Software Engineering – CS 345

Full Marks: 50 **Time: 2 hrs**

Answer in <u>True/False</u> (no explanation needed). There is negative marking (-1) for each wrong answer. **7*2 = 14**

1. A joystick is an example of an interactive system. F
2. Classical waterfall model is suitable to develop interactive systems. F
3. The spiral model is a meta-model, encompassing other life cycle models. T
4. For system development, we should take care of only functional requirements. F
5. ASQ is a post-session questionnaire whereas QUIS is a post-task questionnaire. F
6. In cognitive walkthrough, evaluators are expected to answer the questions only in "yes" or "no". F
7. DFD is an example of a formal language for code design. F

Answer Q8 – Q12 by selecting the correct option(s). More than one option may be correct. In case of multiple correct options, marks will be awarded only if all the correct options (only) are selected. There is no negative marking. **5*2 = 10**

8. Which of the following can be used to gather functional requirements.
   a. Process flow
   b. Algorithmic approach
   c. Contextual inquiry
   d. Client interview
9. Interface sketches are examples of _____(i)_____ fidelity prototypes; Prototypes created with Microsoft Power Point are examples of _____(ii)_____ fidelity prototypes. (Choose the correct option from below to fill the blanks).
   a. (i) low, (ii) medium
   b. (i) low, (ii) high
   c. (i) high, (ii) low
   d. (i) medium, (ii) low
10. Contextual inquiry can be done in _____ and passive mode. (choose the correct option to fill the blank)
    a. Active
    b. semi-active
    c. neutral
11. DFD stands for
    a. Double flexible diagram
    b. Data flow diagram
    c. Digital flow diagram
12. Which of the following is example(s) of non-functional requirement?
    a. The software must be able to generate monthly reports on user activity.
    b. The software must be able to handle 1000 users simultaneously.
    c. The software must be developed using agile methodology.
    d. The software must be compatible with Microsoft Office.

13. Consider the usability definition proposed by Nielsen. Answer the following. 2+1+2 = 5

a. The "effectiveness" measure of usability defined by ISO is the same as the "efficiency" measure proposed by Nielsen. (true/false) F

b. Utility measure is part of usability measure. (true/false) F

c. The measures of learnability, memorability and errors proposed by Nielsen are already part of the "efficiency" measure of usability as defined by ISO. (true/false) F

14. Consider the eight golden rules of interface design by Ben Shneiderman. Answer the following. 2+3+1 = 6

a. We are designing a GUI with two windows. Both can be closed with a "close" button having the color GREEN. The design violates the golden rule "strive for consistency". (true/false) T

b. In a hierarchical drop-down menu-based interface, there are 12 menu items at the top level, each with a name that clearly explains the task supported by the menu item (e.g., a menu item with the name "save" to indicate that the item can be used to save work). The design violates the guideline "reduce short term memory load". (true/false) F

c. The guideline "offer informative feedback" implies that a good interface should go through perceptible changes after each and every user action on the interface. (true/false) T

15. Consider the model of interaction by Norman. Answer the following. 1+2+2 = 5

a. The execution stage contains three mental actions and one motor action. (true/false) T

b. All the actions in the evaluation stage are motor actions. (true/false) F

c. Gulf of execution happens due to mismatch between our mental actions and the interface design. (true/false) T

16. You are approached by a company dealing with sports goods. The company wants to automate their activities. As part of that, they wish to have a software to manage their inventory. The software should be able to help the company in performing the following. 10

a. Record the arrival of new items.
b. Keep track of the items that are getting sold.
c. Search for availability of items.
d. Prepare inventory status report.

In view of the above requirements, create a functional hierarchy for the software (with clearly defined input and output for each function).