

Level: 2

Course Title: Computer Networks

Course Code: IT 221

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Arab republic of Egypt

Ministry of Higher Education

Tanta University

Faculty of Computers and
Information Science

Model 1

Final Exam – 2nd Term 2022/2023

Total Assessment Marks: 60

Choose the correct answer among the choices (only one answer for each question)

- Every device has a dedicated point-to-point link to every other devices is called:
 - Mesh Topology
 - Star Topology
 - Bus Topology
 - Ring Topology
- Transmission media are usually categorized as.....
 - Fixed or unguided
 - guided and unguided
 - determinate or indeterminate
 - metallic and nonmetallic
- Which transmission media has the highest transmission speed in a network?
 - twisted pair cable
 - fiber optic cable
 - coaxial cable
 - electrical cable
- The set of rules to define how to communicate at each layer and how to interface with adjacent layers called:
 - Communications
 - Protocols
 - Application Layer
 - Hardware Layer
- How many layers are present in the Internet protocol stack (OSI model)?
 - 5
 - 6
 - 7
 - 10
- Which of the following layers is an addition to OSI model when compared with TCP/IP model?
 - Application layer and network layer
 - Presentation layer and network layer
 - Session and Presentation layer
 - data link layer and Session layer
- The data link layer takes the packets from _____ and encapsulates them into frames for transmission.
 - network layer
 - physical layer
 - transport layer
 - application layer
- Which of the following are transport layer protocols used in networking?
 - TCP and FTP
 - UDP and HTTP
 - TCP and UDP
 - HTTP and FTP
- Protocols in the provide for communication from an application program on one computer to an application program on another.
 - Presentation Layer
 - Transport Layer
 - Data Link Layer
 - Physical Layer

10. Networking Seems Complex because.....

- a. Computer networking is an active and rapidly changing field
- b. Many technologies exist, and each technology has features that distinguish it from the others.
- c. Technologies can be combined and interconnected in many ways
- d. All of the above

11. Network cable lies on layer

- a. Application
- b. Transport
- c. Physical
- d. Data Link

12. The standard protocol for the Internet is.....

- a. TCP
- b. IP address
- c. IP protocol
- d. TCP/IP

13. User datagram protocol is called connectionless because.....

- a. all UDP packets are treated independently by transport layer
- b. it sends data as a stream of related packets
- c. it is received in the same order as sent order
- d. it sends data very quickly

14. Which of the following communication modes support two-way traffic but in only one direction at a time?

- a. Simplex
- b. Full-duplex
- c. Half-duplex
- d. All of the above

15. Message paradigm runs over.....

- a. IP
- b. UDP
- c. TCP
- d. FTP

16.is a connection oriented data service that provides a reliable loss free end to end connection.

- a. TCP
- b. UDP
- c. SDU
- d. PDU

17. A 4 byte IP address consists of.....

- a. only network address
- b. only host address
- c. network address & host address
- d. network address & MAC address

18. Port address is a address represented by one decimal number ranged from 0 to 65535.

- a. 16-bit
- b. 32-bit
- c. 64-bit
- d. 128-bit.

19. Logical addresses are

- a. 16-bit
- b. 32-bit
- c. 64-bit
- d. 128-bit.

20. The addresses written as 12 hexadecimal digits (6-byte) e.g. 07:01:02:01:2C:4B is called

- a. Physical Addressing
- b. Logical Addressing
- c. Port Addressing
- d. Specific Addressing

21. In TCP, sending and receiving data is done as.....

- a. Stream of bytes
- b. Sequence of characters
- c. Lines of data
- d. discrete messages



22. Which of the following is false with respect to UDP?

- a. Connection-oriented
- b. Unreliable
- c. Transport layer protocol
- d. Low overhead

23. The checksum of 1111 and 1111 is.....
- a. 0000 b. 1111 c. 1110 d. 0111
24. "Parity bits" are used for which of the following purposes?
- a. Encryption of data b. To transmit faster
c. To detect errors d. To identify the user
25. Which error detection method uses one's complement arithmetic?
- a. CRC b. Checksum
c. Simple parity check d. Two-dimensional parity check
26. In cyclic redundancy checking, the divisor is the CRC.
- a. one bit less than b. one bit more than
c. the same size as d. None of the above
27. Which error detection method consists of just one redundant bit per data unit?
- a. CRC b. Checksum
c. Simple parity check d. Two-dimensional parity check
28. If the Hamming distance between a dataword and the corresponding codeword is three, there are..... bits in error.
- a. 5 b. 4 c. 3 d. 6
29. We add r redundant bits to each block to make the length $n = k + r$.
The resulting n -bit blocks are called.....
- a. codewords b. datawords
c. blockwords d. None of the above
30. The Hamming distance between 100 and 001 is.....
- a. 0 b. 1 c. 2 d. 3
31. Suppose the following block of 16 bits (10101001 00111001) is to be sent using a checksum of 8 bits.
The numbers are added using one's complement is.....
- a. 00011101 b. 11100010
c. 11010101 d. 11110000
32. A network has an address of 149.61.10.22. This class is.....
- a. class A b. Class B c. Class C d. Class D
33. A network has an address start with 1 1 0 follows by 21 bits prefix then 8 bits suffix called:
- a. class A b. Class B c. Class C d. Class D
34. IPv4 uses addresses while IPv6 uses addresses:
- a. 4 byte 8 byte b. 8 byte 16 byte
c. 4 byte 32 byte d. 4 byte 16 byte
35. Which class of IP address has the most host addresses available by default?
- a. Class A b. Class B c. Class C d. Both b and c
36. What is the maximum number of IP addresses that can be assigned to hosts on a local subnet that uses the 255.255.255.224 subnet mask?
- a. 14 b. 16 c. 30 d. 32

37. What is the subnetwork address for a host with the IP address 200.10.5.68/28?
a. 200.10.5.64 b. 200.10.5.56 c. 200.10.5.32 d. 200.10.5.0
38. Which address prefix range is reserved for IPv4 multicast?
a. 240.0.0.0 – 254.255.255.255 b. 224.0.0.0 – 239.255.255.255
c. 169.254.0.0 – 169.254.255.255 d. 127.0.0.0 – 127.255.255.255
39. How many host addresses are available on the 192.168.10.128/26 network?
a. 16 b. 32 c. 62 d. 64
40. The IP network 192.168.50.0 is to be divided into 10 equal sized subnets. Which of the following subnet masks can be used for the above requirement?
a. 255.243.240 b. 255.255.0.0 c. 255.255.255.0 d. 255.255.255.255

With best wishes
Dr. Moustafa El-Ashry

	TANTA UNIVERSITY FACULTY OF COMPUTERS AND INFORMATICS		
	EXAMINATION FOR (LEVEL 3) COURSE TITLE: CLOUD COMPUTING NETWORKS		
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Q1) Choose The Correct Answer

1. What is Software Engineering?

- a) Designing a software b) Testing a software c) None of the above

d) is an engineering branch related to the evolution of software product using principles and techniques

2. _____ is a software development activity that is not a part of software processes.

- a) Validation b) Specification c) Development d) **Dependence**

3. ----- are processes where all of the process activities are planned in advance

- a- agile b- Incremental c- Prototyping d- **Plan-driven processes**

4. waterfall model is a ----- model while Incremental model is a-----

- a- agile/ Plan-driven b- Incremental/ Plan-driven c- agile/ agile d- **Plan-driven/ agile**

5. what is the fit model you will choose for enhancing the old software?

- a- **waterfall** b- Incremental c- Prototyping d- agile

6. what is the fit model you will choose for building an unclear software?

- a- waterfall b- Incremental c- **Prototyping** d- agile

7- you can use more than model to develop a new software

- a- **true** b- false

8- all software models can be used for building all types of software without restrictions

- a- true b- **false**

9- What is a Functional Requirement?

- a) **specifies the tasks the program must complete** b) specifies the tasks the program should not complete
c) specifies the tasks the program must not work d) All of the mentioned

10-is intended to show that a system conforms to its specification and meets the requirements of the system customer

- a. Verification b. Validation c- **a and b** d- analyzing

11- What are agile manifesto principles?

- a) Customer satisfaction b) Face-to-face communication within a development team
c) Changes in requirements are welcome d) **All of the mentioned**

12- Agile Software Development is based on which of the following type?

- a) Iterative Development b) Incremental Development
c) **Both Incremental and Iterative Development** d) Linear Development

13- _____ is an indirect measure of software development process.

- a) Cost b) Effort Applied c) Efficiency d) **All of the mentioned**

14- Software Debugging is known as _____

- a) identifying the task to be computerized b) creating program code
c) creating the algorithm d) **finding and correcting errors in the program code**

15- The spiral model has two dimensions namely _____ and _____

- a) diagonal, angular b) radial, perpendicular c) **radial, angular** d) diagonal, perpendicular

16- Identify the disadvantage of Spiral Model.

- a) Doesn't work well for smaller projects b) **High amount of risk analysis**
c) Strong approval and documentation control d) Additional Functionality can be added at a later date

17- What is the first step in the software development lifecycle?

- a. System Design b. Coding c. System Testing d. **Preliminary Investigation and Analysis**

18- Software maintenance costs are expensive in contrast to software development.

- a. **True** b. False

19. Which one of the following is not a step of requirement engineering?

- a) elicitation b) **design** c) analysis d) documentation

20- Model selection is based on _____.

- a- Requirements b- Development team & users
c- Project type & associated risk d- **All of the above**

21-Which of the following models doesn't necessitate defining requirements at the earliest in the lifecycle?

- a-RAD & Waterfall b-Prototyping & Waterfall c-Spiral & Prototyping
d-Spiral & RAD

22-Model-driven engineering is nothing but a theoretical concept. It can never be transmuted into a working/executable code.

- a-True b-False

23- What is the main intent of project metrics?

- a-For strategic purposes b-To minimize the development schedule.
c-To evaluate the ongoing project's quality on a daily basis
d-To minimize the development schedule and evaluate the ongoing project's quality on a daily basis

24- the next requirement apply the SMART rule. "I want to be healthy"

- a-true b-false

25-All 5 Elicitation Techniques can be used for all types of software development

- a-true b-false

26- in functional requirements "Requirements should not contain design and implementation details"

- a-true b-false

27- Failing to meet non-functional requirements can result in systems that fail to satisfy user needs

- a-true b-false

28- Non-Functional Requirements should include-----

- a-Performance b-Portability c-Reliability d-all

29-----is a process through which the customers, buyers, or users of a software system discover, reveal, articulate, and understand their requirements

- a-Feasibility Study b-Requirements elicitation
c-Requirements analysis d-Requirements specification

30- good requirements should be corrected and unnecessary

- a-true b-false

31- ----- is one of requirements elicitation methods which is a Systems Development Methodology (SDM) within which a paradigm is constructed, tested, and then reworked

- a- Prototyping b-Workshops c-Interviews d-Surveys

32- -----is one of requirements elicitation methods which provide an efficient way to collect large amounts of in-depth data quickly

- a- Prototyping b-Workshops c-Interviews d-Surveys

33- A stakeholder is anyone who will purchase the completed software system under development.

- a) True b) False

34-Use case descriptions consist of interaction_____?

- a) Use case b) product c) Actor d) Product & Actor

35- ----- a collection of related success and failure scenarios, describing actors using the system to support a goal



- a)use case b)class diagraph c)ULM d)object diagraph

36- use case diagraph is used in coding stages

- a-Ture b-false

Good luck

Dr. Aida Nasr

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- 37- A _____ is an ordered sequence of interactions between the actor(s) and the system to accomplish a goal.
 A) goal B) system C) **scenario** D) system boundary
- 38- We can combine actors at the same time through _____.
 A) specialization B) **generalization** C) both A & B D) nether A or B
- 39-Major use cases are identified by analyzing business _____.
 A) processes B) functions C) activities D) **all of them**
- 40- _____ diagram in UML shows a complete of a modeled system at a specific time.
 A) Sequence B) Collaboration C) Class D) **Object**
- 41- The ___ is a set of notations and conventions used to describe and model an application.
 a- waterfall b- prototype c- **Unified Modeling Language (UML)** d-all
- 42- The term ___ means a combination of data and logic that represents some real-world entity. A- class
 b-**Object** c-role d-case
- 43 ___ represent the state of an object.
 a-method b-function c-**properties** d-class
- 44- ___ is the property of object oriented systems that allows objects to be built from other objects.
 a-**Inheritance** b- aggregation c-composition d- dependency
- 45- UML diagraph is used in design stage
 a-**Ture** b-false
- 46- The ___ view of a system encompasses the nodes that form the system's hardware topology on which the system executes.
 a)**Deployment** b-design c-coding d-development
- 47-UML is useful to _____ a system as it is or as we want it to be.
 A) Visualize B) Specify C) Document D) All of the above
- 48-A collection of operations that specify the services rendered by a class or component known as _____
 A) Class B) Interaction C) **Interface** D) Collaboration
- 49-Associations _____
 A) May exist only between actors and use cases
 B) Identify the flow of data between actors and use cases
 C) Identify interactions between actors and use cases
 D) Identify dependencies between actors and use cases
- 50) which of the following true about design pattern?
 a-design pattern is used for document the system
 b-design pattern for reusing the system design
 c-design pattern is used for coding the programs
 d-a and b
- 51) design pattern is used for new systems only
 a-true b-**false**
- 52) Patterns help you build on the collective experience of skilled software engineers.
 a-**true** b-false

53) we can add comments in class diagram

a-true b-false

54) Association in class diagram includes

a- dependency b- aggregation c- inheritance **d-a and b**

55) Design patterns make the system testing phase easy

a-true b-false

56) Verification and validation (V & V) is intended to show that a system conforms to its specification and meets the requirements of the system customer

a-true b-false

57) testing process is used for coding operation only

a-true **b-false**

50) which of the following false about design pattern?

a-design pattern is used for document the system

b-design pattern for reusing the system design

c-design pattern is used for coding the final programs

d-a and b

13. _____ is an abstraction of a set of functions that the system performs.

A) Class B) Interaction C) Use case D) Collaboration

18. A link is an instance of _____

A) Generalization **B) Association** C) Dependency D) Realization

23. UML interfaces are used to _____

A) Define an API for all classes
B) Program in Java, but not in C++ or Smalltalk
C) Define executable logic to reuse across classes
D) Specify required services for types of objects



33. _____ represented by In UML diagrams, relationship between component parts and object.

A) ordination
B) aggregation
C) segregation
D) increment

which of these compartments divided in class?

A) Name
B) Attribute
C) Operation

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D) All of the mentioned

which of the following attribute is a data item held by?

A) Class

B) Object

C) All of the mentioned

D) None of the mentioned

11. Which one is used to display a set of objects and their relationships?

A) Object diagram

B) Class diagram

C) Use case diagram

D) Activity diagram

E) All of the above

19. What are the notations for the Use case Diagrams?

A) Use case

B) Actor

C) Prototype

D) Use case and Actor

25. A UML diagram that facilitates requirements gathering and interacts between system and external users, is called as

A) Flowchart diagram

B) Sequence diagram

C) Use case diagram

D) Data flow diagram

28. Associations _____

A) May exist only between actors and use cases

B) Identify the flow of data between actors and use cases

C) Identify interactions between actors and use cases

D) Identify dependencies between actors and use

33. _____ represented by In UML diagrams, relationship between component parts and object.

A) ordination

B) aggregation

C) segregation

D) increment

34. which type they considered Activity diagram, use case diagram, collaboration diagram, and sequence diagram?

A) non-behavioral

B) non-structural

C) structural

D) behavioral

14. What is UML?

A) UML is Unified Modeling Language.

- B) Graphical language for visualizing artifacts of the system.
- C) Allow to create a blue print of all the aspects of the system.