of methods would you like to use? Why?
[3 Marks]

I. Now we assume that your design has been accepted by Ericsson and they made a first full scale prototype and would like to make the usability evaluation before the mass production started. How would you like to perform the usability evaluation? Why?
[2 Marks]

Question 4 [25 Marks]

A. What is a prototype? Describe an example of prototype.   **[7 Marks]**

A. Describe two reasons why prototypes are essential in interaction design. **[7 Marks]**

A. Give **TWO** reasons why expert reviews are useful. Also give **TWO** limitations of expert reviews.   **[4 Marks]**

A. A company is designing a kiosk that can display weather information in public locations. The kiosk will feature a touch screen so users can select a city by pointing on a map.

Give **_THREE_** reasons why a touch screen is an effective device for this application.
[7 Marks]

Question 5 [25 Marks]

A. What is interaction design? Describe   **TWO** goals of interaction design.

[8 Marks]

A. What is meant by the term Conceptual model? Give **ONE** advantage of conceptual model. **[5 Marks]**

A. Briefly distinguish between perception and cognition. **[4 Marks]**

A. Discuss why it is important to involve users during interaction design process?

[8 Marks]

Question 6 [25 Marks]

A. What is Human Computer Interaction? **[3 Marks]**

A. You have been asked to design a programming environment for use by teachers and school children in rural Ghana that will run on a mobile phone.

I. Describe techniques that you would use to research the requirements of the teachers and children. **[7 Marks]**

II. What factors are likely to be important in assessing whether the environment will be of value to school children? How would you measure and evaluate those factors? **[8 Marks]**

A. Distinguish between user experience and usability. **[2 Marks]**

A. State any **THREE** interaction types. Briefly describe any **ONE** of the mentioned types. **[5 Marks]**