

Section I (Marks : 40)

1. Post-test questionnaires (conducted after a usability test) are particularly useful for measuring –

- a) safety.
- b) efficiency.
- c) learnability.
- d) user satisfaction.

2. A pluralistic walkthrough –

- a) is usually conducted at the end of the development process.
- b) is often conducted with low-fidelity designs.
- c) requires a fully functional prototype.
- d) requires having several alternate designs.

3. Which of the following fields is not an influence on HCI?

- a) ergonomics
- b) cognitive psychology
- c) computer science
- d) all of the above are an influence on HCI.

4. Which of the following statements is false?

- a) Norman's logical constraints are one way to implement Nielsen's principle of error prevention.
- b) The help and documentation called for by Nielsen's usability principle form part of Norman's definition of the system image.
- c) Norman's principle of feedback is one way to implement Nielsen's principle of "recognition rather than recall"
- d) All of the above statements are true.

5. Which of the following gestures makes use of a quasi-mode?

- a) Selecting one of the commands (draw, spray paint, etc.) in the tool palette of a paint program.
- b) Using the Ctrl-V shortcut to paste text.
- c) Clicking a link in a web browser.
- d) All of the above make use of quasi-modes.

6. A method that does not require human participants serving as test users is the –
 - a) usability test.
 - b) pluralistic walkthrough.
 - c) Rubin's comparison test.
 - d) heuristic evaluation.

7. The cognitive walkthrough mainly evaluates a product's –
 - a) utility.
 - b) efficiency.
 - c) learnability
 - d) likeability

8. Which of the following statements is true for objects and classes of Eiffel?
 - a) Classes exist only in the software text; objects exist only during the execution of the software.
 - b) Each object is an instance of its generic class.
 - c) An object is deferred if it has at least one deferred feature.

9. When should code inspection be performed if you are using *test-driven development*?
 - a) As soon as the code is written, but before the automated tests are first run
 - b) As soon as possible after most of the automated tests have passed
 - c) After most automated and manual tests have passed
 - d) After all testing is complete

10. Which of the following architectural patterns should be employed in virtually every software system?
 - a) Client-Server
 - b) Layered Architecture
 - c) Service-Oriented Architecture
 - d) Transaction Processing

11. Which of the following is not an Agile Methodologies requirements determination technique?
 - a) Planning Game
 - b) JAD
 - c) Agile Usage-Centered Design
 - d) continual user involvement

12. Which of the following agile values is being used when customers create functional tests for all of the stories that the programmers have subsequently implemented?
- a) Simplicity
 - b) Communication.
 - c) Courage
 - d) Feedback.
13. Which form of coupling can be effectively reduced by the delegation pattern?
- a) External coupling
 - b) Data coupling
 - c) Stamp coupling
 - d) Routine call coupling
14. The Delphi technique is:-
- a) A method for calculating costs algorithmically
 - b) An approach to object-oriented modeling
 - c) A strategy for ensuring that the right number of people work on a project team
 - d) An approach for combining cost estimates from different estimators
15. Location transparency –
- a) allows the movement of resources and clients within a system without affecting the operations of users or programs;
 - b) enables local and remote resources to be accessed using identical operations;
 - c) hides whether a resource is in memory or on disk;
 - d) enables resources to be accessed without knowledge of their location.
16. Regarding to *idempotent* operation,
- a) appending data to a file is an idempotent operation;
 - b) adding a non-zero number to a bank account is not an idempotent operation;
 - c) adding one element to a set is not an idempotent operation;
 - d) none of the above.
17. In making remote procedure call (RPC),
- a) the parameters can be passed by reference and pointer values;
 - b) the parameters can only be passed by value;
 - c) the parameters can be any objects;
 - d) the parameters can only be object references.

18. Which amongst the following is not an advantage of Distributed systems?
- Reliability
 - Incremental growth
 - Resource sharing
 - None of the above.
19. Object-oriented software engineering: -
- Relies on top-down decomposition.
 - Requires the use of the Unified Modeling Language.
 - Promotes continuity of representation from analysis to design to implementation.
 - None of these
20. Virtual inheritance means that: -
- All the member functions of a class support dynamic binding.
 - Subclasses share a common base class part for each inheritance path.
 - Subclasses distinguish the base class part for each inheritance path.
 - None of these.
21. Information hiding: -
- Hides implementation details from the supplier of a class.
 - Keeps all functions or behaviors of a class private.
 - Separates public interface from private implementation.
 - None of these
22. Assertions: -
- Facilitate compile-time checking for program correctness.
 - Facilitate run-time enforcement of client-supplier contracts.
 - Facilitate documentation of user requirements during analysis.
 - None of these
23. A decision table should be used -
- to document all conditional statements
 - to guide the development of the project management plan
 - only when building an expert system
 - when a complex set of conditions and actions appears in a component

24. A program design language (PDL) is often a —
- combination of programming constructs and narrative text
 - legitimate programming language in its own right
 - machine readable software development language
 - useful way to represent software architecture
25. In the context of object-oriented software engineering a component contains —
- attributes and operations
 - instances of each class
 - roles for each actor (device or user)
 - a set of collaborating classes
26. Per-packet load balancing allows the router to send successive data packets over paths without regard to individual hosts or user sessions.
- True
 - False
27. A time-exceeded message is generated if _____.
- the round-trip time between hosts is close to zero
 - fragments of a message do not arrive within a set time
 - the round-trip time between hosts is close to zero and fragments of a message do not arrive within a set time
 - None of the choices are correct
28. The Multicast Open Shortest Path First (MOSPF) protocol is an extension of the OSPF protocol that uses multicast routing to create source-based trees. The protocol is based on _____ routing.
- distance vector
 - link state
 - path vector
 - None of these
29. When a datagram needs to be discarded in a congested network, the decision is based on the _____ field in the base header.
- hop limit
 - priority
 - next header
 - none of these

30. In distance vector routing, each node periodically shares its routing table with _____ and whenever there is a change.
- every other node
 - one neighbor
 - its intermediate neighbors
 - none of these
31. _____ is a supplementary protocol that allows non-ASCII data to be sent through email.
- JPEG
 - MPEG
 - MIME
 - none of these
32. When two computers using IPv6 want to communicate but the packet must pass through an IPv4 region, which transition strategy should be used?
- tunneling
 - header translation
 - either tunneling or header translation
 - none of these
33. In the case of an Object Oriented Database, an extent is which of the following?
- A keyword that indicates that the subclass inherits from a superclass
 - A keyword that indicates that the superclass inherits from a subclass
 - The set of all instances of a class within a database
 - Only one instance of a class within a database
34. In the case of an Object Oriented Database, which of the following is an unordered collection of elements that may contain duplicates?
- Set
 - Bag
 - List
 - Dictionary
35. A heterogeneous distributed database is which of the following?
- The same DBMS is used at each location and data are not distributed across all nodes.
 - The same DBMS is used at each location and data are distributed across all nodes.
 - A different DBMS is used at each location and data are not distributed across all nodes.
 - A different DBMS is used at each location and data are distributed across all nodes.

