Module/Unit 2 - Cost-Benefit Analysis and System Design

1. The desirable characteristics that every good software design needs are
    a. Correctness
    b. Understandability
    c. Efficiency
    d. Maintainability
    e. All of the above √
2. The purpose of structured analysis is
    a. to capture the detailed structure of the system as perceived by the user √
    b. to define the structure of the solution that is suitable for implementation in some programming language
    c. all of the above
3. Structured analysis technique is based on
    a. top-down decomposition approach √
    b. bottom-up approach
    c. divide and conquer principle √
    d. none of the above
4. Data Flow Diagram (DFD) is also known as a:
    a. structure chart
    b. bubble chart √
    c. Gantt chart
    d. PERT chart
5. The context diagram of a DFD is also known as
    a. level 0 DFD √
    b. level 1 DFD
    c. level 2 DFD
    d. none of the above
6. Decomposition of a bubble is also known as
    a. Classification
    b. factoring √
    c. exploding √
    d. aggregation
7. Decomposition of a bubble should be carried on
    a. till the atomic program instructions are reached
    b. Up to two levels
    c. until a level is reached at which the function of the bubble can be described using a simple algorithm √
    d. none of the above

8. The bubbles in a level 1 DFD represent
    a. exactly one high-level functional requirement described in SRS document
    b. more than one high-level functional requirement
    c. part of a high-level functional requirement
    d. any of the above depending on the problem √
9. By looking at the structure chart, we can
    a. say whether a module calls another module just once or many times
    b. not say whether a module calls another module just once or many times √
    c. tell the order in which the different modules are invoked
    d. not tell the order in which the different modules are invoked √
10. In a structure chart, a module represented by a rectangle with double edges is called
    a. root module
    b. library module √
    c. primary module
    d. none of the above
11. A structure chart differs from a flow chart in which of the following ways
    a. it is always difficult to identify the different modules of the software from its flow chart representation √
    b. data interchange among different modules is not presented in a flow chart √
    c. sequential ordering of tasks inherent in a flow chart is suppressed in a structure chart √
    d. none of the above
12. The input portion in the DFD that transform input data from physical to logical form is called
    a. central transform
    b. efferent branch
    c. afferent branch √
    d. none of the above
13. If during structured design you observe that the data entering a DFD are incident on different bubbles, then you would use:
    a. transform analysis
    b. transaction analysis √
    c. combination of transform and transaction analysis
    d. neither transform nor transaction analysis
14. During structured design, if all the data flow into the diagram are processed in similar ways i.e. if all the input data are incident on the same bubble in the DFD, the one have to use:
    a. transform analysis √
    b. transaction analysis
    c. combination of transform and transaction analysis

d. neither transform nor transaction analysis

15. Which of the following types of bubbles may belong to the central transform ?
    a. input validation
    b. adding information to the input
    c. sorting input √
    d. filtering data
16. During detailed design which of the following activities take place?
    a. the pseudo code for the different modules of the structure chart are developed in the form of MSPECs √
    b. data structures are designed for the different modules of the structure chart √
    c. module structure is designed
    d. none of the above
17. Normally software project planning activity is undertaken
    a. before the development starts to plan the activities to be undertaken during development √
    b. once the development activities start
    c. after the completion of the project monitoring and control
    d. none of the above
18. Which of the following estimations is carried out first by a project manager during project planning?
    a. estimation of cost
    b. estimation of the duration of the project
    c. project size estimation √
    d. estimation of development effort
19. Sliding Window Planning involves
    a. planning a project before development starts
    b. planning progressively as development proceeds √
    c. planning a project after development starts
    d. none of the above
20. A project estimation technique based on making an educated guess of the project parameters (such as project size, effort required to develop the software, project duration, cost etc.) is
    a. analytical estimation technique
    b. heuristic estimation technique √
    c. empirical estimation technique
    d. none of the above
21. An example of single variable heuristic cost estimation model is
    a. Halstead's software science
    b. basic COCOMO model √
    c. intermediate COCOMO model

d. complete COCOMO model

22. Operating systems and real-time system programs can be considered as
    a. application programs
    b. utility programs
    c. system programs √
    d. none of the above
23. Compilers, linkers, etc. can be considered as
    a. application programs
    b. utility programs √
    c. system programs
    d. none of the above
24. Data processing programs are considered as
    a. utility programs
    b. system programs
    c. application programs √
    d. none of the above
25. During project scheduling, resource allocation to different activities is done using which of the following representations?
    a. PERT chart
    b. activity network representation
    c. work breakdown structure
    d. Gantt chart √