



قائمة الاسئلة

اساسيات على
امتحان نهاية الفصل الدراسي الثاني - للعام الجامعي 1446 هـ - الموافق 2025/2024 م-كلية الحاسوب وتكنولوجيا المعلومات ::
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- 1) It is a set of steps that defines how a task is performed:
 - 1) - Coding
 - 2) - Program
 - 3) + Algorithm
 - 4) - Software
- 2) the algorithm for performing the task must be represented in a form that is compatible with the machine, that representation is called:
 - 1) + Program
 - 2) - Encoding
 - 3) - Software
 - 4) - Computing
- 3) computer programs are:
 - 1) - Printed on paper
 - 2) - Encoded in manner compatible with technology of machine
 - 3) - Displayed on computer screen
 - 4) + all of above
- 4) the process of developing a program encoding, and inserting it into a machine
 - 1) - decode
 - 2) + coding
 - 3) - hardware
 - 4) - algorithm
- 5) programs and algorithms are collectively called, but machinery itself is called
 - 1) + software, hardware
 - 2) - software, programing
 - 3) - hardware, programing
 - 4) - none of above
- 6) what will happen if no algorithm exists for solving a problem:
 - 1) - the solution depends on the level intelligence
 - 2) - we can construct a machine to perform the task
 - 3) + the solution of problem lies beyond the capabilities of machine
 - 4) - none of above
- 7) one of the earlier computing devices was..., and the positions of beads moved back and forth on the rods represent...
 - 1) - abacus, remainder value
 - 2) + abacus, stored value
 - 3) - abacus, returns value
 - 4) - PC, stored value
- 8) what is the company that develop the software of PC
 - 1) - android
 - 2) - MAC
 - 3) + Microsoft
 - 4) - none of above
- 9) the ability to connect individual computers in worldwide system is called
 - 1) + internet
 - 2) - W.W.W
 - 3) - search engines



- 4) - google
- 10) the system by which documents stored on computers throughout the internet could be linked together producing maze of linked information called
- 1) - PC
 - 2) - internet
 - 3) - Microsoft
 - 4) + world wide web
- 11) Abstraction, creativity and internet are from
- 1) + The seven big ideas of computer science.
 - 2) - Application of technology.
 - 3) - Global economics.
 - 4) - Mechanical engineering.
- 12) science of algorithms drawing from such divers subjects as
- 1) - Mathematics
 - 2) - Engineering
 - 3) - Psychology
 - 4) + all of above
- 13) It refers to the distinction between the external properties of an entity and details of the entity's external compositions :
- 1) - Impact
 - 2) + Abstraction
 - 3) - Algorithm
 - 4) - all of above
- 14) Abstraction is not limited to science and technology.
- 1) + True.
 - 2) - False.
- 15) Algorithms can process or transform digitally represented information in only one way.
- 1) - True.
 - 2) + False.
- 16) Computer hardware is capable of executing only relatively complex algorithmic steps.
- 1) - True.
 - 2) + False.
- 17) The internet has profound implications for our privacy and security of our information so and are important in our connected world.
- 1) + Cryptography, cybersecurity
 - 2) - Programming, cybersecurity
 - 3) - Cryptography, programming
 - 4) - none of above
- 18)central role of algorithm in computer science .
- 1) - Limitations
 - 2) - Application
 - 3) - Execution
 - 4) + all of above
- 19) Computer science has enormous social repercussions.
- 1) + True.
 - 2) - False.
- 20) To deal with the dilemmas posed by advancing computer technology is not important for those outside its immediate realm.
- 1) - True.



- 2) ☒ False.
- 21) All digitals are represented by :
- 1) ☐ byte
 - 2) ☒ bit
 - 3) ☐ all of above
 - 4) ☐ none of above
- 22) Boolean operations are :
- 1) ☐ represent 1's as True. and 0's as True..
 - 2) ☐ represent 1's as False. and 0's as True..
 - 3) ☒ represent 1's as True. and 0's as False..
 - 4) ☐ represent 1's as False. and 0's as False..
- 23) A device that computes a Boolean operation :
- 1) ☐ gate
 - 2) ☐ logical gate
 - 3) ☒ all of above
 - 4) ☐ none of above
- 24) A circuit built from gates that can store one bit :
- 1) ☒ flip-flops
 - 2) ☐ RAM
 - 3) ☐ SD card
 - 4) ☐ ROM
- 25) Main memory is organized in manageable units called :
- 1) ☐ byte
 - 2) ☐ bit
 - 3) ☐ none
 - 4) ☒ cells
- 26) In computer's main memory each cell is identifies in uniquely "name" called :
- 1) ☐ place
 - 2) ☒ address
 - 3) ☐ heading
 - 4) ☐ all of above
- 27) computer's main memory is often called :
- 1) ☐ Read Only Memory
 - 2) ☒ Random access memory.
 - 3) ☐ Mass memory
 - 4) ☐ Secondary storage.
- 28) DRAM stand for :
- 1) ☒ Dynamic memory
 - 2) ☐ Double memory.
 - 3) ☐ all of above
 - 4) ☐ none of above
- 29) In most modern computers RAM is constructed :
- 1) ☐ analogous
 - 2) ☐ parallel
 - 3) ☒ all of above
 - 4) ☐ none of above
- 30) the binary system is based on power :
- 1) ☐ ten
 - 2) ☒ two



- 3) - eight
4) - sixteen
- 31) mass storage is :
1) ☒ secondary storage.
2) - main memory.
3) - all of above
4) - none of above
- 32) track is divided into small arcs called :
1) - cylinder
2) ☒ sectors
3) - all of above
4) - none of above
- 33) ASCII stand for :
1) ☒ American Standard Cade For Information Interchange.
2) - American National Standard Institute.
3) - American Standard Cade For Interchange.
4) - American Standard Cade For Information.
- 34) All of the following is image compassing except :
1) - GIF
2) ☒ MPEG
3) - JPEG
4) - TIFF
- 35) A circuit that traps electrons in tiny silicon dioxide chambers :
1) ☒ flash memory.
2) - SD cards.
3) - RAM.
4) - floppy disk.
- 36) 2^{10} byte equal :
1) ☒ kilobyte
2) - megabyte
3) - gigabyte
4) - terabyte
- 37) bit patterns are used to represent information such as :
1) - numbers
2) - images
3) - sounds
4) ☒ all of above
- 38) the left end bit of the conceptual row of bits in a main memory cell called :
1) - A.least signification bit.
2) ☒ B.most signification bit.
3) - C.high-order end.
4) - D.both b&c.
- 39) All the following Boolean's operation except :
1) - AND
2) - OR
3) - NOT
4) ☒ none of above
- 40) Flash drives , floppy disks , SD cards and DVDs are kind of :
1) - A.main memory.



- 2) - B.mass storage.
 - 3) - C.secondary storage.
 - 4) ☒ D.both b&c.
- 41) it is the software that controls the overall operations of a computer
- 1) - application software
 - 2) - utility programs
 - 3) ☒ operating system
 - 4) - the users themselves
- 42) UNIX is an operating system which used in:
- 1) - mobile devices
 - 2) ☒ large computer systems as well as PCs
 - 3) - apple's mac machines
 - 4) - it is not an operating system
- 43) What does "FIFO" means :
- 1) ☒ First In First Out
 - 2) - First closed First In
 - 3) - For Out For In
 - 4) - Form in Form out
- 44) a very famous open source operating system :
- 1) - Mac OS
 - 2) - Android
 - 3) - Windows
 - 4) ☒ Linux
- 45) System software are categorized into:
- 1) - Applications and System
 - 2) ☒ Utility and operating system
 - 3) - none of these answers is correct
 - 4) - productivity and games
- 46) the operating system is constructed of:
- 1) - Applications and System
 - 2) - Utility and Operating systems
 - 3) ☒ User Interface and Kernel
 - 4) - productivity and games
- 47) what are embedded systems:
- 1) - systems used in PCs
 - 2) - systems used in servers
 - 3) ☒ systems used in devices that are dedicated to specific tasks
 - 4) - open source systems
- 48) software is categorized into :
- 1) ☒ Applications and System
 - 2) - Utility and Operating systems
 - 3) - User Interface and Kernel
 - 4) - productivity and games
- 49) the internal part of an operating system is called:
- 1) ☒ kernel
 - 2) - Utility programs
 - 3) - User Interface
 - 4) - applications
- 50) the boot loader is permanently stored in:



- 1) - RAM
 - 2) ☒ ROM
 - 3) - Hard disk
 - 4) - floppy disk
- 51) ROM is :
- 1) ☒ Read Only Memory
 - 2) - Random Accesses Memory
 - 3) - Read On Memory
 - 4) - Rewrite Only Memory
- 52) RAM is :
- 1) - Read Only Memory
 - 2) ☒ Random Accesses Memory
 - 3) - Read All Memory
 - 4) - ROM And Memory
- 53) the person who gains highly privileged access to the operating system :
- 1) - whose account is a user account
 - 2) - the one that does not login
 - 3) ☒ who log in as the administrator
 - 4) - anyone
- 54) used to control access to the operating system :
- 1) ☒ login
 - 2) - game console
 - 3) - power supply
 - 4) - access cannot be controlled
- 55) which one of these passwords is an example of a strong password :
- 1) - rola
 - 2) - 12345678
 - 3) - mypassword
 - 4) ☒ CA2tan4D&&DoG%103
- 56) time slice typically measured in:
- 1) - grams
 - 2) ☒ milliseconds or microseconds
 - 3) - meters
 - 4) - hours
- 57) acts as an interface between the user and the operating system:
- 1) ☒ graphical user interface
 - 2) - kernel
 - 3) - algorithm
 - 4) - search engine
- 58) a chain of directories within directories is called :
- 1) - user
 - 2) ☒ directory path
 - 3) - windows
 - 4) - mouse
- 59) GUI means:
- 1) - algorithm
 - 2) - network
 - 3) ☒ Graphical User Interface
 - 4) - monitor



- 60) an important component within today's GUI shells :
- 1) ☒ windows manager
 - 2) ☐ PlayStation
 - 3) ☐ iPod
 - 4) ☐ CPU
- 61) Wireless disadvantage is:
- 1) ☐ not expensive
 - 2) ☐ easy to use
 - 3) ☐ ease of installation
 - 4) ☒ not safe
- 62) Wireless advantages is
- 1) ☐ not expensive
 - 2) ☐ easy to use
 - 3) ☐ slow
 - 4) ☒ a&b
- 63) Wireless area network – w Lan like:
- 1) ☒ Wi-Fi
 - 2) ☐ WiMAX
 - 3) ☐ GSM
 - 4) ☐ BLUETOOTH
- 64) Wireless metropolitan network–w man like:
- 1) ☐ Wi-Fi
 - 2) ☒ WiMAX
 - 3) ☐ GSM
 - 4) ☐ BLUETOOTH
- 65) wireless personal area network – w pan:
- 1) ☐ Wi-Fi
 - 2) ☐ WiMAX
 - 3) ☐ GSM
 - 4) ☒ BLUETOOTH
- 66)is a kind of wireless network interface card – WNIC:
- 1) ☒ USB – PCI – PCMCIA .
 - 2) ☐ W_repeater
 - 3) ☐ AP
 - 4) ☐ USB
- 67) It is used to strengthen the signal:
- 1) ☐ W_ROUTER .
 - 2) ☒ W_repeater
 - 3) ☐ AP
 - 4) ☐ USB
- 68) It is used to decompress and congest the network:
- 1) ☐ W_ROUTER .
 - 2) ☐ W_repeater
 - 3) ☐ AP
 - 4) ☒ The bridge.
- 69) It is used to connect different networks:
- 1) ☒ W_ROUTER .
 - 2) ☐ W_repeater
 - 3) ☐ AP



- 4) - USP
- 70) It is used to transmitting and receiving:
- 1) - W_ROUTER .
 - 2) - W_repeater
 - 3) ☒ AP
 - 4) - USP
- 71) the AP can act as DHCP server:
- 1) ☒ True.
 - 2) - False.
- 72) It is to connect all devices with each other via a wireless network card only, without the need for an access point AD_HOC:
- 1) ☒ True.
 - 2) - False.
- 73) factors negatively affecting net work:
- 1) - Lots of clients
 - 2) - Difficulty spotting errors
 - 3) - Cutting or bending wires or cables
 - 4) ☒ all of above
- 74) The Internet is a global network that connects thousands of different types of networks around the world with each other:
- 1) ☒ True.
 - 2) - False.
- 75) The factors that make the internet insecure and vulnerable to hackers can be:
- 1) - Computer viruses.
 - 2) - Adware.
 - 3) - Spy ware
 - 4) ☒ all of above
- 76) is a program that enters legitimately upon permission to install it and steals confidential files and numbers from your device:
- 1) - Worms viruses.
 - 2) - Time Bombs.
 - 3) ☒ Trojan horse viruses
 - 4) - none of above
- 77)is a network device or software for controlling network security and access rules.:
- 1) - Worms viruses.
 - 2) - Time Bombs.
 - 3) - Trojan horse viruses
 - 4) ☒ Fire wall.
- 78) global data are data items that are automatically available to all modules throughout the system.
- 1) ☒ True.
 - 2) - False.
- 79) it is a type of net work of known as Ethernet:
- 1) - WAN
 - 2) ☒ LAN
 - 3) - MAN
 - 4) - PAN
- 80) are a types of net works:
- 1) - WAN , PAN , CAN
 - 2) - LAN , SAN , P2P



- 3) - MAN , VAN , client server net work
- 4) ☒ all of above
- 81) The steps of an algorithm are:
- 1) ☒ sequenced
- 2) - non-sequential
- 3) - random
- 4) - untidy
- 82) Primitive algorithm is:
- 1) - A high-level cryptographic algorithm.
- 2) ☒ A low-level cryptographic algorithm used as a basic building.
- 3) - all of above
- 4) - none of above
- 83) A programming language is:
- 1) ☒ A collection of primitive with a collection of rules.
- 2) - A collection of high-level cryptographic algorithm.
- 3) - all of above
- 4) - none of above
- 84) A notational system in which ideas can be expressed informally:
- 1) - Code
- 2) - Execute code.
- 3) ☒ Pseudocode
- 4) - none of above
- 85) We use if-else statement for:
- 1) - Stopping program.
- 2) - Repetition
- 3) ☒ Condition
- 4) - none of above
- 86) Iterative structures are:
- 1) ☒ A collection of instructions is repeated in a looping manner.
- 2) - A collection of instructions which is not repeating.
- 3) - all of above
- 4) - none of above
- 87) A collection of instructions is called:
- 1) - The body of instructions.
- 2) - The body of algorithm.
- 3) ☒ The body of loop.
- 4) - none of above
- 88) A simple sorting algorithm builds the final sorted array one item at a time by comparisons:
- 1) - Bubble sort.
- 2) - Selection sort.
- 3) ☒ Insertion sort.
- 4) - none of above
- 89) A simple sorting begins by choose the smallest entry in the list and moving it to the front:
- 1) - Bubble sort.
- 2) ☒ Selection sort.
- 3) - Insertion sort.
- 4) - none of above
- 90) Type of sorting is based on the process of repeatedly comparing two adjacent elements and interchange them if they are not in correct order:



- 1) ☒ Bubble sort.
 - 2) ☐ Selection sort.
 - 3) ☐ Insertion sort.
 - 4) ☐ none of above
- 91) A variation of pascal casing is called.....
- 1) ☒ camel casing
 - 2) ☐ base case
 - 3) ☐ degenerative case
 - 4) ☐ none of above
- 92) A proof of correctness proceeds by identifying statement called.....
- 1) ☐ postconditions.
 - 2) ☐ primitive
 - 3) ☒ assertion
 - 4) ☐ none of above
- 93) A recursive function is designed to test for the termination condition called.....
- 1) ☐ base case
 - 2) ☐ degenerative case
 - 3) ☒ all of above
 - 4) ☐ none of above
- 94) The reason why the algorithm is known as the binary search is.....
- 1) ☒ divide_by_two approach
 - 2) ☐ divide_by_three approach
 - 3) ☐ divide_by_four approach
 - 4) ☐ divide_by_five approach
- 95) The notation used to identify the classes is sometimes called.....notation.
- 1) ☐ bubbel
 - 2) ☐ selection
 - 3) ☐ recursion
 - 4) ☒ big_theta
- 96) A set of steps that define how a task is performed is an.....
- 1) ☐ analysis
 - 2) ☐ test
 - 3) ☒ algorithm
 - 4) ☐ none of above
- 97) The algorithm is known as
- 1) ☐ binary search
 - 2) ☐ liner search
 - 3) ☐ sequential search
 - 4) ☒ all of above
- 98) The.....loop is pretest loop &theis posttest.
- 1) ☐ for -while
 - 2) ☒ while -do while
 - 3) ☐ do while -while
 - 4) ☐ none of above
- 99) A proof of correctness bring with assumption that certain condition called.....
- 1) ☒ precondition
 - 2) ☐ postconditione
 - 3) ☐ assertions
 - 4) ☐ both a&c



- 100) The first step to solve a problem is to.....
- 1) - carry out the plane
 - 2) - devise a plan for solving the problem
 - 3) ☒ understand the problem
 - 4) - evaluate the program for accuracy
- 101) A part of the most large software engineering efforts:
- 1) ☒ version control system
 - 2) - Tools of the Trade
 - 3) - Dataflow
 - 4) - Data dictionary
- 102) Tool that has been used for years by software:
- 1) - Dataflow diagram
 - 2) ☒ Data dictionary
 - 3) - association
 - 4) - none of above
- 103) The more modern collection tool Known as :
- 1) - SQA
 - 2) - CRC
 - 3) ☒ UML
 - 4) - GOMS
- 104) Predeveloped model for solving a recurring problem in software design:
- 1) ☒ design pattern
 - 2) - class diagram
 - 3) - life line
 - 4) - none of above
- 105) Develop a set of test data that insures in the software is executed at least once:
- 1) - life line
 - 2) ☒ basic bath
 - 3) - beta testing
 - 4) - alpha testing
- 106) Example of black box testing is the technique called:
- 1) - pareto principle
 - 2) - basis bath
 - 3) - equivalence classes
 - 4) ☒ boundary value analysis
- 107) Methodology that allows the actions of human using an interface to be analyzed
- 1) - SQA
 - 2) - CRC
 - 3) - UML
 - 4) ☒ GOMS
- 108) explain the feature of the software and describe how to use them :
- 1) - system document
 - 2) ☒ user documentation
 - 3) - basic bath
 - 4) - none of above
- 109) describe the software's internal composition so that the software can be maintained later in it's life cycle :
- 1) ☒ system document
 - 2) - user documentation
 - 3) - basic bath



- 4) - none of above
- 110) CRC means
- 1) - Cyclic Redundancy check
 - 2) ☒ Class-responsibility-collaboration
 - 3) - computer market
 - 4) - none of above
- 111) By whom is unit testing done?
- 1) - User
 - 2) - Customers
 - 3) ☒ Developers
 - 4) - none of above
- 112) Which of the following is the first step of software life cyclin?
- 1) - Implementation
 - 2) - Design
 - 3) ☒ Requirements Analysis
 - 4) - Testing
- 113) With reference to waterfall model, each phase must be completed before the _____ can begin and there is no overlapping in the phases.
- 1) - previous phase
 - 2) ☒ next phase
 - 3) - all of above
 - 4) - none of above
- 114) Users normally interact with the system via user interface provided by the application software
- 1) ☒ True.
 - 2) - False.
- 115) Which of the following is an advantage of open source software?
- 1) ☒ you can edit the source code
 - 2) - you need to be an expert to edit code
 - 3) - you have to pay
 - 4) - can sometimes be too generic for specialist purpose
- 116) modularity is the division of software into manageable units, each of them deals with only a part of the software's overall responsibility.
- 1) ☒ True.
 - 2) - False.
- 117) A stronger form of cohesion is known as functional cohesion
- 1) ☒ True.
 - 2) - False.
- 118) A weak form of cohesion is known as logical cohesion.
- 1) ☒ True.
 - 2) - False.
- 119) The name for the way that computers manipulate data into information is called:
- 1) - programming
 - 2) ☒ processing
 - 3) - organizing
 - 4) - storing
- 120) _____ are data items that are automatically available to all modules throughout the system, as opposed to _____ items that are accessible only within a particular module unless explicitly passed to another.
- 1) ☒ global data, local data
 - 2) - local data, global data



- 3) - information, local data
4) - information, global data
- 121) A collection of data that is multidimensional.
1) ☒ Database
2) - Sequential file.
3) - Metadata.
4) - none of above
- 122) An information about other kind of data.
1) - Database
2) - File system
3) ☒ Metadata.
4) - none of above
- 123) A description of only that portion of the database pertinent to a particular user's needs.
1) - Schema
2) ☒ Subschema
3) - Metadata.
4) - none of above
- 124) DBMS is a shortcut for:-
1) - Database Manger System.
2) - Database Manger Software.
3) ☒ Database Management System.
4) - Database Management Software.
- 125) A software layer that manipulates a database in response to requests from applications.
1) ☒ DBMS
2) - File system.
3) - Database
4) - none of above
- 126) Dividing the attributes of a relation into two or more relations.
1) ☒ Decomposition
2) - Select
3) - Project
4) - Join
- 127) A list of key values and the location of their associated record.
1) - Locking
2) ☒ Index
3) - Hashing
4) - Collision
- 128) Preventing others from accessing data being used by a transaction.
1) ☒ Locking
2) - Index
3) - Hashing
4) - Collision
- 129) A technique that provides similar access without such overhead.
1) - Locking
2) - Index
3) ☒ Hashing
4) - Collision
- 130) Deals with identifying properties that divide two groups.
1) - Class description.



- 2) ☒ Class discrimination.
- 3) ☐ Association analysis
- 4) ☐ Outlier analysis.
- 131) Deals with identifying properties that characterize a given group of data items.
- 1) ☒ Class description.
- 2) ☐ Class discrimination.
- 3) ☐ Association analysis
- 4) ☐ Outlier analysis.
- 132) Data definition language is.
- 1) ☒ DDL
- 2) ☐ DDI
- 3) ☐ BDL
- 4) ☐ DLD
- 133) Data manipulation language is.
- 1) ☐ DIM
- 2) ☐ DMC
- 3) ☒ DML
- 4) ☐ DLM
- 134) SQL is a shortcut for.
- 1) ☐ Statement query language.
- 2) ☒ Structure query language.
- 3) ☐ Statement quality language.
- 4) ☐ Structure quality language.
- 135) The select operation in a relation database model choose.
- 1) ☒ Tuples
- 2) ☐ Attribute
- 3) ☐ all of above
- 4) ☐ none of above
- 136) The project operation in a relation database model choose
- 1) ☐ Tuples
- 2) ☒ Attribute
- 3) ☐ all of above
- 4) ☐ none of above
- 137) The area of computer science that deals with discovering patterns in collections of data.
- 1) ☒ Data mining.
- 2) ☐ Data warehouse.
- 3) ☐ Data cube.
- 4) ☐ none of above
- 138) What is data manipulation language ?
- 1) ☐ DIM
- 2) ☐ DMC
- 3) ☒ DML
- 4) ☐ none of above
- 139) The SQL is not a turning machine equivalent language?
- 1) ☒ True.
- 2) ☐ False.
- 140) What is structure query language?
- 1) ☒ SQL
- 2) ☐ SDL



- 3) - SOL
4) - none of above
- 141) It is a section of computer science that is concerned with the design and construction of computer systems with intelligent characteristics that qualify it to learn new concepts and tasks in response to surrounding conditions and are able to interact with humans by sound and image.
- 1) ☒ artificial intelligence
2) - Databases
3) - Software Engineering
4) - graphics
- 142) All of the following are applications of artificial intelligence except:
- 1) - Voice recognition
2) - Expert systems
3) ☒ Algorithm
4) - Natural language processing
- 143) It is used in many fields, the most important of which is medicine to diagnose some diseases:
- 1) ☒ Expert systems
2) - Inference engine
3) - Voice recognition
4) - Artificial intelligence
- 144) It is a program that works in a specific field to treat specific problems using its own research tools and measures
- 1) - Inference engine
2) ☒ Intelligent agent
3) - Prolog
4) - Knowledge base
- 145) one of the fields of artificial intelligence is
- 1) - engineering field
2) - psychology
3) - Agriculture
4) ☒ a&b
- 146) Among the most popular artificial intelligence programming languages:
- 1) - JAVA
2) - HTML
3) ☒ ROISE
4) - PYTHON
- 147) Among the expert systems applications:
- 1) ☒ SACON
2) - IPL
3) - LISP
4) - RITA
- 148) It is a logical language based on structure and branching, and it is most widespread in Europe and Japan
- 1) - IPL
2) - RITA
3) - SMALL TALK
4) ☒ PROLOG
- 149) It is used to select the appropriate knowledge to solve the studied problems and devise the causes that lead to this solution:
- 1) - Knowledge base
2) ☒ substitution machine



- 3) - Explanation tool
- 4) - Symbolic processing of data
- 150) Features of artificial intelligence systems:
- 1) - A.Symbolic processing
- 2) - B.Inference engine
- 3) - C.Inference making
- 4) + D.a&c
- 151) It is the ability to deal with non-numerical symbols in addition to numeric ones
- 1) - Learning mechanisms
- 2) - Sufficient solution
- 3) + Symbolic processing
- 4) - Meta-knowledge
- 152) Components of expert systems are all of the following except:
- 1) + Meta-knowledge
- 2) - User interface
- 3) - Knowledge base
- 4) - Explanation facility
- 153) Advantages and characteristics of artificial intelligence languages:
- 1) + Flexibility of control
- 2) - Dynamic knowledge
- 3) - Human based interfacing
- 4) - Sufficient solution
- 154) The ability to represent knowledge is of the :
- 1) + The advantages of artificial intelligence
- 2) - The goals of artificial intelligence
- 3) - Fields of artificial intelligence
- 4) - none of above
- 155) It allows the user to understand the logic and reasons behind the conclusions or results provided by the system by providing an explanation of the facts and rules to reach the results:
- 1) - The replacement machine
- 2) + annotation tool
- 3) - knowledge base
- 4) - The ability to draconclusions
- 156) It is from: LDS
- 1) - A.Components of the expert system
- 2) - B.The stages of development of the expert system
- 3) + C.Applications of expert systems
- 4) - D.b&c
- 157) Prepared by Image Analysis
- 1) + Artificial intelligence applications
- 2) - Applications of expert systems
- 3) - Fields of artificial intelligence
- 4) - Components of expert systems
- 158) is used in building expert systems to combat international terrorism:
- 1) + PITA
- 2) - LISP
- 3) - IPL
- 4) - ROISE
- 159) From the stages of development of expert systems:



- 1) - the ability to conclude
 - 2) ☒ the knowledge base
 - 3) - symbolic processing of data
 - 4) - the database
- 160) It is done through a set of existing systems by laying foundations and rules to understand the association of words in the useful sentence:
- 1) ☒ Natural Language Processing
 - 2) - symbolic processing of data
 - 3) - The ability to draw conclusions
 - 4) - Ability to know
- 161) Which of the following is the brain of the computer?
- 1) - A) RAM
 - 2) - B) Hard Drive
 - 3) ☒ C) CPU
 - 4) - D) Monitor
- 162) What is the full form of CPU?
- 1) ☒ A) Central Processing Unit
 - 2) - B) Central Program Unit
 - 3) - C) Central Peripheral Unit
 - 4) - D) Central Power Unit
- 163) What does IDE stand for in programming?
- 1) ☒ A) Integrated Development Environment
 - 2) - B) Internal Debugging Engine
 - 3) - C) Intelligent Data Execution
 - 4) - D) Internet Development Extension
- 164) Which operator is used for equality comparison in most programming languages?
- 1) - A) =
 - 2) ☒ B) ==
 - 3) - C) ===
 - 4) - D) !=
- 165) Which of the following is a logical operator?
- 1) - A) +
 - 2) ☒ B) &&
 - 3) - C) %
 - 4) - D) =
- 166) What does the term "bug" in programming refer to?
- 1) - A) A type of software
 - 2) ☒ B) An error in the code
 - 3) - C) A programming language
 - 4) - D) A security feature
- 167) Which of the following is an example of an interpreted language?
- 1) - A) C
 - 2) - B) Java
 - 3) ☒ C) Python
 - 4) - D) C++
- 168) Which of the following problems can be solved using dynamic programming?
- 1) - A) Shortest Path Problem
 - 2) - B) Fibonacci Series
 - 3) - C) Longest Common Subsequence



- 4) ☒ D) All of the above
- 169) What is the primary function of an operating system?
- 1) ☐ A) To compile programs
 - 2) ☒ B) To manage hardware and software resources
 - 3) ☐ C) To run applications only
 - 4) ☐ D) To perform calculations
- 170) Which of the following is NOT an operating system?
- 1) ☐ A) Windows
 - 2) ☐ B) Linux
 - 3) ☒ C) Python
 - 4) ☐ D) macOS
- 171) What is virtual memory?
- 1) ☐ A) A type of RAM
 - 2) ☒ B) A technique that uses disk storage as an extension of RAM
 - 3) ☐ C) A memory management algorithm
 - 4) ☐ D) A type of cache memory
- 172) What does BIOS stand for?
- 1) ☒ A) Basic Input Output System
 - 2) ☐ B) Binary Input Output System
 - 3) ☐ C) Basic Integrated Operating System
 - 4) ☐ D) Best Input Output Software
- 173) Which operating system is designed for embedded systems?
- 1) ☐ A) Windows 11
 - 2) ☐ B) Ubuntu
 - 3) ☒ C) FreeRTOS
 - 4) ☐ D) macOS
- 174) What is the primary role of a scheduler in an operating system?
- 1) ☐ A) To manage system files
 - 2) ☐ B) To control memory allocation
 - 3) ☒ C) To select the next process to execute
 - 4) ☐ D) To control network connections
- 175) Which type of OS is designed to control multiple computers working together?
- 1) ☐ A) Real-Time OS
 - 2) ☐ B) Embedded OS
 - 3) ☒ C) Distributed OS
 - 4) ☐ D) Single-user OS
- 176) What does the MAC address stand for?
- 1) ☐ A) Main Access Communication
 - 2) ☒ B) Media Access Control
 - 3) ☐ C) Managed Access Communication
 - 4) ☐ D) Multiple Access Control
- 177) What is Bandwidth in networking?
- 1) ☐ A) The physical distance over which the signal travels
 - 2) ☒ B) The amount of data that can be transmitted over a network in a given time
 - 3) ☐ C) The security of the data being transmitted
 - 4) ☐ D) The speed at which data is transmitted between two devices
- 178) What does VPN stand for in networking?
- 1) ☒ A) Virtual Private Network
 - 2) ☐ B) Variable Protocol Network



- 3) - C) Visual Protocol Network
4) - D) Virtual Process Network
- 179) What is the function of a firewall in a network?
1) - A) To monitor the network traffic
2) + B) To prevent unauthorized access to or from the network
3) - C) To provide encryption for data transmission
4) - D) To manage IP address allocation
- 180) In which of the following OSI layers does IP routing occur?
1) - A) Data Link Layer
2) + B) Network Layer
3) - C) Transport Layer
4) - D) Application Layer
- 181) Which protocol is used to send emails over the internet?
1) - A) FTP
2) - B) HTTP
3) + C) SMTP
4) - D) Telnet
- 182) In which of the following network topologies are all devices connected to a central device such as a switch or hub?
1) + A) Star topology
2) - B) Ring topology
3) - C) Mesh topology
4) - D) Bus topology
- 183) Which of the following networking technologies is used for wireless networking?
1) + A) Wi-Fi
2) - B) Ethernet
3) - C) Fiber-optic
4) - D) Bluetooth
- 184) Which of the following security protocols is commonly used to ensure secure web browsing?
1) - A) SSH
2) + B) SSL/TLS
3) - C) HTTP
4) - D) FTP
- 185) In IPV4 addressing, how many bits are used to represent an IP address?
1) - A) 16 bits
2) + B) 32 bits
3) - C) 64 bits
4) - D) 128 bits
- 186) What is the main purpose of a gateway in a network?
1) + A) To forward data packets to other networks
2) - B) To manage IP addresses
3) - C) To encrypt communication
4) - D) To create network backups
- 187) What is the purpose of a digital signature in cybersecurity?
1) - A) To encrypt data
2) + B) To verify the authenticity of data and the sender
3) - C) To create a backup of data
4) - D) To authenticate the user via their password
- 188) What is cryptojacking?



- 1) - A) Stealing cryptographic keys
 - 2) + B) Using a victim's computer resources to mine cryptocurrency without their consent
 - 3) - C) Encrypting files and demanding ransom
 - 4) - D) Phishing for cryptocurrency wallets
- 189) Which of the following is NOT a form of cybersecurity attack?
- 1) - A) DDoS (Distributed Denial of Service)
 - 2) - B) Malware
 - 3) + C) Antivirus
 - 4) - D) Phishing
- 190) What is two-factor authentication (2FA)?
- 1) - A) Using two different passwords for authentication
 - 2) + B) Requiring two types of identification before granting access
 - 3) - C) Using a single password with high complexity
 - 4) - D) Authenticating using biometric data only
- 191) What does AI stand for in computer science?
- 1) - A) Automated Information
 - 2) + B) Artificial Intelligence
 - 3) - C) Advanced Information
 - 4) - D) Automatic Interaction
- 192) What is machine learning in the context of AI?
- 1) - A) A technique where machines learn by mimicking human behavior
 - 2) + B) A method for training machines to make decisions from data
 - 3) - C) A process of understanding human language
 - 4) - D) A type of AI that can think and reason like a human
- 193) What is natural language processing (NLP) in AI?
- 1) - A) A system that helps machines perform arithmetic operations
 - 2) + B) A branch of AI that allows machines to understand and interpret human language
 - 3) - C) A method of training machines to recognize images
 - 4) - D) A technique used in games for making decisions
- 194) What is deep learning?
- 1) - A) A method of analyzing human emotions
 - 2) + B) A subset of machine learning that uses neural networks with many layers to learn from data
 - 3) - C) A programming technique used for AI
 - 4) - D) A type of decision tree used in AI
- 195) Which of the following is a principle of least privilege?
- 1) + A) Giving users access to only the information they need to perform their tasks
 - 2) - B) Allowing all users to have administrator rights
 - 3) - C) Storing all sensitive data in one location
 - 4) - D) Using weak passwords for easier access
- 196) Which of the following is an example of social engineering?
- 1) - A) Hacking a website
 - 2) + B) Tricking someone into revealing their password by impersonating a legitimate entity
 - 3) - C) Installing an antivirus program
 - 4) - D) Using encryption to protect files
- 197) What is the most secure type of password?
- 1) - A) A simple word with numbers
 - 2) + B) A random combination of letters, numbers, and symbols
 - 3) - C) Your birthdate
 - 4) - D) A dictionary word



- 198) What is a botnet?
- 1) ☒ A) A network of devices that are infected with malware and controlled remotely
 - 2) ☐ B) A method of encrypting data
 - 3) ☐ C) A technique for phishing attacks
 - 4) ☐ D) A type of firewall
- 199) Which type of attack involves overwhelming a target with traffic to make a network service unavailable?
- 1) ☒ A) Denial-of-Service (DoS)
 - 2) ☐ B) Phishing
 - 3) ☐ C) Malware infection
 - 4) ☐ D) Cross-Site Scripting (XSS)
- 200) What does RAM stand for?
- 1) ☐ A) Read Access Memory
 - 2) ☒ B) Random Access Memory
 - 3) ☐ C) Rapid Access Memory
 - 4) ☐ D) Run Access Memory
- 201) What is the function of an operating system?
- 1) ☒ A) Manages hardware and software resources
 - 2) ☐ B) Runs antivirus programs only
 - 3) ☐ C) Provides power to the computer
 - 4) ☐ D) Only allows web browsing
- 202) What does SSD stand for in computing?
- 1) ☐ A) Software Storage Device
 - 2) ☒ B) Solid State Drive
 - 3) ☐ C) Systematic Storage Disk
 - 4) ☐ D) Secure Storage Device
- 203) Which of the following is a high-level programming language?
- 1) ☐ A) Assembly
 - 2) ☐ B) Machine Language
 - 3) ☒ C) C++
 - 4) ☐ D) Binary Code
- 204) What does a compiler do?
- 1) ☐ A) Executes the program line by line
 - 2) ☒ B) Converts source code into machine code
 - 3) ☐ C) Detects and removes viruses
 - 4) ☐ D) Manages memory allocation
- 205) What is the main purpose of a loop in programming?
- 1) ☒ A) To execute a block of code multiple times
 - 2) ☐ B) To store data permanently
 - 3) ☐ C) To print data on the screen
 - 4) ☐ D) To exit a program
- 206) Which of the following is NOT a valid loop structure?
- 1) ☐ A) for
 - 2) ☐ B) while
 - 3) ☐ C) repeat-until
 - 4) ☒ D) if-else
- 207) Which of the following is a feature of Object-Oriented Programming (OOP)?
- 1) ☒ A) Encapsulation
 - 2) ☐ B) Recursion
 - 3) ☐ C) Pseudocode



- 4) - D) Compilation
- 208) What is the purpose of the break statement in loops?
- 1) - A) To skip the current iteration
 - 2) + B) To exit the loop entirely
 - 3) - C) To pause execution
 - 4) - D) To continue with the next iteration
- 209) What does SQL stand for in programming?
- 1) - A) Sequential Query Language
 - 2) - B) System Query Language
 - 3) + C) Structured Query Language
 - 4) - D) Server Query Language
- 210) Which of the following is an example of a real-time operating system?
- 1) - A) Windows 10
 - 2) - B) Linux Ubuntu
 - 3) + C) RTOS
 - 4) - D) macOS
- 211) What is the key advantage of a multi-tasking operating system?
- 1) - A) It allows multiple users to access the system
 - 2) + B) It allows multiple programs to run simultaneously
 - 3) - C) It speeds up hardware
 - 4) - D) It reduces memory usage
- 212) Which operating system type is designed to operate on servers?
- 1) - A) Desktop OS
 - 2) - B) Mobile OS
 - 3) + C) Network OS
 - 4) - D) Embedded OS
- 213) What is the purpose of a kernel in an operating system?
- 1) - A) To compile programs
 - 2) + B) To manage system resources and hardware
 - 3) - C) To delete unnecessary files
 - 4) - D) To provide user interface
- 214) What is multitasking in an operating system?
- 1) - A) Running multiple programs on different devices
 - 2) - B) Running multiple applications on different operating systems
 - 3) + C) Running multiple tasks or processes simultaneously within a single OS
 - 4) - D) Running a program only when the user requests it
- 215) Which of the following is NOT a characteristic of batch processing?
- 1) - A) Jobs are processed without user interaction
 - 2) - B) Jobs are executed in a queue
 - 3) + C) It requires constant user input
 - 4) - D) It is used for large-scale data processing
- 216) What does kernel mode refer to in an operating system?
- 1) - A) A mode in which user applications run
 - 2) + B) A mode where the operating system has full access to the hardware
 - 3) - C) A mode that limits access to system resources
 - 4) - D) A mode for data storage
- 217) In an operating system, what is a process?
- 1) + A) A running program along with its current activity
 - 2) - B) A file management system



- 3) - C) A piece of hardware that controls system resources
4) - D) A memory management technique
- 218) Which of the following operating systems is a single-user and single-tasking OS?
1) - A) Windows
2) - B) macOS
3) + C) MS-DOS
4) - D) Linux
- 219) What does the user interface (UI) of an operating system provide?
1) - A) Hardware management
2) - B) Process control
3) + C) Interaction between the user and the operating system
4) - D) Memory management
- 220) Which of the following is a characteristic of an embedded operating system?
1) + A) It is designed to perform a specific task or a set of tasks
2) - B) It supports multitasking
3) - C) It runs on general-purpose computers
4) - D) It requires a graphical user interface
- 221) Which of the following is a type of network operating system?
1) - A) FreeRTOS
2) - B) Linux
3) + C) Novell NetWare
4) - D) MS-DOS
- 222) In an operating system, what is a device driver used for?
1) - A) To handle all system processes
2) - B) To manage user input/output
3) + C) To allow the operating system to communicate with hardware devices
4) - D) To monitor network activity
- 223) Which of the following is the main goal of virtualization in an operating system?
1) - A) To divide memory into smaller sections
2) + B) To allow multiple virtual instances of operating systems to run on a single physical machine
3) - C) To enable real-time processing
4) - D) To allocate CPU time to various processes
- 224) What does IP in IP address stand for?
1) + A) Internet Protocol
2) - B) Internet Process
3) - C) Internal Protocol
4) - D) Inter-network Protocol
- 225) What is the function of a router in a network?
1) - A) To connect devices within a local area network
2) + B) To route data packets between different networks
3) - C) To store files in the network
4) - D) To secure data during transmission
- 226) What is an IP address used for in a network?
1) + A) To identify a device in the network
2) - B) To route the data packets
3) - C) To establish a secure connection
4) - D) To manage network traffic
- 227) What is DNS (Domain Name System) used for?
1) - A) To encrypt data transmitted over the network



- 2) ☒ B) To resolve domain names to IP addresses
3) ☐ C) To create secure connections between devices
4) ☐ D) To monitor network traffic
- 228) What is the main difference between IPv4 and IPv6?
1) ☐ A) IPv4 uses 128-bit addresses, whereas IPv6 uses 32-bit addresses
2) ☐ B) IPv4 is faster than IPv6
3) ☐ C) IPv4 supports more devices than IPv6
4) ☒ D) IPv4 uses 32-bit addresses, whereas IPv6 uses 128-bit addresses
- 229) Which of the following is an example of a network topology?
1) ☐ A) HTTP
2) ☒ B) Bus
3) ☐ C) Ethernet
4) ☐ D) VPN
- 230) What is Ethernet?
1) ☐ A) A type of wireless networking protocol
2) ☐ B) A type of cable used for network connections
3) ☒ C) A popular protocol used in wired networks
4) ☐ D) A brand of network devices
- 231) Which of the following is an example of a connectionless protocol?
1) ☐ A) TCP
2) ☒ B) UDP
3) ☐ C) IP
4) ☐ D) HTTP
- 232) What is the full form of Wi-Fi?
1) ☒ A) Wireless Fidelity
2) ☐ B) Wireless Fiber
3) ☐ C) Wide Frequency
4) ☐ D) Wired Fidelity
- 233) What does HTTP stand for?
1) ☒ A) HyperText Transfer Protocol
2) ☐ B) HyperText Transmission Protocol
3) ☐ C) HyperText Technical Protocol
4) ☐ D) High-Traffic Transmission Protocol
- 234) Which of the following is used to securely transmit data over the internet, commonly used in HTTPS?
1) ☒ A) TLS/SSL
2) ☐ B) UDP
3) ☐ C) IP
4) ☐ D) FTP
- 235) What is a broadcast in networking?
1) ☐ A) Sending data to a specific device
2) ☒ B) Sending data to all devices in a network
3) ☐ C) Sending data over the internet
4) ☐ D) Sending data to the nearest device
- 236) Which of the following is an example of a connection-oriented protocol?
1) ☐ A) UDP
2) ☒ B) TCP
3) ☐ C) IP
4) ☐ D) ARP
- 237) What is UDP in networking?



- 1) - A) A reliable, connection-based protocol
 - 2) + B) An unreliable, connectionless protocol
 - 3) - C) A security protocol
 - 4) - D) A protocol for routing data
- 238) What does SSL stand for in networking security?
- 1) - A) Secure System Layer
 - 2) + B) Secure Socket Layer
 - 3) - C) Secure Source Locator
 - 4) - D) Security Service Layer
- 239) What type of address is used to uniquely identify a network interface on a physical device?
- 1) - A) IP address
 - 2) + B) MAC address
 - 3) - C) Subnet address
 - 4) - D) Domain address
- 240) Which layer of the OSI model is responsible for routing data between different networks?
- 1) - A) Application Layer
 - 2) - B) Transport Layer
 - 3) + C) Network Layer
 - 4) - D) Data Link Layer
- 241) What is the main role of a proxy server?
- 1) - A) To monitor network traffic
 - 2) - B) To prevent unauthorized access to the network
 - 3) + C) To act as an intermediary between a client and server
 - 4) - D) To route data between devices
- 242) Which Layer of the OSI model is responsible for the physical transmission of data?
- 1) - A) Application Layer
 - 2) - B) Transport Layer
 - 3) - C) Data Link Layer
 - 4) + D) Physical Layer
- 243) What is the main difference between TCP and UDP?
- 1) - A) TCP is connectionless, while UDP is connection-oriented
 - 2) + B) TCP guarantees reliable communication, while UDP does not
 - 3) - C) TCP is faster than UDP
 - 4) - D) UDP uses error-checking, while TCP does not
- 244) What is the function of a router?
- 1) - A) To forward data within the same network
 - 2) + B) To route data between different networks
 - 3) - C) To connect devices within a local area network
 - 4) - D) To manage IP address allocation
- 245) What does ARP stand for?
- 1) + A) Address Resolution Protocol
 - 2) - B) Automated Resolution Protocol
 - 3) - C) Automatic Routing Protocol
 - 4) - D) Address Routing Protocol
- 246) What is the primary goal of cybersecurity?
- 1) - A) To ensure that data is always encrypted
 - 2) + B) To protect computer systems from unauthorized access and damage
 - 3) - C) To track online activity
 - 4) - D) To increase the speed of the network



247) Which of the following is a type of malware designed to spread across multiple systems and networks?

- 1) - A) Virus
- 2) + B) Worm
- 3) - C) Trojan horse
- 4) - D) Spyware

248) What does phishing typically involve?

- 1) - A) Injecting malicious code into websites
- 2) + B) Attempting to acquire sensitive information by pretending to be a trustworthy entity
- 3) - C) Blocking network access to prevent unauthorized use
- 4) - D) Accessing a device through physical means

249) Which of the following is a common method for protecting sensitive information online?

- 1) - A) Using weak passwords
- 2) + B) Encrypting data
- 3) - C) Sharing passwords with others
- 4) - D) Avoiding updates to software

250) What is the purpose of a firewall in cybersecurity?

- 1) - A) To encrypt all outgoing traffic
- 2) + B) To block unauthorized access to or from a network
- 3) - C) To increase network speed
- 4) - D) To back up files automatically

251) Which of the following is an example of multi-factor authentication (MFA)?

- 1) - A) Entering a username and password only
- 2) + B) Entering a password and receiving a one-time code via SMS
- 3) - C) Using a weak password
- 4) - D) Using the same password across all services

252) What is the purpose of patch management in cybersecurity?

- 1) - A) To store backup copies of data
- 2) + B) To ensure that all software vulnerabilities are addressed through updates
- 3) - C) To monitor system performance
- 4) - D) To encrypt sensitive data

253) What is social engineering in cybersecurity?

- 1) - A) A type of malware that damages the system
- 2) + B) A method of manipulating people to disclose sensitive information
- 3) - C) A way to optimize network performance
- 4) - D) A technique used to filter malicious traffic

254) What does SSL stand for in cybersecurity?

- 1) - A) Secure Software Layer
- 2) + B) Secure Sockets Layer
- 3) - C) System Security Layer
- 4) - D) Secured Storage Layer

255) What does CIA stand for in the context of cybersecurity?

- 1) - A) Central Intelligence Agency
- 2) + B) Confidentiality, Integrity, and Availability
- 3) - C) Cybersecurity Information Agency
- 4) - D) Critical Information Analysis

256) Which of the following is a best practice for creating a secure password?

- 1) + A) Use a combination of letters, numbers, and special characters
- 2) - B) Use the same password for all accounts
- 3) - C) Use your name and birthdate as the password



- 4) - D) Use short passwords
- 257) What is the main purpose of a security patch in software?
- 1) - A) To update the software interface
 - 2) + B) To fix vulnerabilities and improve security
 - 3) - C) To reduce the software's file size
 - 4) - D) To optimize software performance
- 258) What is social engineering?
- 1) - A) A type of hacking attack
 - 2) + B) A psychological manipulation technique to trick people into revealing information
 - 3) - C) A method to prevent malware
 - 4) - D) A software used to monitor network traffic
- 259) Which of the following is an example of public-key encryption?
- 1) - A) AES
 - 2) + B) RSA
 - 3) - C) SHA-256
 - 4) - D) MD5
- 260) Which of the following is a characteristic of a strong password?
- 1) - A) It contains only lowercase letters
 - 2) - B) It uses dictionary words
 - 3) + C) It is long and contains a mix of characters
 - 4) - D) It is easy to remember
- 261) Which of the following is an example of supervised learning in AI?
- 1) + A) A machine learning model predicting future stock prices based on historical data
 - 2) - B) A system identifying patterns in sensor data without labeled information
 - 3) - C) A robot learning to navigate through an environment without supervision
 - 4) - D) A program analyzing medical records to predict disease outbreaks
- 262) In AI, what is a neural network?
- 1) - A) A collection of software algorithms that process text data
 - 2) + B) A network of interconnected artificial neurons that can model complex patterns and relationships
 - 3) - C) A type of algorithm used for sorting data
 - 4) - D) A programming language used to create AI models
- 263) What is the purpose of the A algorithm* in AI?
- 1) + A) To find the most efficient path from the starting point to the goal
 - 2) - B) To sort a set of data
 - 3) - C) To encrypt sensitive data
 - 4) - D) To analyze language data
- 264) What is computer vision in AI?
- 1) - A) A technique used to simulate human emotions
 - 2) + B) A technology that allows machines to interpret and understand visual data from the world
 - 3) - C) A method of training machines to understand spoken language
 - 4) - D) A process for solving complex mathematical problems
- 265) Which of the following is a type of search algorithm in AI?
- 1) - A) QuickSort
 - 2) + B) Depth-first search (DFS)
 - 3) - C) MergeSort
 - 4) - D) Linear Search
- 266) In AI, which of the following represents supervised learning?
- 1) - A) A model learns patterns from unlabeled data



- 2) ☒ B) A model learns from labeled data to predict output values
- 3) ☐ C) A model uses feedback from its own actions to improve
- 4) ☐ D) A model explores possible actions in an environment
- 267) What is the main difference between AI and traditional programming?
- 1) ☒ A) AI systems learn from data, while traditional programming follows explicit rules
- 2) ☐ B) AI does not need any data, whereas traditional programming needs data
- 3) ☐ C) AI systems require less computation power than traditional programming
- 4) ☐ D) AI does not involve computers, but traditional programming does
- 268) Which of the following is a limitation of AI?
- 1) ☐ A) AI systems are capable of creative thinking
- 2) ☐ B) AI can make ethical decisions based on human emotions
- 3) ☒ C) AI lacks general intelligence and is often narrow in its task
- 4) ☐ D) AI systems do not require data to function
- 269) Which of the following is an example of a neural network architecture?
- 1) ☐ A) Decision trees
- 2) ☐ B) Support vector machines
- 3) ☒ C) Convolutional neural networks (CNN)
- 4) ☐ D) Genetic algorithms
- 270) Which of the following is a popular programming language for building AI models?
- 1) ☐ A) HTML
- 2) ☐ B) JavaScript
- 3) ☒ C) Python
- 4) ☐ D) SQL
- 271) What is natural language generation (NLG)?
- 1) ☐ A) A process of extracting meaning from unstructured text
- 2) ☒ B) A technology that converts structured data into human-readable text
- 3) ☐ C) A technique for speech recognition
- 4) ☐ D) A method of identifying named entities in text
- 272) What does natural language processing (NLP) enable AI to do?
- 1) ☐ A) Recognize visual patterns in images
- 2) ☒ B) Process and understand human language in text and speech
- 3) ☐ C) Make decisions based on user behavior
- 4) ☐ D) Detect anomalies in network traffic
- 273) What is data preprocessing in machine learning?
- 1) ☐ A) Collecting data from external sources
- 2) ☒ B) Cleaning, transforming, and organizing data before feeding it into a model
- 3) ☐ C) Plotting data to visualize patterns
- 4) ☐ D) Running a model on raw, unprocessed data
- 274) What is deep learning in AI?
- 1) ☐ A) A technique used to optimize the learning rate of algorithms
- 2) ☒ B) A form of machine learning that involves neural networks with many layers
- 3) ☐ C) A method for training models on small datasets
- 4) ☐ D) A system for making decisions based on historical data
- 275) Which of the following types of malware can spread without any user interaction?
- 1) ☐ A) Virus
- 2) ☒ B) Worm
- 3) ☐ C) Trojan Horse
- 4) ☐ D) Spyware
- 276) What is the purpose of a digital signature?



- 1) - A) To track the location of a user
 - 2) + B) To verify the authenticity and integrity of a message or document
 - 3) - C) To encrypt sensitive data
 - 4) - D) To identify a user's physical location
- 277) What does the term "spyware" refer to in cybersecurity?
- 1) - A) A tool for managing network traffic
 - 2) + B) Software that collects personal information without the user's consent
 - 3) - C) A system used for encrypting data
 - 4) - D) A firewall used for filtering malicious websites
- 278) What is phishing?
- 1) + A) A technique to gather passwords and credit card details using fake websites or emails
 - 2) - B) A type of malware
 - 3) - C) A software tool used to monitor network traffic
 - 4) - D) A way to recover lost data
- 279) What is multi-factor authentication (MFA) used for?
- 1) - A) To block malicious users
 - 2) + B) To authenticate a user by requiring multiple forms of identification
 - 3) - C) To monitor web traffic
 - 4) - D) To optimize the speed of authentication
- 280) What does anti-virus software do?
- 1) - A) It provides a secure internet connection
 - 2) - B) It blocks all websites
 - 3) + C) It detects and removes malicious software from the system
 - 4) - D) It manages user passwords
- 281) What is a public key in public-key encryption?
- 1) - A) A key that is shared with the public for decryption
 - 2) - B) A key that is kept secret and used for encryption
 - 3) + C) A key that is used by the sender for encryption and by the receiver for decryption
 - 4) - D) A key that is used by the receiver for encryption and the sender for decryption
- 282) Which of the following is an example of two-factor authentication (2FA)?
- 1) + A) A password followed by a fingerprint scan
 - 2) - B) A password followed by an email link
 - 3) - C) A username and a password
 - 4) - D) A password and a PIN
- 283) What is the function of a honeypot in cybersecurity?
- 1) - A) A tool to create encryption keys
 - 2) + B) A system designed to attract and trap cyber attackers
 - 3) - C) A software to scan for viruses
 - 4) - D) A method to block malicious emails
- 284) What is the main function of a VPN (Virtual Private Network)?
- 1) - A) To optimize internet speed
 - 2) + B) To encrypt internet traffic and mask the user's IP address
 - 3) - C) To scan for viruses
 - 4) - D) To track browsing history
- 285) What does HTTPS stand for?
- 1) - A) HyperText Transmission Protocol Secure
 - 2) - B) HyperText Transport Protocol Secure
 - 3) + C) HyperText Transfer Protocol Secure
 - 4) - D) HyperText Transfer Protocol Simple



- 286) _What is the full form of VPN?
- 1) - A) Verified Private Network
 - 2) - B) Virtual Public Network
 - 3) + C) Virtual Private Network
 - 4) - D) Verified Protocol Network
- 287) Which of the following is an example of an input device?
- 1) - A) Printer
 - 2) - B) Monitor
 - 3) + C) Keyboard
 - 4) - D) Speaker
- 288) What is the main purpose of a compiler?
- 1) - A) To execute programs directly
 - 2) + B) To translate high-level language into machine language
 - 3) - C) To store data permanently
 - 4) - D) To increase the speed of the CPU
- 289) Which of the following is a volatile memory?
- 1) - A) Hard Drive
 - 2) + B) RAM
 - 3) - C) ROM
 - 4) - D) Flash Drive
- 290) Which of the following is an example of application software?
- 1) - A) Windows OS
 - 2) + B) Microsoft Word
 - 3) - C) Device Drivers
 - 4) - D) BIOS
- 291) Which of the following is NOT a type of network topology?
- 1) - A) Star
 - 2) - B) Ring
 - 3) + C) Linear
 - 4) - D) Mesh
- 292) Which of the following best describes an algorithm?
- 1) - A) A programming language
 - 2) + B) A set of instructions to solve a problem
 - 3) - C) A type of software
 - 4) - D) A type of hardware component
- 293) Which programming language is known as the "mother of all languages"?
- 1) + A) C
 - 2) - B) Java
 - 3) - C) Python
 - 4) - D) Assembly
- 294) What is the smallest unit of data in a computer?
- 1) + A) Bit
 - 2) - B) Byte
 - 3) - C) Nibble
 - 4) - D) Word
- 295) What does SQL stand for?
- 1) - A) Standard Query Language
 - 2) - B) Sequential Query Language
 - 3) + C) Structured Query Language



- 4) - D) System Query Language
- 296) What does GUI stand for?
- 1) - A) General User Interface
 - 2) + B) Graphical User Interface
 - 3) - C) Guided User Interaction
 - 4) - D) Global User Interface
- 297) Which one of the following is an example of system software?
- 1) - A) Microsoft Excel
 - 2) - B) Google Chrome
 - 3) + C) Windows 10
 - 4) - D) Adobe Photoshop
- 298) Which of the following is NOT an example of primary memory?
- 1) - A) ROM
 - 2) - B) RAM
 - 3) - C) Cache
 - 4) + D) Hard disk
- 299) What is the purpose of an IP address?
- 1) - A) Identifies a website
 - 2) - B) Stores user data
 - 3) + C) Identifies a device on a network
 - 4) - D) Encrypts data
- 300) Which of the following is a programming language?
- 1) - A) HTTP
 - 2) + B) Python
 - 3) - C) HTML
 - 4) - D) FTP
- 301) Which number system is used by computers?
- 1) - A) Decimal
 - 2) - B) Octal
 - 3) + C) Binary
 - 4) - D) Hexadecimal
- 302) What is an example of system software?
- 1) - A) Microsoft Word
 - 2) - B) Google Chrome
 - 3) + C) Windows OS
 - 4) - D) Adobe Photoshop
- 303) What is the function of the Control Unit (CU) in the CPU?
- 1) - A) Executes arithmetic and logical operations
 - 2) - B) Manages the computer's memory
 - 3) + C) Directs the operation of the processor
 - 4) - D) Stores data permanently
- 304) What is the main purpose of cache memory?
- 1) - A) To store permanent data
 - 2) + B) To speed up processing by storing frequently used data
 - 3) - C) To serve as backup storage
 - 4) - D) To increase RAM size
- 305) Which layer in the OSI model is responsible for end-to-end communication?
- 1) - A) Physical layer
 - 2) - B) Data link layer



- 3) ☒ C) Transport layer
4) ☐ D) Network layer
- 306) Which of the following is used to uniquely identify a computer on a network?
1) ☒ A) MAC address
2) ☐ B) URL
3) ☐ C) HTML
4) ☐ D) DNS
- 307) What does DNS stand for?
1) ☐ A) Dynamic Name System
2) ☒ B) Domain Name System
3) ☐ C) Digital Network System
4) ☐ D) Direct Network Server
- 308) What is the function of the return statement in a function?
1) ☒ A) Ends the function execution and returns a value
2) ☐ B) Prints the function result
3) ☐ C) Continues the function execution
4) ☐ D) Declares a variable
- 309) What is the return type of the main() function in C?
1) ☐ A) void
2) ☒ B) int
3) ☐ C) float
4) ☐ D) char
- 310) What does the continue statement do in a loop?
1) ☐ A) Exits the loop
2) ☒ B) Skips the current iteration and proceeds to the next iteration
3) ☐ C) Stops the loop permanently
4) ☐ D) Restarts the loop
- 311) What is an algorithm?
1) ☐ A) A programming language
2) ☒ B) A set of rules to solve a problem
3) ☐ C) A data structure
4) ☐ D) A hardware component
- 312) What is the main idea behind dynamic programming?
1) ☐ A) Solving problems recursively without storing results
2) ☒ B) Breaking a problem into overlapping subproblems and storing results
3) ☐ C) Using brute force to solve problems
4) ☐ D) Ignoring previously computed results
- 313) Which algorithm is best for searching in an unsorted array?
1) ☒ A) Linear Search
2) ☐ B) Binary Search
3) ☐ C) Depth-First Search
4) ☐ D) Breadth-First Search
- 314) What is the primary purpose of virtual memory?
1) ☐ A) To increase CPU speed
2) ☒ B) To extend the available memory beyond the physical RAM
3) ☐ C) To optimize storage devices
4) ☐ D) To improve GPU performance
- 315) Which type of OS runs on mobile devices?
1) ☐ A) Real-time OS



- 2) - B) Embedded OS
3) - C) Network OS
4) + D) Mobile OS
- 316) What is the role of the bootloader in an operating system?
1) - A) To manage files
2) + B) To initialize the system at startup
3) - C) To control hardware components
4) - D) To execute applications
- 317) What is the main purpose of the file system in an OS?
1) - A) To execute system programs
2) + B) To store and manage files on storage devices
3) - C) To provide a user interface
4) - D) To control hardware
- 318) Which of the following is an example of an open-source operating system?
1) - A) Windows 11
2) + B) Linux
3) - C) macOS
4) - D) Solaris
- 319) What is the primary function of a device driver?
1) - A) To execute applications
2) + B) To allow communication between the OS and hardware devices
3) - C) To manage RAM
4) - D) To schedule processes
- 320) What is a shell in an operating system?
1) - A) A type of kernel
2) + B) A command-line interpreter
3) - C) A hardware component
4) - D) A device driver
- 321) What is an operating system?
1) - A) A collection of hardware components
2) + B) A system software that manages computer hardware and software resources
3) - C) A type of application software
4) - D) A programming language
- 322) Which of the following is NOT a function of an operating system?
1) - A) Memory management
2) - B) Process scheduling
3) + C) Compiling programs
4) - D) File management
- 323) The core part of an operating system is called the:
1) - A) Shell
2) + B) Kernel
3) - C) GUI
4) - D) Compiler
- 324) Which operating system is commonly used in mobile devices?
1) - A) Linux
2) - B) Windows
3) + C) Android
4) - D) macOS
- 325) What is the function of the file system in an operating system?



- 1) ☒ A) To store and manage files on storage devices
 - 2) ☐ B) To execute applications
 - 3) ☐ C) To schedule processes
 - 4) ☐ D) To manage memory allocation
- 326) What is the main purpose of device drivers in an operating system?
- 1) ☐ A) To provide security for the system
 - 2) ☐ B) To manage memory allocation
 - 3) ☒ C) To allow communication between the OS and hardware devices
 - 4) ☐ D) To execute user programs
- 327) Which type of operating system manages processes, memory, and devices for multiple users?
- 1) ☐ A) Single-user, single-tasking
 - 2) ☐ B) Single-user, multi-tasking
 - 3) ☒ C) Multi-user, multi-tasking
 - 4) ☐ D) Real-time OS
- 328) Which of the following is the main advantage of using a microkernel architecture?
- 1) ☐ A) Faster system execution
 - 2) ☒ B) Easier to maintain and extend
 - 3) ☐ C) More complex to implement
 - 4) ☐ D) Higher system performance
- 329) What does the term "booting" refer to in an operating system?
- 1) ☐ A) The process of installing the operating system
 - 2) ☐ B) The process of shutting down the system
 - 3) ☒ C) The process of loading the operating system into memory when the computer is turned on
 - 4) ☐ D) The process of executing applications
- 330) Which of the following is NOT an operating system service?
- 1) ☐ A) Process management
 - 2) ☐ B) File management
 - 3) ☐ C) Network management
 - 4) ☒ D) Web browsing
- 331) In the context of operating systems, what is kernel mode?
- 1) ☐ A) A mode in which user applications are executed
 - 2) ☐ B) A mode that restricts access to hardware
 - 3) ☒ C) A mode in which the operating system has full access to the hardware and system resources
 - 4) ☐ D) A mode used for managing network traffic
- 332) What does FIFO stand for in the context of process scheduling?
- 1) ☐ A) First-In, Fast-Out
 - 2) ☒ B) First-In, First-Out
 - 3) ☐ C) First-Fixed, First-Out
 - 4) ☐ D) Free-In, Free-Out
- 333) What is the main purpose of a network?
- 1) ☐ A) To provide power to devices
 - 2) ☒ B) To connect devices for communication and data exchange
 - 3) ☐ C) To manage device storage
 - 4) ☐ D) To provide security to devices
- 334) Which of the following is the most common type of network used in homes and small businesses?
- 1) ☐ A) MAN (Metropolitan Area Network)
 - 2) ☒ B) LAN (Local Area Network)
 - 3) ☐ C) WAN (Wide Area Network)
 - 4) ☐ D) PAN (Personal Area Network)



- 335) Which protocol is commonly used to send data over the internet?
- 1) - A) HTTP
 - 2) - B) FTP
 - 3) + C) TCP/IP
 - 4) - D) SMTP
- 336) Which of the following protocols is used to transfer files over the network?
- 1) - A) SMTP
 - 2) + B) FTP
 - 3) - C) POP3
 - 4) - D) HTTP
- 337) Which protocol is responsible for converting domain names to IP addresses?
- 1) + A) DNS
 - 2) - B) HTTP
 - 3) - C) DHCP
 - 4) - D) FTP
- 338) What does the Ethernet standard primarily define?
- 1) - A) Methods for connecting devices in a wireless network
 - 2) - B) Rules for IP address assignment
 - 3) + C) Rules for data transmission in wired networks
 - 4) - D) Types of security protocols in networks
- 339) What is a DHCP server responsible for?
- 1) - A) Providing static IP addresses to devices
 - 2) + B) Assigning dynamic IP addresses to devices in a network
 - 3) - C) Translating domain names to IP addresses
 - 4) - D) Managing email communications
- 340) Which type of network is used to cover a large geographic area, such as a city or country?
- 1) - A) LAN
 - 2) - B) PAN
 - 3) - C) MAN
 - 4) + D) WAN
- 341) In which OSI layer does data encryption typically occur?
- 1) - A) Network Layer
 - 2) - B) Transport Layer
 - 3) + C) Application Layer
 - 4) - D) Data Link Layer
- 342) In which network topology are devices connected in a loop, forming a ring?
- 1) - A) Star topology
 - 2) - B) Mesh topology
 - 3) - C) Bus topology
 - 4) + D) Ring topology
- 343) What is the full form of LAN?
- 1) - A) Large Area Network
 - 2) + B) Local Area Network
 - 3) - C) Light Access Network
 - 4) - D) Local Address Network
- 344) What is the full form of FTP?
- 1) + A) File Transfer Protocol
 - 2) - B) File Text Protocol
 - 3) - C) Fast Transfer Protocol



- 4) - D) File Type Protocol
- 345) What is the primary purpose of the OSI model?
- 1) - A) To define the physical layout of a network
 - 2) - B) To provide a set of protocols for data transmission
 - 3) + C) To standardize the communication process across networks
 - 4) - D) To improve network security
- 346) What does IP address stand for?
- 1) + A) Internet Protocol address
 - 2) - B) Internet Path address
 - 3) - C) Internal Protocol address
 - 4) - D) Internet Point address
- 347) What is the full form of SMTP?
- 1) - A) Secure Mail Transfer Protocol
 - 2) + B) Simple Mail Transfer Protocol
 - 3) - C) Simple Mail Text Protocol
 - 4) - D) Secure Message Transfer Protocol
- 348) Which protocol is used for email retrieval from a mail server?
- 1) - A) SMTP
 - 2) + B) POP3
 - 3) - C) HTTP
 - 4) - D) FTP
- 349) What is the main function of DNS (Domain Name System)?
- 1) + A) To resolve domain names into IP addresses
 - 2) - B) To encrypt the data exchanged between client and server
 - 3) - C) To provide security by validating users' credentials
 - 4) - D) To establish a physical connection between devices
- 350) What does DHCP stand for?
- 1) + A) Dynamic Host Configuration Protocol
 - 2) - B) Dynamic Hypertext Control Protocol
 - 3) - C) Dynamic Host Communication Protocol
 - 4) - D) Domain Host Configuration Protocol
- 351) What is the full form of WAN?
- 1) - A) Wireless Area Network
 - 2) + B) Wide Area Network
 - 3) - C) Web Area Network
 - 4) - D) Wide Application Network
- 352) What is two-factor authentication (2FA) designed to improve?
- 1) - A) Network speed
 - 2) - B) User convenience
 - 3) + C) Account security
 - 4) - D) Server performance
- 353) What is malware?
- 1) - A) A type of secure protocol
 - 2) + B) Software designed to harm or exploit devices
 - 3) - C) A tool to manage network traffic
 - 4) - D) A type of firewall
- 354) Which of the following is an example of a physical security control?
- 1) - A) Encryption
 - 2) - B) Firewall



- 3) ☒ C) Biometric authentication
4) ☐ D) Anti-malware software
- 355) What is the purpose of a security audit?
- 1) ☐ A) To monitor network speed
2) ☒ B) To evaluate the effectiveness of an organization's security measures
3) ☐ C) To install new software
4) ☐ D) To improve system performance
- 356) What is the full form of DDoS?
- 1) ☒ A) Distributed Denial of Service
2) ☐ B) Digital Denial of Service
3) ☐ C) Distributed Data Service
4) ☐ D) Direct Denial of Service
- 357) What is the first step in creating a strong cybersecurity plan?
- 1) ☐ A) Implement encryption
2) ☒ B) Perform a risk assessment
3) ☐ C) Buy antivirus software
4) ☐ D) Block all incoming traffic
- 358) What is the function of a data backup in cybersecurity?
- 1) ☐ A) To encrypt data for storage
2) ☒ B) To ensure data is available in case of system failure or attack
3) ☐ C) To monitor network traffic
4) ☐ D) To speed up the recovery process
- 359) What is SQL Injection?
- 1) ☐ A) A technique to secure databases
2) ☒ B) An attack that injects malicious SQL code into a database
3) ☐ C) A method to access passwords
4) ☐ D) A way to upgrade system firmware
- 360) What is the function of encryption in cybersecurity?
- 1) ☐ A) To speed up internet traffic
2) ☒ B) To convert data into a format that is unreadable without a decryption key
3) ☐ C) To detect malicious software
4) ☐ D) To secure physical hardware
- 361) Which of the following is NOT a cybersecurity risk?
- 1) ☐ A) Malware
2) ☐ B) Data breaches
3) ☒ C) User training
4) ☐ D) Phishing attacks