Comprehensive exam

COMPUTER ARCHETECTURE

1.Which among following can be considered as most advanced ROM ?

1.DRAM **2.EEPROM** 3RAM 4.PROM

2. One byte equals to how many bits ?

1.4 bits **2. 8 bits** 3.12 bits 4.16 bits

3. Which among following is Volatile ?

1.ROM 2.EPROM 3.DROM **4.RAM**

4. Where the result of an arithmetic and logical operation are stored ?
1.In Accumulator 2.In Cache Memory 3.In ROM 4.In Instruction Registry

5.Why we need to have secondary storage ?
1.
Store large volume of data that exceed the capacity of main memory
2.
Perform arithmetic and logical operations
3.
To give power to the system too

4.
To help processor in processing

6. Which determines the address of I/O interface ?
1.Register select 2.Chip select **3. Both of above** 4.None of above

7. An exception condition in a computer system caused by an event external to the CPU is known as?
1.
Halt
2.
Process
3.
Interrupt
4.
None of above

8. Whenever CPU detects an interrupt, what it do with current state ?
1.Save it 2.Discard it 3. Depends system to system 4. First finish it

9. I/O processor has direct access to ?

1.
Main Memory

2.
Secondary Memory

3.
Flash Memory

4.
ROM

10. The address mapping is done, when the program is initially loaded is called ?

1.
Relocation

2.
Dynamic relocation

3.
Static relocation

4.
Executable relocation

11. The unit which decodes and translates each instruction and generates the necessary enable signals for ALU and other units is called

1.
ALU

2.
Control Unit

3.
CPU

4.
Logical Unit

12. Which among following is an important data transfer technique ?

1. CAD 2. CAM **3. DMA** 4. MMA

13. RISC stands for ?

1. Risk Instruction Source Computer

2. **Reduced Instruction Set Computer**

3. Risk Instruction Set Computer

4. Risk Instruction Set Computing

14. The performance of the cache memory is measured in terms of ?

1. **Hit Ratio**

2. Chat Ratio

3. Copy Ratio

4. Data Ratio

15. A set of physical addresses is also known as ?

1. Disk Space

2. Address Space

3. **Memory Space**

4. Locations

16. Which devices among following are usually designed on the complex electromechanical principle ?

1.Printing devices 2. **Input devices** 3.Storage devices 4. Peripheral devices

17. _____ read the data by reflecting pulses of laser beams on the surface ?

1. Magnetic disk

2. Optical disk

3. Floppy disk

4. ROM

18. If CPU and I/O interface share a common bus than transfer of data between two units is known as ?

1. Asynchronous

2. Clock dependent

3. **Synchronous**

4. Decoder independent

19. All the operations in a digital system are synchronized by a clock that is generated by ?

1. Clock

2. Clock generator

3. Pulse

4. **Pulse generator**

20. Asynchronous means ?

1. **Not in step with the elapse of time**
2. Not in step with the elapse of address
3. Not in step with the elapse of data
4. Not in step with the elapse of control

21. Where does a computer add and compare data?

1. Hard disk
2. Floppy disk
3. **CPU chip**
4. Memory chip

22. Which of the following registers is used to keep track of address of the memory location where the next instruction is located?

1. Memory Address Register
2. Memory Data Register
3. Instruction Register
4. **Program Register**

23.A complete microcomputer system consists of

1. microprocessor
2. memory
3. peripheral equipment
4. **all of above**

24. CPU does not perform the operation

1. data transfer
2. logic operation
3. arithmetic operation
4. None

25. Pipelining strategy is called implement

1. instruction execution
2. **instruction prefetch**
3. instruction decoding
4. instruction manipulation

26. A stack is

1. an 8-bit register in the microprocessor
2. a 16-bit register in the microprocessor
3. **a set of memory locations in R/WM reserved for storing information temporarily during the execution of computer**
4. a 16-bit memory address stored in the program counter

27. A stack pointer is

1. **a 16-bit register in the microprocessor that indicate the beginning of the stack memory.**
2. a register that decodes and executes 16-bit arithmetic expression.
3. The first memory location where a subroutine address is stored.
4. a register in which flag bits are stored

28. The branch logic that provides decision making capabilities in the control unit is known as

1. controlled transfer
2. conditional transfer
3. **unconditional transfer**
4. none of above

29. Interrupts which are initiated by an instruction are

1. internal

2. external

3. hardware

4. software

30. A time sharing system imply

1. more than one processor in the system

2. more than one program in memory

3. more than one memory in the system

4. None of above

31. Processors of all computers, whether micro, mini or mainframe must have

1. ALU

2. Primary Storage

3. Control unit

4. **All of above**

32. What is the control unit's function in the CPU?

1. To transfer data to primary storage
2. to store program instruction
3. to perform logic operations
4. **to decode program instruction**

33. What is meant by a dedicated computer?

1. which is used by one person only
2. **which is assigned to one and only one task**
3. which does one kind of software
4. which is meant for application software only

34 The most common addressing techniques employed by a CPU is

1. immediate
2. direct
3. indirect
4. **all of the above**

35. Pipeline implement

1. fetch instruction
2. decode instruction
3. execute instruction
4. **all of above**

36. Which of the following code is used in present day computing was developed by IBM corporation?

1. ASCII
2. Hollerith Code
3. Baudot code
4. **EBCDIC code**

37. When a subroutine is called, the address of the instruction following the CALL instructions stored in/on the

1. stack pointer
2. accumulator
3. program counter
4. **Stack**

38. A microprogram written as string of 0's and 1's is a

1. symbolic microinstruction
2. binary microinstruction
3. symbolic microprogram
4. **binary microprogram**

39. Memory access in RISC architecture is limited to instructions

1. CALL and RET
2. PUSH and POP
3. **STA and LDA**
4. MOV and JMP

40. A collection of 8 bits is called

1. **byte**
2. word
3. record
4. block

41. The ascending order or a data Hierarchy is

1.
bit - bytes - fields - record - file - database

2.
bit - bytes - record - field - file - database

3.
bytes - bit- field - record - file - database

4.
bytes -bit - record - field - file – database

42. How many address lines are needed to address each memory locations in a 2048 x 4 memory chip?

1.
10

2.
11

3.
8

4.
12

43. A computer program that converts an entire program into machine language at one time is called a/an

1.
interpreter

2.
simulator

3.
compiler

4.
commander

44. In immediate addressing the operand is placed

1. in the CPU register

2. after OP code in the instruction

3. in memory

4. in stack

45. Microprocessor 8085 can address location upto

1. 32K

2. 128K

3. 64K

4. 1M

46. The ALU and control unit of most of the microcomputers are combined and manufacture on a single silicon chip. What is it called?

1. monochip

2. microprocessor

3. ALU

4. control unit

47. When the RET instruction at the end of subroutine is executed,

1. the information where the stack is iniatialized is transferred to the stack pointer

2. the memory address of the RET instruction is transferred to the program counter

3. two data bytes stored in the top two locations of the stack are transferred to the program counter

4. two data bytes stored in the top two locations of the stack are transferred to the stack pointer

48. A microprogram is sequencer perform the operation

1. read
2. write
3. execute
4. **read and execute**

49. Interrupts which are initiated by an I/O drive are

1. internal
2. **external**
3. software
4. all of above

50. CD-ROM stands for

1. Compactable Read Only Memory.
2. Compact Data Read Only Memory.
3. Compactable Disk Read Only Memory.
4. **Compact Disk Read Only Memory.**

51. VGA is

1. **Video Graphics Array**
2. Visual Graphics Array
3. Volatile Graphics Array
4. Video Graphics Adapter

52. BCD is

1.
Binary Coded Decimal
2.
Bit Coded Decimal
3.
Binary Coded Digit
4.
Bit Coded Digit

53. ASCII stands for

1.
American Stable Code for International Interchange

2.
American Standard Case for Institutional Interchange
3.
American Standard Code for Information Interchange

4.
American Standard Code for Interchange Information

54. EEPROM stand for

1.
Electrically Erasable Programmable Read Only Memory

2.
Easily Erasable Programmable Read Only Memory
3.
Electronic Erasable Programmable Read Only Memory

4.
None of the above

55. The smallest entity of memory is called as _____ .

1.
Cell

2.
Block
3.
Instance

4.
Unit

56. During transfer of data between the processor and memory we use _____ .

1.
Cache

2.
TLB
3.
Buffers

4.
Registers

57. The _____ format is usually used to store data .
1.
BCD

2.
Decimal
3.
Hexadecimal

4.
Octal

58. A source program is usually in _____ .
1.

Assembly language

2.
Machine level language
3.
High-level language

4.
Natural language

59. Which memory device is generally made of semi-conductors ?
1.
RAM

2.
Hard-disk
3.
Floppy disk

4.
Cd disk

60. The small extremely fast, RAM's are called as _____ .

1.
Cache

2.
Heaps
3.
Accumulators

4.
Stacks

61. The ALU makes use of _____ to store the intermediate results .
1.

Accumulators

2.
Registers
3.

Heap

4.
Stack

62. The control unit controls other units by generating ___ .

1.
Control signals

2.
Timing signals
3.
Transfer signals

4.
Command Signals

63. ____ bus structure is usually used to connect I/O devices .

1.
Single bus

2.
Multiple bus
3.
Star bus

4.
Ram bus

64. To reduce the memory access time we generally make use of _____ .

1.
Heaps

2.
Higher capacity RAM's
3.
SDRAM's

4.
Cache's

65. _____ is generally used to increase the apparent size of physical memory .
1.
Secondary memory

2.
Virtual memory
3.
Hard-disk

4.
Disks

66. What is meaning of PCB ?
1.
Process control block

2.
Preemptive control block
3.

Process close block

4.
Process carrying block

67. Arithmetic instruction are used to perform operation on ?

1.
Non Numerical data

2.
Numerical data
3.
Both of above

4.
None of above

68. What Mnemonic represents ?

1. Strings
2. Physical Address
3. Operation Address
4. **Operation codes**

69. What is full form of LED ?

1. Low Emitting Diode
2. **Light Emitting Diode**
3. Light Emitting Data
4. Light Encounter Diode

70. Multiprocessor uses large caches but limited process that shares ___ ?

1. Control Bus
2. Memory Bus
3. Multiple memory bus
4. **Single memory bus**

71. Three bit binary numbers can be represented by ?

1. Binary number
2. Decimal number
3. Hexadecimal number
4. **Octal number**

72. In stack organization the insertion operation is known as ?

1. Pop

2. **Push**
3. Down

4. Upper

73. EA stands for ?

1. **Effective address**

2. Effective absolute
3. Elective address

4. End address

74. ___ processor has to check continuously till device becomes ready for transferring the data

1. DMA

2. **Interrupt-initiated I/O**
3. IOP

4. DCP

75. Which memory is assembled between main memory and CPU ?

1. Primary Memory

2. Secondary Memory
3. Registers

4. **Cache Memory**

76. A number system that uses only two digits, 0 and 1 is known as ?

1. Octal number system
2. Hexadecimal system
3. **Binary system**
4. Decimal system

77. Which system has a base or radix of 10 ?

1. Binary
2. Octal
3. Hexadecimal
4. **Decimal**

78. An instruction code must specify the address of the ?

1. **Operand**
2. Opcode
3. Both of above
4. None of above

79. UMA stands for ?

1. Unit memory access
2. **Uniform memory access**
3. Unit memory array
4. Unit metadata access

80. In which of the following status flags required for data transfer are present?

1. **Interface Circuit**

2. Parallel Line
3. Device Circuit
4. None of Above

81. Which interrupt establishes a priority over the various sources to determine which request should be entertained first ?

1. Polling
2. Daisy chaining
3. **Priority interrupt**
4. All of above

82. Which technique is used that identifies the highest priority resource by means of software ?

1. Daisy chaining
2. **Polling**
3. Priority
4. Chaining

83. Which method is used to establish priority by serially connecting all devices that request an interrupt ?

1.Interrupt

2. Polling
3. Priority
4. **Daisy chaining**

84.What is meaning of "VAD" ?

1. Velocity Address
2. Viscous Address
3. **Vector Address**
4. Volatile Address

85. What is meaning of DMAC ?

1. Dual memory access controller
2. **Direct memory access controller**
3. Direct memory access computer
4. Direct memory accumulator controller

86. What is meaning of IOP ?

1. **Input output processor**
2. Input output product
3. Input output producer
4. Input output processing

87. Which is used for this and known as high speed buffer exist with almost each process ?

1. Primary
2. Secondary
3. **Cache**
4. RAM

OS

88. In which condition only one process holds a resource at a given time ?

1. Circular queue

2. Hold and Wait

3. Mutual exclusion

4. Non pre-emption

89. In which condition one process holds the allocated resources and other waits for it ?

1. Non preemption

2. Mutual exclusion

3. Hold and wait

4. All of above

90. A collection of lines that connects several devices is called .....

1. bus

2. peripheral connection wires

3. Both a and b

4. internal wires

91. A complete microcomputer system consist of .....

1. microprocessor

2. memory

3. peripheral equipment

4. all of the above

92. PC Program Counter is also called .....

1.
instruction pointer
2.
memory pointer
3.
data counter
4.
file pointer

93. CPU does not perform the operation .....
1.

data transfer
2.
logic operation
3.
arithmetic operation
4.
all of the above

94. The access time of memory is ..... the time required for performing any single CPU operation.
1.

Longer than

2.
Shorter than
3.
Negligible than

4.
Same as

95. Memory address refers to the successive memory words and the machine is called as .....
1.
word addressable
2.
byte addressable
3.
bit addressable
4.
Terra byte addressable

96. A pipeline is like .....

1.
an automobile assembly line
2.
house pipeline
3.
both a and b
4.
a gas line

97. The output of an AND gate with three inputs, A, B, and C, is HIGH when _____.

1.
A = 1, B = 1, C = 0
2.
A = 0, B = 0, C = 0
3.
A = 1, B = 1, C = 1
4.
A = 1, B = 0, C = 1

98.
If a signal passing through a gate is inhibited by sending a LOW into one of the inputs, and the output is HIGH, the gate is a(n):

1.
AND
2.
NAND
3.
NOR
4.
OR

99. Which of the following logical operations is represented by the + sign in Boolean algebra?

1.
Inversion
2.
AND
3.
OR
4.
Complement

100. The output of a NOR gate is HIGH if _____.

1.
all inputs are HIGH
2.
any inputs is HIGH
3.
any input is LOW
4.
all inputs are LOW

101. The Boolean expression for a 3-input AND gate is _____.

1.
X = AB
2.
X = ABC
3.
X = A+B+C
4.
X = AB+C

102. What does the small bubble on the output of the NAND gate logic symbol mean?

1.
open collector output
2.
tristate
3.
The output is inverted.
4.
none of the above

103.
What are the pin numbers of the outputs of the gates in a 7432 IC?

1.
3, 6, 10, and 13
2.
1, 4, 10, and 13
3.
3, 6, 8, and 11
4.
1, 4, 8, and 11

104. How many inputs of a four-input AND gate must be HIGH in order for the output of the logic gate to go HIGH?

1.
any one of the inputs
2.
any two of the inputs
3.
any three of the inputs
4.
all four input

105. The output of an exclusive-OR gate is HIGH if _____.

1.
all inputs are LOW
2.
all inputs are HIGH
3.
the inputs are unequal
4.
none of the above

106. How many input combinations would a truth table have for a six-input AND gate?

1.
32
2.
48

3.
64
4.
128

107. A one-to-four line demultiplexer is to be implemented using a memory. How many bits must each word have ?

1.
1 bit
2.
2 bits
3.
4 bits
4.
8 bits

108. A positive AND gate is also a negative

1.
NAND gate

2.
NOR gate

3.
AND gate
4.
OR gate

109. How many full adders are required to construct an m-bit parallel adder ?

1.
m/2
2.
m-1
3.
m
4.
m+1

110. Parallel adders are

1.
combinational logic circuits
2.
sequential logic circuits
3.
both (a) and (b)
4.
None of these

111. The digital multiplexer is basically a combination logic circuit to perform the operation

1.
AND-AND
2.
OR-OR

3.
AND-OR

4.
OR-AND

112. What is the octal equivalent of the binary number:

10111101

1.
675
2.
275
3.
572
4.
573

113. The binary code of (21.125)10 is

1.
10101.001
2.
10100.001
3.
10101.010
4.
10100.111

114. A NAND gate is called a universal logic element because

1.
it is used by everybody
2.
any logic function can be realized by NAND gates alone
3.
all the minization techniques are applicable for optimum NAND gate realisation
4.
many digital computers use NAND gates

115. One operation that is not given by magnitude comparator

1.
equal
2.
less
3.
greater
4.
Addition

116. Adding 1001 and 0010 gives output of

1.1011

2.1101

3.1110

4.1111

117. Magnitude comparator compares using operation of

1.
addition
2.
subtraction
3.
division
4.
Multiplication

118. A Boolean function may be transformed into

1.
logical diagram
2.
logical graph
3.
map
4.
Matrix

119. Is it possible to find two algebric expressions that specify same function

1.
No
2.
Yes
3.
May Be
4.
Never

120. Using 10's complement 72532- 3250 is

1.
69282

2.
69272

3.
69252

4.
69232

121. Table that is not a part of asynchronous analysis procedure

1.
Transition Table
2.
State Table
3.
Flow Table
4.
Excitation Table

122. Shift registers are used for

1.
Shifting
2.
Rotating
3.
Adding
4.
Both A and B

123. Two variables will be represented by

1.Eight Minterms
2.
Six Minterms
3.
Five Minterms
4.
Four Minterms

124. Adjacent squares represents a

1.
Circle
2.
Variable
3.
Literal
4.
Minterm

125. A circuit that converts n inputs to 2^n outputs is called

1.
Encoder
2.
Decoder
3.
Comparator
4.
Carry look ahead

126. Encoders are made by three

1.
AND Gate
2.
OR Gate
3.
NAND Gate
4.
XOR Gate

127. BCD to seven segment is a

1.
Encoder
2.
Decoder
3.
Comparator
4.
Carry Look ahead

128. One that is not type of flipflop is

1.
JK
2.
RS
3.
T
4.
ST

129. Flip-flops can be constructed with two

1.
NAND Gate
2.
OR Gate
3.
AND Gate
4.
NOT Gate

130. RS flip-flops are also called

1.
RS Latch
2.
SR Latch
3.
TS Latch
4.
ST Latch

131. Decimal digit in BCD can be represented by

1.
1 input line
2.
2 input lines
3.
3 input lines
4.
4 input lines

132. To perform product of maxterms Boolean function must be brought into

1.
and terms
2.
or terms
3.
not terms
4.
nand terms

133. X+Y=Z represents operation that is

1.
AND
2.
OR
3.
NOT
4.
XOR

134. In design procedure input output values are assigned with

1.
Numeric Values
2.
Letter Symbols
3.
0's
4.
1's

135. Output of AND gates in SOP is connected to

1.
NOT Gate
2.
OR Gate
3.
AND Gate
4.
XOR Gate

136. Mod-6 and mod-12 counters are most commonly used in:

1.
Frequency Counters
2.
Multiplexed Display
3.
Digital Clocks
4.
Power Consumption Meters

137. **How many illegitimate states has synchronous mod-6 counter ?**

1.
3
2.
2
3.
1
4.
6

138. **The clock signals are used in sequential logic circuits to**

1.
Tell the time of the day

2.
Tell how much time has elapsed since the system was turned on

3.
Carry parallel data signals

4.
Synchronize events in various parts of system

139. To build a mod-19 counter the number of flip-flops required is

1.
3
2.
5
3.
7
4.
9

140. **The main difference between JK and RS flip-flop is that**

1.
JK flip flop needs a clock pulse
2.
There is a feedback in JK lip-lop

3.
JK Flip Flop accepts both inputs as 1

4.
JK flip-flop is acronym of Junction cathode multivibrator

141. **Simplified form of the boolean expression (X + Y + XY) (X + Z) is**
1.
X + Y + Z
2.
XY + YZ
3.
X + YZ
4.
XZ + Y

142. **Which of the following boolean expressions is not logically equivalent to all of the rest ?**

1.
ab + (cd)' + cd + bd'

2.
a (b + c) + cd

3.
ab + ac + (cd)'

4.
bd' + c'd' + ab + cd

143. **Which of the following statements is true ?**

1.
(A + B) (A + C) = AC + BC

2.
(A + B) (A + C) = AB + C

3.
(A + B) (A + C) = A + BC

4.
(A + B) (A + C)= AC + B

144. The function of a multiplexer is
1.
to decode information
2.
to select 1 out of N input data sources and to transmit it to single channel
3.
to transit data on N lines
4.
to perform serial to parallel conversion

145. A combinational logic circuit which generates a particular binary word or number is

1.
Decoder
2.
Multiplexer
3.
Encoder
4.
Demultiplexer

146.
In which of the following adder circuits, the carry look ripple delay is eliminated ?

1.
Half Adder
2.
Full Adder
3.
Parallel Adder
4.
Carry Look Ahead Adder

147. A full-adder is a logic circuit which can add two single order bits plus a carry in from a previous adder. Its incomplete truth table is given in the table below. The missing entry in the outputs for SUM and CARRY out are

Input				Outputs	
A	A	B	Cin	Sum	$Carry_{OUT}$
0	0	0	0	0	0
0	0	0	1	1	0
0	0	1	0	1	0
0	0	1	1	0	1
1	1	0	0	1	0
1	1	0	1	0	1
1	1	1	0	0	1
1	1	1	1	?	?

1.
0 0
2.
0 1
3.
1 0
4.
1 1

148. The characteristic equation of D flip-flop is:

1.
Q = 1
2.
Q = 0
3.
Q = D'
4.
Q = D

149. If four 4 input multiplexers drive a 4 input multiplexer, we get a:

1.
16 input MUX
2.
8 input MUX
3.
4 input MUX
4.
2 input MUX

150. Which of the following equations would accurately describe a four-input OR gate when A = 1, B = 1, C = 0, and D = 0?

1.
1 + 1 + 0 + 0 = 01
2.
1 + 1 + 0 + 0 = 1
3.
1 + 1 + 0 + 0 = 0
4.
1 + 1 + 0 + 0 = 00

151. What is the name of a digital circuit that produces several repetitive digital waveforms?

1.
an inverter
2.
an OR Gate
3.
a Johnson shift counter
4.
an AND Gate

152. The basic types of programmable arrays are made up of _____.

1.
AND Gate
2.
OR Gate
3.
NAND and NOR gates
4.
AND gates and OR gates

153. The logic gate that will have HIGH or "1" at its output when any one (or more) of its inputs is HIGH is a(n):

1.
OR gate
2.
AND gate
3.
NOR gate
4.
NOT gate

154. What is the Boolean expression for a four-input OR gate?

1.
Y* = *A* + *B* + *C* + *D
2.
$Y = A \bullet B \bullet C \bullet D$
3.
$Y = A - B - C - D$
4.
$Y = A \$ B \$ C \$ D$

155. How is a *J-K* flip-flop made to toggle?
1.
$J = 0, K = 0$
2.
$J = 1, K = 0$
3.
$J = 0, K = 1$
4.
***J* = 1, *K* = 1**

156. How many flip-flops are required to produce a divide-by-128 device?

1.
1
2.
4
3.
6
4.
7

157.
Which of the following is correct for a gated *D* flip-flop?
1.
The output toggles if one of the inputs is held HIGH.
2.
Only one of the inputs can be HIGH at a time.
3.
The output complement follows the input when enabled.
4.
***Q* output follows the input *D* when the enable is HIGH.**

158. A correct output is achieved from a master-slave *J-K* flip-flop only if its inputs are stable while the

1.
clock is HIGH
2.
clock is LOW
3.
slave is transferring
4.
flip-flop is reset

159. On a positive edge-triggered S-R flip-flop, the outputs reflect the input condition when _____.

1.
the clock pulse is LOW
2.
the clock pulse is HIGH
3.
the clock pulse transitions from LOW to HIGH
4.
the clock pulse transitions from HIGH to LOW

160. If an active-HIGH S-R latch has a 0 on the S input and a 1 on the R input and then the R input goes to 0, the latch will be _____.

1.
SET
2.
RESET
3.
Clear
4.
Invalid

161. With four *J-K* flip-flops wired as an asynchronous counter, the first output change of divider #4 indicates a count of how many input clock pulses?

1.
16
2.
8
3.
4
4.
2

162. Edge-triggered flip-flops must have:

1.
very fast response times
2.
at least two inputs to handle rising and falling edges
3.
positive edge-detection circuits
4.
negative edge-detection circuits

163. What is one disadvantage of an S-R flip-flop?

1.
It has no enable input.
2.
It has an invalid state.
3.
It has no clock input.
4.
It has only a single output.

164.
If an input is activated by a signal transition, it is _____.

1.
edge-triggered
2.
toggle triggered
3.
clock triggered
4.
noise triggered

165. An active-HIGH input S-R latch has a 1 on the *S* input and a 0 on the *R* input. What state is the latch in?

1.
Q =1,Q' = 0
2.
Q =1,Q' = 1
3.
Q =0,Q' = 1
4.
Q =0,Q' = 0

166. **Assertion (A):** A demultiplexer can be used as a decoder.
Reason (R): A demultiplexer can be built by using AND gates only.
1.
Both A and R are correct and R is correct explanation of A
2.
Both A and R are correct but R is not correct explanation of A
3.
A is true, R is false
4.
A is false, R is true

167.
4 bit 2's complement representation of a decimal number is 1000. The number is

1.
+8
2.
0
3.
-7
4.
-8

168. The digital multiplexer is basically a combination logic circuit to perform the operation

1.
AND-AND
2.
OR-OR
3.
AND-OR
4.
OR-AND

169. A 4 : 1 multiplexer requires _____ data select line.

1.
1
2.
2
3.
3
4.
4

170. It is desired to display the digit 7 using a seven segment display. The LEDs to be turned on are

1.
a, b, c
2.
b, c, d
3.
c, d, e
4.
a, b, d

171. 100101_2 is equal to decimal number
1.
47
2.
37
3.
21
4.
17

172. A Karnaugh map with 4 variables has

1.
2 cells
2.
4 cells
3.
8 cells
4.
16 cells

173.
An 8 bit data is to be entered into a parallel in register. The number of clock pulses required is

1.
8
2.
4
3.
2
4.
1

174. A universal shift register can shift

1.
from left to right
2.
from right to left
3.
both from left to right and right to left
4.
none of the above

175. A_{16} X 2_{16} _____

1.
16_{16}
2.
15_{16}
3.
14_{16}
4.
13_{16}

176. For the binary number 11101000, the equivalent hexadecimal number is

1.
F 9
2.
F 8
3.
E 9
4.
E 8

177. A XOR gate has inputs A and B and output Y. Then the output equation is

1.
Y = AB
2.
Y = AB + A B
3.
Y = A B + A B
4.
Y = A B + A B

178. A full subtractor has a total of

1.
2 inputs
2.
3 inputs
3.
4 inputs
4.
1 input

179. 1274_{16} - $3A7_{16}$ = _____

1.
ACA_{16}
2.
ACB_{16}
3.
ECD_{16}
4.
AAA_{16}

180. A + (B . C) =

1.
A . B + C
2.
A . B + A . C
3.
A
4.
(A + B) . (A + C)

181. The inputs to a 3 bit binary adder are 111_2 and 110_2. The output will be

1.
101
2.
1101
3.
1111
4.
1110

182. Which of the following is not a characteristic of a flip flop?

1.It is a bistable device

2.It has two outputs

3.It has two outputs are complement of each other

4.It has one input terminal

183. The decimal equivalent of the hexadecimal number (3 E 8)16 is

1.1000 2.982 3.768 4.323

184. The Boolean expression Y = (A + B + AB) C then Y will be equal to

1.AC' 2.BC' 3.C' **4.None**

184. How many JK flip-flops are needed to make a 4-bit shift register?

1.2 **2.4** 3.6 4.8

185. The radix of a hexadecimal system is

1.2 2.3 3.8 **4.16**

185. Two 2's complement number having sign bits X and Y are added and the sign bit of the result is Z. then, the occurrence of overflow is indicated by the Boolean function.

1.XYZ 2.X'Y'Z' **3.X'Y'Z +XYZ'** 4.XY + YZ+ZX

186. If A = 0101, then A' is

1.1010 2.1011 3.1001 4.0110

187. In a 3 input NOR gate, the number of states in which output is 1 equals

1.1 2.2 3.3 4.4

188. The 2's complement representation of - 17 is

1.01110 **2.01111** 3.11110 4.10001

189. A microprogram is a sequencer which performs ..... operation ?

1. Read
2. Write
3. Read and Write
4. **Read and Execute**

190. What will be printed after execution of the following program code?

```
void main()
{
    printf("\\nab");
    printf("\\bsi");
    printf("\\rha");
}
```

1.
absiha
2.
asiha
3.
hai
4.
None of these

191. If an integer needs four bytes of storage, then maximum value of an unsigned integer is

1.
$2^{32} - 1$
2.
$2^{31} - 1$
3.
2^{32}
4.
2^{31}

192. Which of the following is the correct order of evaluation for the below expression?

q = (a - b) + c * d / e % f – g

1.
=-* / % + -
2.
=-+* / % -
3.
-*/%+-=
4.
*** / % - + - =**

193.
How many times "Programming in C" is get printed?

```
#include<stdio.h>
int main()
{
   int x;
   for(x=0; x<10; );
   {
      if(x < 5)
         continue;
      else
         break;
      printf("Programming in C");
      x++;
   }
   return 0;
}
```

1.
5 times
2.
11 times
3.
Infinite loop
4.
Error

194. Which of the following cannot be checked in a switch-case statement?

1.
Character
2.
Float
3.
Integer
4.
enum

195. The keyword used to transfer control from a function back to the calling function is

1.
break
2.
goto
3.
continue
4.
return

196. How many times will “Hello World” be printed for the following code?

```
int main()
{
   int i = 1024;
   for (; i; i >>= 1)
      printf("Hello World");
   return 0;
}
```

1.
10
2.
11
3.
Infinite
4.
Error

197. What does PHP stand for?
1.
Personal Home Page

2.
Hypertext Preprocessor
3.
Pretext Hypertext Processor
4.
Preprocessor Home Page

198. Who is the father of PHP?

1.
Rasmus Lerdorf
2.
Willam Makepiece

3.
Drek Kolkevi

4.
List Barely

199. PHP files have a default file extension of

1.
.html
2.
.xml

3.
.php
4.
.ph

200. A PHP script should start with ___ and end with ___:

1.
< php >

2.
< ? php ?>
3.
< ? ? >
4.
< ?php >

201. Which of the looping statements is/are supported by PHP?

i) for loop
ii) while loop
iii) do-while loop
iv) foreach loop
1.
(i) and (ii)

2.
(i), (ii) and (iii)

3.
All of the mentioned
4.
None of the mentioned

202. Which of the following is/are a PHP code editor?

i) Notepad
ii) Notepad++
iii) Adobe Dreamweaver
iv) PDT

1.
Only (iv)
2.
All of the mentioned
3.
(i), (ii) and (iii)

4.
Only (iii)

203. Which of the following must be installed on your computer so as to run PHP script?

i) Adobe Dreamweaver
ii) PHP
iii) Apache
iv) IIS

1.
All of the mentioned
2.
Only (ii)
3.
(ii) and (iii)

4.
(ii), (iii) and (iv)

204. Which version of PHP introduced Try/catch Exception?

1.
PHP 4
2.
PHP 5
3.
PHP 5.3
4.
PHP 6

205. We can use ___ to comment a single line?

i) /?
ii) //
iii) #
iv) /* */

1.
Only (ii)
2.
(i), (iii) and (iv)

3.
(ii), (iii) and (iv)

4.
Both (ii) and (iv)

206. Which of the following php statement/statements will store 111 in variable num?

i) int $num = 111;
ii) int mum = 111;
iii) $num = 111;
iv) 111 = $num;

1.
Both (i) and (ii)

2.
All of the mentioned.

3.
Only (iii)
4.
Only (i)

207. Which of following variables can be assigned a value to it?

(i) $3hello
(ii) $_hello
(iii) $this
(iv) $This

1.
All of the mentioned

2.
Only (ii)
3.
(ii), (iii) and (iv)

4.
(ii) and (iv)

208. If $a = 12 what will be returned when ($a == 12) ? 5 : 1 is executed?

1.
12

2.
1

3.
Error

4.
5

209. Which of the following PHP statements will output Hello World on the screen?

(i) echo (“Hello World”);
(ii) print (“Hello World”);
(iii) printf (“Hello World”);
(iv) sprintf (“Hello World”);
1.
(i) and (ii)

2.
(i), (ii) and (iii)
3.
All of the mentioned
4.
(i), (ii) and (iv)

210.

What will be the output of the following PHP code?

```
< ?php
$score = 1234;
$scoreboard = (array) $score;
echo $scoreboard[0];
?>
```

1.
1

2.
Error

3.
1234

4.
2

211. Which one of the following functions will convert a string to all uppercase?

1.
strtoupper()

2.
uppercase()

3.
str_uppercase()

4.
struppercase()

212. Which one of the following functions can be used to concatenate array elements to form a single delimited string?

1.
explode()

2.
implode()

3.
concat()

4.
concatenate()

213.

Which one of the following functions finds the last occurrence of a string, returning its numerical position?

1.
strlastpos()

2.
strpos()

3.
strlast()
4.
strrpos()

214.

Which one of the following regular expression matches any string containing zero or one p?
1.
p+
2.
p*
3.
p?
4.
p#

215. PHP's numerically indexed array begin with position __.

1.
1

2.
2
3.
0
4.
-1

216. Which of the functions is used to sort an array in descending order?

1.
sort()

2.
asort()

3.
rsort()
4.
dsort()

217.
What will be the output of the following PHP code?

```
< ?php
   $fruits = array ("mango", "apple", "pear", "peach");
   $fruits = array_flip($fruits);
   echo ($fruits[0]);
?>
```

1.
mango
2.
Error
3.
peach

4.
0

218. What will be the output of the following php code?

```
< ?php
   $states = array("karnataka" => array     ( "population" => "11,35,000", "captial" => "Bangalore"),
   "Tamil Nadu" => array( "population" => "17,90,000",    "captial" => "Chennai") );
   echo  $states["karnataka"]["population"];
?>
```

1.
karnataka 11,35,000

2.
11,35,000
3.
population 11,35,000

4.
karnataka population

219. Which in-built function will add a value to the end of an array?

1.
array_unshift()

2.
into_array()

3.
inend_array()

4.
array_push()

220.

What will be the output of the following PHP code?

```
< ?php
   $fruits = array ("apple", "orange", array ("pear", "mango"),
   "banana");
   echo (count($fruits, 1));
?>
```

1.
3
2.
4
3.
5
4.
6

221. Which function returns an array consisting of associative key/value pairs?

1.
count()
2.
array_count()
3.
array_count_values()

4.
count_values()

222. The filesize() function returns the file size in ___.

1.
bits
2.
bytes
3.
kilobytes
4.
gigabytes

223. The updated MySQL extension released with PHP 5 is typically referred to as

1.
MySQL

2.
mysql
3.
mysqli
4.
mysqly

224. Which one of the following lines need to be uncommented or added in the php.ini file so as to enable mysqli extension?

1.
extension=php_mysqli.dll
2.
extension=mysql.dll
3.
extension=php_mysqli.dl
4.
extension=mysqli.dl

225. Which method returns the error code generated from the execution of the last MySQL function?

1.
errno()
2.
errornumber()
3.
errorno()
4.
errnumber()

226. Which one of the following statements is used to create a table?

1.
CREATE TABLE table_name (column_name column_type);

2.
CREATE table_name (column_type column_name);
3.
CREATE table_name (column_name column_type);
4.
CREATE TABLE table_name (column_type column_name);

227. Inheritance is the means by which one or more classes can be derived from a/an ___ class.

1.
base
2.
abstract
3.
null
4.
predefined

228. Which method or property can only be accessed from within the enclosing class? Even subclasses have no access.

1.
onlineexam.br>

2.
friendly
3.
private
4.
Protected

229. What is the default port number of HTTP's?

1.
70
2.
80
3.
90
4.
100

230.

Which function is used to determine whether a file was uploaded?

1.
is_file_uploaded()

2.
is_uploaded_file()

3.
file_uploaded("filename")

4.
uploaded_file("filename")

231.

Which of the following directive determines the maximum amount of time that a PHP script will spend attempting to parse input before registering a fatal error?

1.max_take_time

2.max_intake_time

3.max_input_time

4.max_parse_time

232. What is the default value of the directive max_file_limit?

1.
10
2.
15
3.
20
4.
25

233. To validate an e-mail address, which flag is to be passed to the function filter_var()?

1.
FILTER_VALIDATE_EMAIL

2.
FILTER_VALIDATE_MAIL

3.
VALIDATE_EMAIL

4.
VALIDATE_MAIL

234. Which one of the following keyword is used in conjunction with an Exception object?

1.
throws
2.
Exception
3.
throw
4.
final

235. Which one of the following is the very first task executed by a session enabled page?

1.
Delete the previous session

2.
Start a new session

3.
Check whether a valid session exists

4.
Handle the session

236.

In mail($param2, $param2, $param3, $param4), the $param2 contains:

1.
The Message
2.
The Recipient
3.
The header
4.
The subject

237. Which of the following data types are preceded by an "at" sign (@) in Perl?

1.
Scalar
2.
Array
3.
Hashes
4.
All the above

238. Which of the following statement restarts the loop block without evaluating the conditional again?

1.
next
2.
last
3.
continue
4.
redo

239. In PERL which of the following operator checks if the value of two operands are equal or not, if yes then condition becomes true?

1.
==
2.
!=
3.
<=>
4.
=>

240. In PERL which of the following operator returns true if the left argument is stringwise less than the right argument?

1.
lt
2.
ge
3.
le
4.
gt

241. Which of the following operator decreases integer value by one?
1.
--
2.
->
3.
++
4.
—

242. What is Perl?

1.
Practical Extraction and Report Language
2.
Practice for Exclusive and Report Language
3.
Practical Exclusive and Report Language

4.
Practical Extraction and Report Learning

243. Which of the following is used in perl?

1.
else if
2.
elseif
3.
elsif
4.
Elif

244. Which of the following datatypes are valid in Ruby?

1.
Number
2.
Boolean
3.
String
4.
All the above

245. Which statement is correct for the given C program?

```
int i;
int main()
{
   if (i);
   else
      printf("Ëlse");
   return 0;
}
```

1.if block is executed

2.else block is executed

3.It is unpredictable as i is not initialized

4.Error

246. What is the output for the following C program?

```
#include<stdio.h>
int main()
{
   int i = 0;
   for (printf("1 "); i < 2 && printf("2 "); ++i && printf("3 "))
   {
      printf("$ ");
   }
   return 0;
}
```

1.
1 2 $ 3 2 $
2.
1 2 $ 3 2 $ 3
3.
1 2 3 $ 2 3

4.
Error

247. What is the output for the following C Program?

```
#include <stdio.h>
int main()
{
   int i = 3;
   switch(i)
   {
      printf("Three ");
      case 1: printf("One");
         break;
      case 2: printf("Two");
         break;
      defau1t: printf("Invalid Input");
   }
   return 0;
}
```

1.
No output
2.
Three
3.
Invalid Input
4.
Error

248. What is the output for the following C Program?

```
#include<stdio.h>
int main()
{
   int x = 10;
   if (x == 5);
     x -= 5;
   if (x == 10)
     x++;
   else
     x += 3;
   printf("x = %d", x);
   return 0;
}
```

1.
x = 11
2.
x = 8
3.
Error
4.
11

249. With respect to the following “for” loops in C, choose the correct statement

```
int i=0;
for (i < 10; i = 0 ; i++) // (i)
for (i++ ; i = 0) // (ii)
for (i = 0; i++ ; i < 10) // (iii)
for (i = 0; i<10 ; i ++) // (iv)
for (i++; i = 0 ; i < 10) // (v)
for (i=1; i <=10 ; i = 10) ;// (vi)
```

1.
All the above “for” loops would compile successfully
2.
Error in the "for" loop (ii)
3.
Only (iv) would compile successfully
4.
Error in all for loops

250. What is the output for the given C Program?

```
#include <stdio.h>
int main()
{
 int a, b = 2, c = 2;
 a = b == c;
 printf("%d", a);
 return 0;
}
```

1.

1
2.
0
3.
5
4.
Error

251. #include <stdio.h>
int main()
{
  int i = 10;
  printf("%d", (++i)++);
  return 0;
}
What is the output of the above program?

1.
10
2.
11
3.
12
4.
Error

252. In C, Relational operators cannot be used on

1.
structure
2.
long
3.
strings
4.
float

253. Which type conversion is NOT accepted in C?

1.
From char to int
2.
From float to char pointer
3.
From negative int to char
4.
From double to char

254. What will be the data type of the result of the following operation in C?
(float)a * (int)b / (long)c * (double)d

1.
int
2.
long
3.
float
4.
double

255. What is the output of this C code?

```
#include <stdio.h>
int main()
{
   if (~0 == 1)
      printf("yes\n");
   else
      printf("no\n");
}
```

1.
yes
2.
no
3.
Error
4.
Undefined

256. Write the output for following C code?

```
#include <stdio.h>
void main()
{
   int k = 8;
   int x = 0 == 1 && k++;
   printf("%d%d\n", x, k);
}
```

1.
0 9
2.
0 8
3.
1 8
4.
1 9

257. What is the output for the following C Program?

```
#include <stdio.h>
void main()
{
   unsigned int x = -5;
   printf("%d", x);
}
```

1.
Run time Error
2.
4294967291
3.
-5
4.
5

258. What is the output for the following C Program?

```
int main()
{
        int x = 5, y = 2, z=3;
        z = (++y) ? y == 1 && x : x++ + y--;
        printf("%d", z);
        return 0;
}
```

1.Error

2.7

3.3

4.0

259. Which of the following is the syntax for declaring a function in C?

1.
return-type function-name(argument type);
2.
return-type function-name(argument type)
{ }
3.
return-type (argument type)function-name;
4.
Both (a) and (b)

260. Can we use a function as a parameter of another function in C? [Eg: void get(int func())]

1.
Yes, and we can use the function value conveniently
2.
Yes, but we call the function again to get the value, not as convenient as in using variable
3.
No, C does not support it
4.
Depends on the compiler

261. What is the output for the following C Program?

```
#include <stdio.h>
int main()
{
 printf("%d", main);
 return 0;
}
```

1.
Address of main function
2.
Compiler Error
3.
Runtime Error
4.
Garbage value

262. What is the output of this C code?

```
#include <stdio.h>
int main()
{
   int i = 0;
   do
   {
      i++;
      if (i == 2)
         continue;
      printf("Hai ");

   } while (i < 2);
   printf("%d\n", i);
}
```

1.
Hai 2
2.
Hai Hai 3
3.
Hai 3
4.
Infinite loop

263. In C, array sizes are optional during array declaration by using _____ keyword.

1.
auto
2.
static
3.
extern
4.
register

264.

What is the output for the following C Program?

```
#include <stdio.h>
int main()
{
   static int i=5;
   if (--i){
      printf("%d ",i);
      main();
   }
}
```

1.
4 3 2 1
2.
Infinite loop
3.
4 4 4 4
4.
Error

265. What is the output for the following C Program?

```
#include <stdio.h>
static int x = 1;
void main()
{
   int x = 2;
   {
      x = 3;
   }
   printf("%d", x);
}
```

1.
1
2.
2
3.
3
4.
Error

266. What is the output for the following C code?

```
#include <stdio.h>
int main()
{
   register int i = 5;
   int *p = &i;
   *p = 6;
   printf("%d %d ", i, *p);
}
```

1.
Depends on whether i is actually stored in machine register
2.
5 5
3.
6 6
4.
Error

267. In C, register keyword forces the compiler to place the variable in machine register

1.
true
2.
false
3.
Depends on the configuration
4.
None of the above

268. What is the output for the following C Program?

```
#include<stdio.h>
int main()
{
 typedef static int *i;
 int j;
 i a = &j;
 printf("%d", *a);
 return 0;
}
```

1.
Address of j
2.
0
3.
Garbage Value
4.
Error

269. C preprocessors can have compiler specific features

1.
true
2.
false
3.
Depends on the standard
4.
Depends on the platform

270. _____ is the property which allows to produce different executable for different platforms in C

1.
File inclusion
2.
Selective inclusion
3.
Conditional compilation
4.
Recursive macros

271. C Preprocessor feature that supply line numbers and filenames to compiler is called as _____

1.
Selective inclusion
2.
macro substitution
3.
Concatenation
4.
Line control

272. #include <heaferfile.h> are _____ files and #include "headerfile.h" are _____ files

1.
Library, Library
2.
Library, user-created header
3.
User-created header, library
4.
They can include all types of file

273. C preprocessor is a program

1.
That processes its input data to produce output that is used as input to another program
2.
That is nothing but a loader
3.
That links various source files
4.
All the above

274. In C, #pragma exit is primarily used for?

1.
Checking memory leaks after exiting the program
2.
Informing Operating System that program has terminated
3.
Running a function at exiting the program
4.
No such preprocessor exist

275. Which one is not a C pre-processor?

1.
#if
2.
#for
3.
#ifdef
4.
#include

276. What will happen if you create a file stdio.h and use #include “stdio.h” in C?

1.
The predefined library file will be selected
2.
The user-defined library file will be selected
3.
Both the files will be included
4.
The compiler won’t accept the program

277. What is the output of this C code?

```
#include <stdio.h>
#define print(m, n) m ## n
void myfunc();
int main()
{
   myfunc();
}
void myfunc()
{
   printf("%d\n", print(1, 2));
}
```

1.
12
2.
1 2
3.
Compile time error
4.
Undefined behavior

278. ___ is the indirection operator in C.

1.
&
2.
*****
3.
->
4.
.

279. Which of the following C statement, does not initialize ptr to null. (assuming variable declaration of a as int a=0;)

1.
int *ptr = &a;
2.
int *ptr = &a – &a;
3.
int *ptr = a – a;
4.
All the above

280. What is the output of the following C code?

```
#include <stdio.h>
void main()
{
   int x = 0;
   int *ptr = &5;
   printf("%p\n", ptr);
}
```

1.
5
2.
Address of 5
3.
Nothing
4.
Compile Time Error

281. What is the output of this C code?

```
#include
void f1(int*);
int main()
{
   int i = 10;
   foo((&i)++);
}
void f1(int *p)
{
   printf("%d\n", *p);
}
```

1.10

2.Garbage value

3.Compile time error

4.Segmentation fault/code crash

282. Which of the following is the correct syntax to send an array as a parameter to function in C

1.
func(&array);
2.
func(array[size]);
3.
func(*array);
4.
None of the above

283. What is the output of this C code?

```
#include <stdio.h>
int main()
{
   double *ptr = (double *)100;
   ptr = ptr + 2;
   printf("%u", ptr);
}
```

1.
102
2.
104
3.
108
4.
116

284. Which of the following operand can be applied to pointers p and q in C?
(Assuming initialization as int *a = (int *)2; int *b = (int *)3;)

1.
a + b
2.
a - b
3.
a * b
4.
a / b

285. What is the size of *ptr in a 32-bit machine, (assuming C initialization as int *ptr = 10;)?

1.
1
2.
2
3.
4
4.
8

286. Which of following logical operation can be applied to pointers in C?
(Assuming initialization int *a = 2; int *b = 3;)

1.
a | b
2.
a ^ b
3.
a & b
4.
None of the above

287. What is the output of this C code?

```
#include <stdio.h>
void main()
{
   char *s= "hello";
   char *p = s + 2;
   printf("%c\t%c", *p, s[1]);
}
```

1.
l e
2.
h e
3.
l l
4.
Error

288. What is the output of this C code?

```
#include <stdio.h>
int main()
{
    void *p;
    int a[4] = {1, 2, 3, 4};
    p = &a[3];
    int *ptr = &a[2];
    int n = (int*)p - ptr;
    printf("%d\n", n);
}
```

1.
1
2.
Compile time error
3.
Segmentation fault
4.
4

289. What is the output of this C code?

```
#include <stdio.h>
int main()
{
    int a[4] = {1, 2, 3, 4};
    int b[4] = {1, 2, 3, 4};
    int n = &b[3] - &a[2];
    printf("%d\n", n);
}
```

1.
-3
2.
5
3.
4
4.
Compile Time Error

290. Comment on the output of this C code?

```
#include
int main()
{
   char *str = "This" //Line 1
   char *ptr = "Program\n"; //Line 2
   str = ptr; //Line 3
   printf("%s, %s\n", str, ptr); //Line 4
}
```

1.Memory holding “This” is cleared at line 3

2.Memory holding “This” loses its reference at line 3

3.You cannot assign pointer like in Line 3

4.Output will be This, Program

291. The syntax for constant pointer to address (i.e., fixed pointer address) in C is:

1.
const <type> * <name>
2.
<type> * const <name>
3.
<type> const * <name>
4.
Both (a) and (c)

292. How will you declare and assign a function pointer in C?:
(Assuming the function to be assigned is “int multi(int, int);”)

1.
int (*fn_ptr)(int, int) = multi;
2.
int *fn_ptr(int, int) = multi;
3.
int *fn_ptr(int, int) = &multi;
4.
Both (b) & (c)

293. Comment on the output of this C code?

```
#include <stdio.h>
int main()
{
   int a = 10;
   int **c -= &&a;
}
```

1.
You cannot apply any arithmetic operand to a pointer
2.
We don't have address of an address operator
3.
Both (a) and (b)
4.
None of the above

294. Comment on the following C statement:

```
int (*a)[5];
```

1.
An array "a" of pointers
2.
A pointer "a" to an array
3.
A ragged array
4.
None of the above

295. Comment on the 2 arrays regarding P and Q in C:

```
int *a1[5];
int *(a2[5]);
```

P. Array of pointers
Q. Pointer to an array

1.
a1 is P, a2 is Q
2.
a1 is P, a2 is P
3.
a1 is Q, a2 is P
4.
a1 is Q, a2 is Q

296. Which of the following is not possible statically in C?

1.
Jagged Array
2.
Rectangular Array
3.
Cuboidal Array
4.
Multidimensional Array

297.

What is the output of this C code?

```
#include <stdio.h>
int main()
{
    int i = 0, j = 1;
    int *a[] = {&i, &j};
    printf("%d", (*a)[0]);
    return 0;
}
```

1.
Compile time error
2.
Undefined behavior
3.
0
4.
Garbage value

298.
What will any variable evaluate to if it is of Boolean data type?
1.
True
2.
False
3.
Either True or False
4.
Nil

299.
Which of the following is/are generated from char pointer in C?
1.
char *string = “Hello.”;
2.
char *string;

scanf(“%s”, string);
3.
char string[] = “Hello.”;
4.
Both (a) and (c).

300.
Which of the following C declaration(s) is/are invalid?
1.
int a[][] = {{1, 2, 3}, {2, 3, 4, 5}};
2.
int *a[] = {{1, 2, 3}, {2, 3, 4, 5}};
3.
int a[4][4] = {{1, 2, 3}, {2, 3, 4, 5}};
4.
Both (a) and (b)

301.
Ruby is a case-sensitive language.

1.
True
2.
False
3.
Depends
4.
None of the above

302.
What is the output of the given code?
my_string=Ruby puts(my_string)

1.
Ruby
2.
Error
3.
Nil
4.
None of the mentioned above

303.
In Ruby Arrays can be used to store multiple values in one single variable.

1.
Yes
2.
No
3.
May be
4.
None of the mentioned above

304.
Each element in an array has an index and the starting index is index 1.

1.
True
2.
False
3.
sometimes starts at 0
4.
Always starts at 0

Which of the following is the valid string method in Ruby?

1.
The .length method
2.
The .upcase method

3.
The .downcase method

4.
The .irreverse method

What is the output of the following?
"Iam learning ruby language".length

1.
23
2.
26
3.
10
4.
18

Which of the following syntax is correct for command-line arguments in C?

1.

int main(int var, char *varg[])

2.

int main(char *argv[], int argc)

3.

```
int main()
   {
      int argv, char *argc[];
   }
```

4.

Both (a) and (b)

What would be the output if we try to execute following segment of C code (assuming the following input “Have a nice day”)?

```
   printf(“%s\n”, argv[argc]);
```

1.

(null)

2.

day

3.

good

4.

Segmentation Fault

Use of function pointers in C is

1.

Nothing

2.

There are no function pointers in c

3.

To invoke a function

4.

To call a function defined at run-time

Which of the following C expression is true for the following?

ptr is array with 3 elements of pointer to function returning pointer of int

1.

int **ptr[3]();

2.

int *(*ptr[3])();

3.

int (*(*ptr[3])());

4.

None of the above

What will be the output of the following?
"Ruby".reverse.upcase

1.
RUBY

2.
ybuR

3.
YBUR
4.
YBUr

What will be the output of the following
my $txt = 'I am learning Perl'; $txt =~ /(\w+)$/;

1.
Perl
2.
I
3.
I am learning Perl

4.
Undef

State the following declaration is valid in C?
int* ((*x)())[2];
1.true

2.false

3.Undefined behavior

4.Depends on the standard

What will be the output of the following my $txt = 'I am learning Perl';my ($match) = $txt =~ /\s(.*)\s/;

1.
am learning

2.
I

3.
I am learning Perl
4.
None

What is the output of this C code?

```
#include <stdio.h>
struct p
{
    int x;
    char y;
};
int main()
{
    struct p p1[] = {1, 92, 3, 94, 5, 96};
    struct p *ptr1 = p1;
    int x = (sizeof(p1) / 3);
    if (x == sizeof(int) + sizeof(char))
        printf("%d\n", ptr1->x);
    else
        printf("falsen");
}
```

1.
Compile time error
2.
1
3.
Undefined behavior
4.
False

Which of the following are incorrect syntax for pointer to structure in C?
(Assuming struct temp{int b;}*my_struct;)

1.
***my_struct.b = 10;**
2.
(*my_struct).b = 10;
3.
my_struct->b = 10;
4.
Both (a) and (b)

Which of the following structure declaration doesn't require pass-by-reference in C?
1.
```
struct{int a;}s;
   main(){}
```
2.
```
struct temp{int a;};
   main(){
      struct temp s;
   }
```
3.
```
struct temp{int a;};
   main(){}
   struct temp s;
```
4.
None of the above

For the following C function call which option is not possible?
   func(&s.a); //where s is a variable of type struct and a is the member of the struct.
1.
Compiler can access entire structure from the function.
2.
Individual member's address can be displayed in structure.
3.
Individual member can be passed by reference in a function.
4.
Both (b) and (c).

What is the output of this C code?
```
#include <stdio.h>
   struct p
    {
      int x;
      int y;
   };
   int main()
   {
      struct p p1[] = {1, 92, 3, 94, 5, 96};
      struct p *ptr1 = p1;
      int x = (sizeof(p1) / 5);
      if (x == 3)
         printf("%d %d\n", ptr1->x, (ptr1 + x - 1)->x);
      else
         printf("false\n");
   }
```
1.
Compile time error
2.
1 5
3.
Undefined behavior

4.
false r

What is the output of this C code?

```
#include <stdio.h>
typedef struct p *q;
struct p
{
    int x;
    char y;
    q ptr;
};
int main()
{
    struct p p = {1, 2, &p};
    printf("%d\n", p.ptr->ptr->x);
    return 0;
}
```

1.
Compile time error
2.
Segmentation fault
3.
Undefined behavior
4.
1

What is the output in PERL
my $txt = 'I am learning Perl';$txt =~ /(.*)\s/;

1.
am learning

2.
I
3.
I am learning
4.
None

In MySQL Which “text type” has the maximum number of bytes?
1.
Tiny text
2.
Text

3.
Medium text

4.
Long text

Which of the following is not possible?
1.
A structure variable pointing to itself
2.
A structure variable pointing to another structure variable of same type
3.
2 different type of structure variable pointing at each other
4.
None of these

Which of the following is FALSE about typedef?
1.
typedef follow scope rules
2.
typedef defined substitutes can be redefined again. (Eg: typedef char a; typedef int a;)
3.
You cannot typedef a typedef with other term
4.
All of the above

In MySQlWhich Numeric Data type has the largest range?

1.
Mediumint

2.
Smallint

3.
Int

4.
Tinyint

In MySQL what is the default format for “Date” data type?

1.
YYYY-MM-DD
2.
MM-YYYY-DD

3.
DD-MM-YYYY

4.
None of the mentioned above

What is the output of this C code?

```
#include <stdio.h>
union
{
   int x;
   char y;
}p;
int main()
{
   p.x = 10;
   printf("%d\n", sizeof(p));
}
```

1.
Compile time error
2.
sizeof(int) + sizeof(char)
3.
Depends on the compiler
4.
sizeof(int)

In MySQL what is the default format for “Datetime” data type?

1.
YYYY-MM-DD HH:MI:SS
2.
MM-YYYY-DD HH:MI:SS
3.
DD-YYYY-MM MI:HH:SS
4.
None of the mentioned above

What is the output of this C code?

```
#include <stdio.h>
union p
{
   int x;
   char y;
};
int main()
{
   union p p, b;
   p.y = 60;
   b.x = 12;
   printf("%d\n", p.y);
}
```

1.
Compile time error
2.
Depends on the compiler
3.
60
4.
Undefined behavior

Which among the following C function is odd one out?
1.
printf
2.
fprintf
3.
putchar
4.
Scanf

In MySQlWhat is the default format for “Timestamp” data type?

1.
YYYY-MM-DD HH:MI:SS
2.
MM-YYYY-DD HH:MI:SS

3.
DD-YYYY-MM MI:HH:SS

4.
None of the mentioned above

In MySQL what is the default format for “Time” data type?

1.
HHH:MI:SS
2.
SS:MI:HHH
3.
MI:SS:HHH
4.
None of the above

Is “Datetime” and “Timestamp” are same data type in MySQL?

1.
Yes

2.
No
3.
Depends
4.
None of the above

In MySQL, Is it necessary to insert the value in each column of the table?
1.
Yes
2.
No
3.
Depends on the server
4.
Depends on the usage of the table

In the following query, what does “person_id” stands for?

```
CREATE TABLE person    (person_ id SMALLINT UNSIGNED,
fname VARCHAR(20),  lname VARCHAR(20) ,
CONSTRAINT pk_person PRIMARY KEY (person_id));
```

1.
Normal attribute of the table
2.
Superkey
3.
Composite key
4.
Primary key

Which statement can be used for modifying the definition for an existing table?

1.
Alter
2.
Modify
3.
Select
4.
From

Which feature is used for automatic increment of the column?
1.
AUTO_INCREMENT
2.
Auto
3.
Increment
4.
All the above

What is the default value of column?

1.
NULL
2.
0
3.
-1
4.
Undefined

Which statement is used to select columns and rows from the table?

1.
select
2.
alter
3.
delete
4.
none of the above

In the following query “person” stands for
SELECT person_id, fname, lname, Birth_date FROM person;

1.
Table name
2.
Attribute
3.
Multivalued attribute
4.
None of the above

In the following query “*” stands for SELECT * FROM person;

1.
Retrieve all data from the table
2.
Retrieve data of primary key only
3.
Retrieve NULL data

4.
None of the above

Which Clause is used to select a particular row from the set of row in an existing table?
1.
WHERE
2.
FROM
3.
ALTER
4.
None of the mentioned

Which Clause is used to sort the stored data in alphabetical order?
1.
ORDER by CLAUSE
2.
MODIFY
3.
ALTER
4.
FROM

Which Clause is used to select a particular table in Mysql?

1.
WHERE
2.
SELECT
3.
FROM
4.
ALTER

Which command is used to show all tables that are stored in a database?

1.
SHOWS
2.
SHOW
3.
SHOWES
4.
None of the above

Which statement is used for updating existing information in the table?

1.
Update
2.
Modify
3.
Alter
4.
Where

Which statement is used to delete an existing row from the table?

1.
Delete
2.
Where
3.
Modify
4.
None of the above

In MySQL “INSERT” is same as “UPDATE” ?

1
No
2.
Depends
3.
Yes
4.
None of the above

Which clause is used to rename the existing table?
1.
Rename
2.
Modify
3.
Alter
4.
None of the above

Which of the following functions are not performed by “ALTER” clause?

1.
Change the name of the table

2.
Change name of the column

3.
Drop a column

4.
All the above

Which command is used to remove existing tables or database?

1.
Drop table
2.
delete
3.
either a or b
4.
None of the above

Is duplicate entry of primary key is allowed in SQL?

1.
Yes
2.
No
3.
Depends
4.
None of the above

Which Key is used to link two tables in Mysql?

1.
Primary Key

2.
Foreign Key
3.
Both a and b

4.
None of the above

For a C program, the input is taken using
1.
scanf
2.
Files
3.
Command-line
4.
All the above

Which one of the following PHP function is used to determine a file's last access time?

1.
fileltime()

2.
filectime()

3.
fileatime()
4.
filetime()

In C, Escape sequences are prefixed with
1.
%
2.
/
3.
”
4.
None of the above

Which one of the following function is capable of reading a file into a string variable?

1.
file_contents()

2.
file_get_contents()
3.
file_content()

4.
file_get_content()

What is the use of sprintf function in C?
1.
It prints the data into stdout
2.
It writes the formatted data into a string
3.
It writes the formatted data into a file
4.
Both a and c

Which one of the following function is capable of reading a specific number of characters from a file?
1.
fgets()
2.
fget()
3.
fileget()
4.
filegets()

In C, FILE is of type _____
1.
int type
2.
char * type
3.
struct type
4.
None of the above

Which of the following mode argument is used to truncate a file in C?
1.
a
2.
f
3.
w
4.
T

What is the output for the following C program?

```
union u
    {
       struct p
       {
          unsigned char x : 2;
          unsigned int y : 2;
       };
       int x;
    };
    int main()
    {
       union u u;
       u.p.x = 2;
       printf("%d\n", u.p.x);
    }
```

1.
Compile time error
2.
Undefined behavior
3.
Depends on the standard
4.
2

What is the output of this C code?

```
#include <stdio.h>
int main()
{
   char buf[12];
   stderr = stdin;
   fscanf(stderr, "%s", buf);
   printf("%s\n", buf);
}
```

1.
Compilation error
2.
Undefined behavior
3.
Whatever user types
4.
None of the above

What happens when we use the following C statement
fprintf(stderr, “error: could not open file”);
1.
The diagnostic output is directly displayed in the output
2.
The diagnostic output is pipelined to the output file
3.
The line which caused error is compiled again
4.
The program is immediately aborted

Which of the following function can be used to terminate the main function from another function safely in C?
1.
return(expr);
2.
exit(expr);
3.
abort();
4.
Both b and c

fputs function in C, writes a string to a file that only ends with a newline.
1.
true
2.
false
3.
Depends on the standard
4.
Depends on the compiler

strcat function in C adds null character
1.
Only if there is space
2.
Always
3.
Depends on the standard
4.
Depends on the compiler

Which pre-defined C function returns a pointer to the last occurrence of a character in a string?
1.
strchr(s, c);
2.
strrchr(s, c);
3.
strlchr(s, c);
4.
strfchr(s, c);

The following C expression can be substituted for.
if (isalpha(c) && isdigit(c))
1.
if (isalnum(c))
2.
if (isalphanum(c))
3.
if (isalphanumeric(c))
4.
None of the mentioned

Which is true about isaplpha(c), where c is an int that can be represented as an unsigned char or EOF.isalpha(c) returns?
1.
Non-zero if c is alphabetic
2.
0 if c is not alphabetic
3.
Both a & b
4.
None of the above

In C, the ungetc function can be used only with getc function
1.true

2.false

3.Depends on the standard

4.Depends on the platform

The C statement, void * malloc(size_t n) returns
1.
Pointer to n bytes of uninitialized storage
2.
NULL if the request cannot be satisfied
3.
Nothing
4.
Both a & b are true

The function ____ obtains block of memory dynamically
1.
calloc
2.
malloc
3.
Both a & b
4.
Free

How many characters for pushback is guaranteed per file while using the following C function
ungetc(c, fp);
1.
Only 1 character
2.
Characters within 1 word
3.
Characters within 1st new-line
4.
All characters upto NULL character

In C, Memory allocation using malloc() is done in?
1.
Static area
2.
Stack area
3.
Heap area
4.
Both b & c

Which among the following is never possible in C when members are different in a structure and union?
//Let P be a structure
//Let Q be a union
1.
sizeof(P) is greater than sizeof(Q)
2.
sizeof(P) is less than sizeof(Q)
3.
sizeof(P) is equal to sizeof(Q)
4.
None of the mentioned

Which of the following cannot be used inside sizeof in C?
1.
pointers
2.
functions
3.
macro definition
4.
None of the above

The following C declarations

```
struct node
{
  int i;
  float j;
};
struct node *s[10] ;
```

define s to be

1.
An array, each element of which is a pointer to a structure of type node
2.
A structure of 2 fields, each field being a pointer to an array of 10 elements
3.
A structure of 3 fields: an integer, a float, and an array of 10 elements
4.
An array, each element of which is a structure of type node

The number of tokens in the following C statement.

```
printf("i = %d, &i = %x", i, &i);
```

is

1.
3
2.
26
3.
10
4.
21

Consider the following C declaration

```
struct {
   short s [5]
   union {
       float y;
       long z;
   }u;
} t;
```

Assume that objects of the type short, float and long occupy 2 bytes, 4 bytes and 8 bytes, respectively. The memory requirement for variable t, ignoring alignment considerations, is

1.
22 bytes
2.
14 bytes
3.
18 bytes
4.
10 bytes

Which one of the following function in PHP outputs the contents of a string variable to the specified resource?

1.
filewrite()

2.
fwrite()
3.
filewrites()

4.
fwrites()

How many items are available in the $_FILES array?

1.
2
2.
3
3.
4
4.
5

When you're uploading files you need to set the enctype of the form to ___.

1.
text
2.
text/file
3.
multipart/form-data
4.
multimedia/form-data

To check whether a file was uploaded, you look in the ___ superglobal array.
1.
$_FILES
2.
$_DOCS
3.
$_DOCUMENTS
4.
$_FOLDERS

Inheritance is the means by which one or more classes can be derived from a/an ___ class.
1.
base
2.
abstract
3.
null
4.
Predefined

Which of the following statements can be used to set the time zone in individual PHP scripts?
1.
date_set_timezone('Europe/London');
2.
date_default_timezone_set('Europe/London');
3.
date_set_default_timezone('Europe/London');

4.
date_default_timezone('Europe/London');

Which one of the following functions can be used to compress a string in PHP?

1.
zip_compress()

2.
zip()

3.
compress()

4.
gzcompress()

Which one of the following function reads a directory into an Array in PHP?

1.
scandir()
2.
readdir()

3.
scandirectory()

4.
readdirectory()

Which one of the following function returns the port number of a specified service in PHP?

1.
getportname()

2.
getservername()

3.
getserverbyname()

4.
getservbyname()

In perl, which sign is used for a hash?

1.
$
2.
@
3.
%
4.
#

Which of the following is not a valid datatype in Ruby?

1.
Float
2.
Integer
3.
Binary
4.
TimeDate

What is the output for the following C Program?

```
#include <stdio.h>
int fun()
{
  static int num = 16;
  return num--;
}

int main()
{
  for(fun(); fun(); fun())
    printf("%d ", fun());
  return 0;
}
```

1.Infinite loop

2.13 10 7 4 1

3.14 11 8 5 2

4.15 12 8 5 2

Which of the following is not a level of data abstraction?
1.
Physical Level
2.
Critical Level
3.
Logical Level
4.
View Level

Disadvantages of File systems to store data is:
1.
Data redundancy and inconsistency
2.
Difficulty in accessing data
3.
Data isolation
4.
All of the above

In an Entity-Relationship Diagram Rectangles represents

1.
Entity sets
2.
Attributes
3.
Database
4.
Tables

Which of the following is not a Storage Manager Component?
1.
Transaction Manager
2.
Logical Manager
3.
Buffer Manager
4.
File Manager

Data Manipulation Language enables users to
1.
Retrieval of information stored in database
2.
Insertion of new information into the database
3.
Deletion of information from the database
4.
All of the above

Which of the following is not a Schema?
1.
Database Schema
2.
Physical Schema
3.
Critical Schema
4.
Logical Schema

Which of the following is Database Language?
1.
Data Definition Language
2.
Data Manipulation Language
3.
Query Language
4.
All of the above

Which of the following in not a function of DBA?
1.
Network Maintenance
2.
Routine Maintenance
3.
Schema Definition
4.
Authorization for data access

Which of the following is a Data Model?
1.
Entity-Relationship model
2.
Relational data model
3.
Object-Based data model
4.
All of the above

Which of the following represents a relationship among a set of values.
1.
A Row
2.
A Table
3.
A Field
4.
A Column

Column header is refer as

1.
Table
2.
Relation
3.
Attributes
4.
Domain

A Relation is a
1.
Subset of a Cartesian product of a list of attributes
2.
Subset of a Cartesian product of a list of domains
3.
Subset of a Cartesian product of a list of tuple
4.
Subset of a Cartesian product of a list of relations

In mathematical term, Table is referred as
1.
Relation
2.
Attribute
3.
Tuple
4.
Domain

_____ allow us to identify uniquely a tuple in the relation.
1.
Superkey
2.
Domain
3.
Attribute
4.
Schema

Minimal Superkeys are called
1.
Schema keys
2.
Candidate keys
3.
Domain keys
4.
Attribute keys

Which of the following is not Modification of the Database
1.
Deletion
2.
Insertion
3.
Sorting
4.
Updating

Which of the following is Relation-algebra Operation
1.
Select
2.
Union
3.
Rename
4.
All of the above

Which of the following in not Outer join?
1.
Left outer join
2.
Right outer join
3.
Full outer join
4.
All of the above

Set of premitted values of each attribute is called
1.
Domain
2.
Tuple
3.
Relation
4.
Schema

Which of the following in true regarding Null Value?
1.
Null = 0
2.
Null < 0
3.
Null > 0
4.
Null <> 0

Logical design of database is called
1.
Database Instance
2.
Database Snapshot
3.
Database Schema
4.
All of the above

Which of the following is not Unary operation?
1.
Select
2.
Project
3.
Rename
4.
Union

Which of the following is not binary operation?
1.
Union
2.
Project
3.
Set Difference
4.
Cartesian Product

Which of the following is correct regarding Aggregate functions?
1.
it takes a list of values and return a single value as a result
2.
it takes a list of values and return a list of values as a result
3.
it takes a single value and returns a list of values as a result
4.
it takes a single value and returns a single value as a result

A command to remove a relation from an SQL database
1.Delete table

2.Drop table

3.Erase table

4.Alter table

which of the following is not an Aggregate function?
1.Min

2.Max

3.Average

4.Select

The attribute that can be divided into other attributes is called
1.
Simple Attribute
2.
Composite Attribute
3.
Multi-valued Attribute
4.
Derived Attribute

In an Entity-Relationship Diagram “Ellipses” represents
1.
Attributes
2.
Weak entity set
3.
Relationship sets
4.
Multi-valued attributes

What is ACID properties of Transactions?
1.
Atomicity, Consistency, Isolation, Database
2.
Atomicity, Consistency, Isolation, Durability
3.
Atomicity, Consistency, Inconsistent, Durability
4.
Automatically, Concurrency, Isolation, Durability

If every non-key attribute is functionally dependent on the primary key, the relation will be in
1.
First Normal Form
2.
Second Normal Form
3.
Third Normal Form
4.
Fourth Formal Form

Database locking concept is used to solve the problem of
1.Lost Update

2.Uncommitted Dependency

3.Inconsistent Data

4.All of the above

Data Manipulation Language (DML) is not to
1.
Create information table in the Database
2.
Insertion of new information into the Database
3.
Deletion of information in the Database
4.
Modification of information in the Database

Which of the following in true regarding Referential Integrity?
1.
Every primary-key value must match a primary-key value in an associated table
2.
Every primary-key value must match a foreign-key value in an associated table
3.
Every foreign-key value must match a primary-key value in an associated table
4.
Every foreign-key value must match a foreign-key value in an associated table

Which of the following option is use to retrieval of data?
1.
stack
2.
Data Structure
3.
Linked list
4.
Query

Which of the following is an unary operation?
1.
Selection operation
2.
Generalized selection
3.
Primitive operation
4.
Projection operation

In precedence of set operators, the expression is evaluated from:
1.
Left to Left
2.
Left to Right
3.
Right to Right
4.
Right to Left

A relation that has no partial dependencies is in which normal form
1.
First normal form
2.
Second normal form
3.
Third
4.BCNF

A functional dependency between two or more non-key attributes is called
1.
Transitive dependency
2.
Partial transitive dependency
3.
Functional dependency
4.
Partial functional dependency

A logical description of some portion of database that is required by a user to perform task is called as
1.
System View
2.
User View
3.
Logical View
4.
Data View

_____ is a classical approach to database design?
1.
Left - Right approach
2.
Right - Left approach
3.
Top - Down approach
4.
Bottom - Up approach

_____ refers to the correctness and completeness of the data in a database?

1.
Data security

2.
Data integrity

3.
Data constraint

4.
Data independence

A table that displays data redundancies yields _____ anomalies

1.
Insertion

2.
Deletion

3.
Update

4.
All of the above

A lock that allows concurrent transactions to access different rows of the same table is known as a _____

1.
Field-level lock

2.
Row-level lock

3.
Table-level lock

4.
Database-level lock

A type of query that is placed within a WHERE or HAVING clause of another query is called

1.
Super query

2.
Sub query

3.
Master query

4.
Multi-query

A transaction completes its execution is said to be

1.
Saved

2.
Loaded

3.
Rolled

4.
Committed

An attribute that is not part of any candidate key is known as
1.sub-prime attribute

2**.non-prime attribute**

3.sub-candidate key

4.non-candidate key

Which of the follow is not the degree of relationship?
1.
Single
2.
Binary
3.
Ternary
4.
n-ary

The degree of the relationship is
1.
number of Tables in a relationship
2.
number of entities in a relationship
3.
number of Row & Columns in a relationship
4.
number of participating entities in a relationship

Every attribute has some predefined value scope that is called
1.
Tuple
2.
Tables
3.
Attribute domain
4.
Relation schema

The data structure required to check whether an expression contains balanced parenthesis is?

1.Stack
2.Queue
3.Array
4.Tree

What data structure would you mostly likely see in a non recursive implementation of a recursive algorithm?

1.Linked list
2.Stack
3.Queue
4.Tree

A key that consists of more than one attribute to uniquely identify rows in a table is called
1.Composite key

2.Candidate key

3.Primary key

4.Foreign key

In an Entity-Relationship diagram “Double Rectangles” represents
1.
Relationship Set
2.
Weak Entity Sets
3.
Derived Attributes
4.
Multi-valued Attributes

The DBMS acts as an interface between what two components of an enterprise-class database system?
1.
Database application and the database
2.
Data and the database
3.
The user and the database application
4.
Database application and SQL

Because it contains a description of its own structure, a database is considered to be _____
1.
described
2.
metadata compatible
3.
self-describing
4.
An application program

An Enterprise Resource Planning application is an example of a(n) _____

1.
single-user database application
2.
multiuser database applicatio
3.
e-commerce database application
4.
data mining database application

In a relational schema, each tuple is divided into fields called

1.
Relations
2.
Domains
3.
Queries
4.
All of the above

..... table store information about database or about the system.
1.
SQL
2.
Nested
3.
System
4.
None of these

.....defines the structure of a relation which consists of a fixed set of attribute-domain pairs.
1.
Instance

2.
Schema
3.
Program
4.
Super Key

..... clause is an additional filter that is applied to the result.
1.
Select
2.
Group-by
3.
Having
4.
Order by

A logical schema
1.
is the entire database
2.
is a standard way of organizing information into accessible parts.
3.
Describes how data is actually stored on disk.
4.
All of the above

An advantage of the database management approach is
1.
data is dependent on programs
2.
data redundancy increases
3.
data is integrated and can be accessed by multiple programs
4
none of the above

The collection of information stored in a database at a particular moment is called as .....
1.
schema
2.
instance of the database
3.
data domain
4.
Independence

A ..... is used to define overall design of the database
1.
schema
2.
application program
3.
data definition language
4.
code

The candidate key is that you choose to identify each row uniquely is called .....
1.
Alternate Key
2.
Primary Key
3.
Foreign Key
4.
None of the above

..... is used to determine whether of a table contains duplicate rows.
1.
Unique predicate
2.
Like Predicate
3.
Null predicate
4.
In predicate

To eliminate duplicate rows ..... is used
1.
NO DUPLICATE
2.
ELIMINATE
3.
DISTINCT
4.
None of these

..... is the process of organizing data into related tables.
1.
Normalization
2.
Generalization
3.
Specialization
4.
None of the above

..... is the complex search criteria in the where clause.
1.
Sub string
2.
Drop Table
3.
Predict
4.
Predicate

..... is preferred method for enforcing data integrity

1.
Constraints
2.
Stored Procedure
3.
Triggers
4.
Cursors

The language that requires a user to specify the data to be retrieved without specifying exactly how to get it is

1.
Procedural DML
2.
Non-Procedural DML

3.
Procedural DDL
4.
Non-Procedural DDL

Which two files are used during operation of the DBMS?

1.
Query languages and utilities
2.
DML and query language
3.
Data dictionary and transaction log
4.
Data dictionary and query language

The way a particular application views the data from the database that the application uses is a

1.
module
2.
relational model
3.
schema
4.
sub schema

..... data type can store unstructured data

1.

RAW

2.

CHAR

3.

NUMERIC

4.

VARCHAR

_____, express the number of entities to which another entity can be associated via a relationship set.

1.

Relationship set

2.

Entity Set

3.

Attribute

4.

Mapping Cardinality

The _____ is a person having central control over data and programs accessing that data.

1.

Naive Users

2.

Database administrator

3.

Specialized users

4.

Application Programmers

_____ is critical part of DB and stores temporary data.

1.

Database manager

2.

File manager

3.

Transaction manager

4.

Buffer manager

Every time attribute A appears, it is matched with the same value of attribute B, but not the same value of attribute C. Therefore, it is true that:

1.
A → B.
2.
A → C.
3.
A → (B,C).
4.
(B,C) → A.

Locking may cause which of the following problems?

1.
Erroneous updates
2.
Deadlock
3.
Versioning
4.
All of the above

Which of the following is the preferred way to recover a database after a transaction in progress terminates abnormally?

1.
Rollback
2.
Rollforward
3.
Switch to duplicate database
4.
Reprocess transactions

Concurrency control is important for which of the following reasons?

1.
To ensure data integrity when updates occur to the database in a multiuser environment
2.
To ensure data integrity when updates occur to the database in a single-user environment
3.
To ensure data integrity while reading data occurs to the database in a multiuser environment
4.
To ensure data integrity while reading data occurs to the database in a single-user environment

When an entity instance must be a member of only one subtype, it is which of the following?

1.
Disjoint with total specialization
2.
Disjoint with partial specialization
3.
Overlap with total specialization
4.
Overlap with partial specialization

A supertype/subtype hierarchy has which of the following features?

1.
Subtypes at the lower lever in the hierarchy inherit attributes only from their immediate supertype.
2.
Attributes are assigned at the highest logical level.
3.
Subtypes at the higher lever in the hierarchy inherit attributes only from their immediate subtype.
4.
Attributes are assigned at the lowest logical level.

What type of join is needed when you wish to include rows that do not have matching values?

1.
Equi-join
2.
Natural join
3.
Outer join
4.
All of the above.

The following SQL is which type of join: SELECT CUSTOMER_T. CUSTOMER_ID, ORDER_T. CUSTOMER_ID, NAME, ORDER_ID FROM CUSTOMER_T,ORDER_T WHERE CUSTOMER_T. CUSTOMER_ID = ORDER_T. CUSTOMER_ID

1.
Equi-join
2.
Natural join
3.
Outer join
4.
Cartesian join

Which of the following column properties would be used to specify that cells in a column must be immediately filled with a monetary value of $10,000?

1.
Null status
2.
Data type

3.
Default value
4.
Data constraints

Which of the following data constraints would be used to specify that the value of a cell in one column must be less than the value of a cell in another column in the same row of the same table

1.
A domain constraint
2.
A range constraint
3.
An intrarelation constraint
4.
An interrelation constraint

Which constraint requires that the binary relationship indicate all combinations that must appear in the ternary relationship?

1.
MUST COVER
2.
MUST NOT
3.
Both of the above.
4.
None of the above is correct.

Which of the following query would display names of all the students whose honours subject is English, or honours subject is Spanish and percentage of marks more than 80?

1.
select first_name, last name from students where (honours_subject = “English” or honours_subject = “Spanish”) and percentage_of_marks > 80;
2.
select first_name, last name from students where honours_subject = “English” or honours_subject = “Spanish” and percentage_of_marks > 80;
3.
select first_name, last name from students where honours_subject = “English” and honours_subject = “Spanish” or percentage_of_marks > 80;
4.
select first_name, last name from students where (honours_subject = “English”) and honours_subject = “Spanish” and percentage_of_marks > 80;

What is returned by MOD(1000,30)?
1.
33
2.
30
3.
3
4.
10

Which query will perform a natural join between the HONOURS_SUBJECT table and the LOCATIONS table?
1.
select subject_code, subject_name, location_id, city from honours_subject cross join locations;
2.
select subject_code, subject_name, location_id, city from honours_subject join locations;
3.
select subject_code, subject_name, location_id, city from honours_subject outer join locations;
4.
select subject_code, subject_name, location_id, city from honours_subject natural join locations;

Which of the following is true about a group function?
1.
Group functions operate on sets of rows to produce multiple results per group.
2.
DISTINCT keyword makes a group function consider duplicate values.
3.
Group functions ignore null values.
4.
None of the above.

The database schema is written in
1.
HLL
2.
DML
3.
DDL
4.
DCL

Grant and revoke are ..... statements
1.
DDL
2.
TCL
3.
DCL
4.
DML

..... keyword is used to find the number of values in a column.
1.
Total
2
Count
3.
Add
4.
Sum

A relational database developer refers to a record as
1.
a criteria
2.
a relation
3.
a tuple
4.
an attribute

Which of the following products was an early implementation of the relational model developed by E.F. Codd of IBM?
1.
IDMS
2.
DB2
3.
dBase-II
4.
R:base

A DBMS that combines a DBMS and an application generator is _____ .

1.
Microsoft's SQL Server

2.
Microsoft's Access

3.
IBM's DB2

4.
Oracle Corporation's Oracle

Which of the following is not considered to be a basic element of an enterprise-class database system?

1.
Users

2.
Database applications

3.
DBMS

4.
COBOL programs

The DBMS that is most difficult to use is _____ .

1.
Microsoft's SQL Server

2.
Microsoft's Access

3.
IBM's DB2

4.
Oracle Corporation's Oracle

1. Stack follows the strategy of.....

1.
LIFO

2.
FIFO

3.
LRU

4.
Random

1. What happens when you push a new node onto a stack?

1.
The new node is placed at the front of the linked list.
2.
The new node is placed at the back of the linked list.
3.
The new node is placed at the middle of the linked list.
4.
No Change in the list.

Consider the usual implementation of parentheses balancing program using stack. What is the maximum number of parentheses that will appear on stack at any instance of time during the analysis of (( ) (( )) (( )))?

1.
1

2.
2

3.
3

4.
4

The data structure required to check whether an expression contains balanced parenthesis is?
1.
Queue

2.
Stack

3.
Array

4.
Tree

The prefix form of A*B+C/D is?
1.*AB/CD+

2.*AB/CD+

3.A*BC+/D

4.ABCD+/*

Which data structure is needed to convert infix notation to postfix notation?

1.
Queue

2.
Stack

3.
Tree

4.
Array

What is the result of the following operation
Top (Push (S, X))

1.S 2.
Null

3.
X

4.
None

Which of the following statement(s) about stack data structure is/are NOT correct?

1.
Stack data structure can be implemented using linked list

2.
New node can only be added at the top of the stack

3.
Stack is the FIFO data structure

4.
The last node at the bottom of the stack has a NULL link

Consider the following operation performed on a stack of size 5.

Push(1);
Pop();
Push(2);
Push(3);
Pop();
Push(4);
Pop();
Pop();
Push(5);

After the completion of all operation, the no of element present on stack are

1.1
2.2
3.3
4.4
\

Which of the following is not an inherent application of stack?

1.
Reversing a string
2.
Evaluation of postfix expression
3.
Implementation of recursion
4.
Job scheduling

Which of the following operation take worst case linear time in the array implementation of stack?

1.
Push

2.
Pop

3.
IsEmpty
4.
None

The type of expression in which operator succeeds its operands is?

1.
Infix Expression
2.
prefix Expression
3.
postfix Expression
4.
None

Which of the following application generally use a stack?

1.
Parenthesis balancing program
2.
Syntax analyzer in compiler
3.
Keeping track of local variables at run time
4.
All of the above

If the elements “A”, “B”, “C” and “D” are placed in a stack and are deleted one at a time, in what order will they be removed?

1.
ABCD
2.
DCBA
3.
DCAB
4.
ABDC

A linear list of elements in which deletion can be done from one end (front) and insertion can take place only at the other end (rear) is known as a ?

1.
Stack

2.
Queue

3.
Tree

4.
Linked list

The data structure required for Breadth First Traversal on a graph is?

1.
Stack

2.
Queue

3.
Array

4.
Tree

Let the following circular queue can accommodate maximum six elements with the following data

front = 2 rear = 4
queue = _____; L, M, N, ___, ___
What will happen after ADD O operation takes place?

1.
front = 2 rear = 5
queue = _____; L, M, N, O, ___

2.
front = 3 rear = 5
queue = L, M, N, O, ___

3.
front = 3 rear = 4
queue = _____; L, M, N, O, ___

4.
front = 2 rear = 4
queue = L, M, N, O, ___

A queue is a ?

1.
LIFO (Last In First Out) list

2.
Ordered array

3.
FIFO (First In First Out) list

4.
Linear tree

If the elements “A”, “B”, “C” and “D” are placed in a queue and are deleted one at a time, in what order will they be removed?

1.
ABCD

2.
DCBA

3.
DCAB

4.
ABDC

In linked list implementation of a queue, where does a new element be inserted?

1.
At the head of link list

2.
At the tail of the link list

3.
At the centre position in the link list

4.
None

A data structure in which elements can be inserted or deleted at/from both the ends but not in the middle is?

1.
Queue

2.
Circular queue

3.
Dequeue

4.
Priority queue

A normal queue, if implemented using an array of size MAX_SIZE, gets full when

1.
Rear=MAX_SIZE-1

2.
Front=(rear+1)mod MAX_SIZE

3.
Front=rear+1

4.
Rear=front

A linear collection of data elements where the linear node is given by means of pointer is called?

1.
Linked list

2.
Node list

3.
Primitive list

4.
None

In linked list each node contain minimum of two fields. One field is data field to store the data second field is?

1.
Pointer to character
2.
Pointer to integer
3.
Pointer to node
4.
None

A variant of linked list in which last node of the list points to the first node of the list is?

1.
Singly linked list
2.
Doubly linked list
3.
Circular linked list
4.
Multiply linked list

In doubly linked lists, traversal can be performed?

1.
Only in forward direction
2.
Only in reverse direction
3.
In both directions
4.
None

A variant of the linked list in which none of the node contains NULL pointer is?

1.
Singly linked list
2.
Doubly linked list
3.
Circular linked list
4.
None

In circular linked list, insertion of node requires modification of?

1.
One pointer
2.
Two Pointer

3.
Three Pointer

4.
None

Linked lists are not suitable to for the implementation of?

1.
Insertion sort
2.
Radix sort
3.
Polynomial manipulation
4.
Binary search

The post order traversal of binary tree is DEBFCA. Find out the pre order traversal.

1.
ABFCDE
2.
ADBFEC
3.
ABDECF
4.
ABDCEF

The operation of processing each element in the list is known as .....

1.
Sorting

2.
Merging

3.
Inserting

4.
Traversal

Other name for directed graph is .....

1.
Direct graph

2.
D graph

3.
Digraph

4.
Dir-graph

In Binary trees nodes with no successor are called .....

1.
End Node

2.
Final Node

3.
Last Node

4.
Terminal node

A connected graph T without any cycles is called .....

1.
Free graph

2.
Circular graph

3.
No cycle graph

4.
Non cycle graph

Every node N in a binary tree T except the root has a unique parent called the ..... of N.

1.
Antecedents

2.
Predecessor

3.
Forerunner

4.
Precursor

Sequential representation of binary tree uses .....

1.
Array with pointers

2.
Single linear array

3.
Two dimensional arrays

4.
Three dimensional arrays

In a graph if e=[u,v], Then u and v are called .....

1.
End points of e
2.
Adjacent nodes
3.
Neighbour
4.
All of the above

TREE[1]=NULL indicates tree is .....

1.
Overflow
2.
Underflow
3.
Empty
4.
Full

Which indicates pre-order traversal?

1.
Left sub-tree, Right sub-tree and root
2.
Right sub-tree, Left sub-tree and root
3.
Root, Left sub-tree, Right sub-tree
4.
Right sub-tree, root, Left sub-tree

A terminal node in a binary tree is called .....

1.
Root
2.
Leaf
3.
Child
4.
Branch

Finding the location of a given item in a collection of items is called .....

1.
Discovering

2.
Mining

3.
Searching

4.
Finding

Which of the following is an external sorting?

1.
Insertion sort

2.
Bubble sort

3.
Merge sort

4.
Tree sort

Which of the following is an internal sorting?

1.
Tape Sort

2.
2-way Merge Sort

3.
Merge Sort

4.
Tree Sort

Selection sort first finds the ..... element in the list and put it in the first position.

1.
Middle element

2.
Largest element

3.
Last element

4.
Smallest element

Quick sort is also known as .....

1.
merge sort
2.
partition and exchange sort
3.
tree sort
4.
shell sort

A tree sort is also known as ..... sort.

1.
quick
2.
shell
3.
heap
4.
selection

..... sorting is good to use when alphabetizing large list of names.

1.
Merge
2.
Heap
3.
Radix
4.
Bubble

Which of the following sorting algorithm is of divide and conquer type?

1.
Quick Sort

2.
Insertion Sort

3.
Selection Sort

4.
Bubble sort

If the number of record to be sorted large and the key is long, then ..... sorting can be efficient.

1.
Merge
2.
Heap
3.
Quick
4.
Bubble

The worst case occur in linear search algorithm when .....

1.
Item is somewhere in the middle of the array
2.
Item is not in the array at all
3.
Item is the last element in the array
4.
Item is the last element in the array or item is not there at all

Which of the following is not a limitation of binary search algorithm?

1.
must use a sorted array
2.
requirement of sorted array is expensive when a lot of insertion and deletions are needed
3.
There must be a mechanism to access middle element directly
4.
binary search algorithm is not efficient when the data elements more than 1500.

The Average case occurs in linear search algorithm .....

1.
when item is somewhere in the middle of the array
2.
when item is not the array at all
3.
when item is the last element in the array
4.
Item is the last element in the array or item is not there at all

Binary search algorithm cannot be applied to ...

1.
sorted linked list

2.
sorted binary trees

3.
sorted linear array

4.
pointer array

Complexity of linear search algorithm is .....

1.
O(n)

2.
O(logn)

3.
O(n2)

4.
O(n logn)

..... is the method used by card sorter.

1.
Radix

2.
Insertion

3.
Heap

4.
Quick

Dijkstra algorithm is also called the ..... shortest path problem.

1.
Multiple source

2.
Single source

3.
Single destination

4.
Multiple destination

..... solves the problem of finding the shortest path from a point in a graph to a destination.

1.
Kruskal's algorithm

2.
Prim's algorithm

3.
Dijkstra algorithm

4.
Bellman ford algorithm

..... is a most generalized single source shortest path algorithm to find the shortest path in a graph even with negative weights.

1.
Kruskal's algorithm

2.
Prim's algorithm

3.
Dijkstra algorithm

4.
Bellman ford algorithm

In ....., a directed graph G is acylic if and only if a DFS of G yields no back edge.

1.
Graph transpose problem

2.
Strongly connected components problem

3.
Topological sort problem

4.
Euler path problem

..... may take place only when there is some minimum amount(or) no space left in free storage list.

1.
Memory management

2.
Garbage Collection

3.
Recycle bin

4.
Space management

A linear list in which the pointer points only to the successive node is .....

1.
Singly linked list

2.
doubly linked list

3.
Circular linked list

4.
None of the above

..... refers to a linear collection of data items.

1.
List

2.
Tree

3.
Graph

4.
Edge

Left LINK is the pointer pointing to the ...

1.
successor node

2.
predecessor node

3.
head node

4.
last node

In a linked list the ..... field contains the address of next element in the list.

1.
Link field

2.
Next element field

3.
Start field

4.
Info field

The dummy header in linked list contain .....

1.
first record of the actual data

2.last record of the actual data

3.
pointer to the last record of the actual data

4.
middle record of the actual data

Each node in a linked list must contain at least .....

1.
Three fields

2.
Two fields

3.
Four fields

4.
Five fields

In linked lists there are no NULL links in

1.single linked list

2.
Linear doubly linked list

3.circular linked list

4.list

..... of binary search tree starts by visiting the current node, then its left child and then its right child.

1.
Preorder traversal

2.
In-order traversal

3.
Linear traversal

4.
Post-order traversal

A binary search tree whose left subtree and right subtree differ in hight by at most 1 unit is called ……

1.
AVL tree
2.
Red-black tree
3.
Lemma tree
4.
Binary search tree

Which of the following is true about the characteristics of abstract data types?
i) It exports a type.
ii) It exports a set of operations
1.
True, False
2.
False, True
3.
True, True
4.
False, False

Which of the following data structure can't store the non-homogeneous data elements?

1.
Array
2.
Records
3.
Stack
4.
Linked list

A ..... is a data structure that organizes data similar to a line in the supermarket, where the first one in line is the first one out.

1.
Queue linked list
2.
Stacks linked list
3.
Singly linked list
4.
Tree

Which of the following is non-liner data structure?

1.
Stack

2.
Array

3.
Linked list

4.
Tree

Identify the data structure which allows deletions at both ends of the list but insertion at only one end.

1.
Input restricted dequeue

2.
Output restricted dequeue

3.
Priority Queue

4.
Stack

Which of the following data structure is linear type?

1.
Graph

2.
Binary tree

3.
Tree

4.
Stack

To represent hierarchical relationship between elements, Which data structure is suitable?

1.
Tree

2.
Graph

3.
Priority Queue

4.
Graph

A directed graph is ……. if there is a path from each vertex to every other vertex in the digraph.

1.
Strongly connected

2.
Weakly connected

3.
Tightly connected

4.
Linearly connected

In the …….. traversal we process all of a vertex's descendants before we move to an adjacent vertex.

1.
Depth first

2.
Breadth first

3.
With first

4.
Depth Limited

State True of False.
i) Network is a graph that has weights or costs associated with it.
ii) An undirected graph which contains no cycles is called a forest.
iii) A graph is said to be complete if there is no edge between every pair of vertices.

1.
True, True, True

2.
True, True, False

3.
False, False, True

4.
True, False, True

Match the following.

a) Completeness i) How long does it take to find a solution

b) Time Complexity ii) How much memory need to perform the search.

c) Space Complexity iii) Is the strategy guaranteed to find the solution when there in one.

1.

a-iii, b-ii, c-i

2.

a-i, b-ii, c-iii

3.

a-iii, b-i, c-ii

4.

a-i, b-iii, c-ii

In general, the binary search method needs no more than ……. comparisons.

1.

[log2n]-1

2.

[logn]+1

3.

[log2n]

4.

[log2n]+1

A …….. is a graph that has weights of costs associated with its edges.

1.

Weighted graph

2.

Digraph

3.

Directed graph

4.

Tree

A graph is a collection of nodes, called ……. And line segments called arcs or …….. that connect pair of nodes.

1.

vertices, edges

2.

edges, vertices

3.

vertices, paths

4.

graph node, edges

. …… is not the operation that can be performed on queue.

1.
Insertion

2.
Deletion

3.
Retrieval

4.
Traversal

Which of the following statement is true?
i) Using singly linked lists and circular list, it is not possible to traverse the list backwards.
ii) To find the predecessor, it is required to traverse the list from the first node in case of singly linked list.

1.
i-only
2.
ii-only
3.
Both i and ii
4.
None of both

State True or False.
i) An undirected graph which contains no cycles is called forest.
ii) A graph is said to be complete if there is an edge between every pair of vertices.

1.
True, True

2.
True, False

3.
False, True

4.
False, False

State True or False.
i) Binary search is used for searching in a sorted array.
ii) The time complexity of binary search is O(logn).

1.
True, False

2.
False, True

3.
True, True

4.
False, False

In ……, search start at the beginning of the list and check every element in the list.
1.
Linear search
2.
Binary Search

3.
Hash Search
4.
Binary Tree Search

Which of the following is not the type of queue?
1.
Queue

2.
Single ended Queue

3.
Dequeue

4.
Priority Queue

State true or false.
i) The degree of root node is always zero.
ii) Nodes that are not root and not leaf are called as internal nodes.
1.
True, True

2.
False, True

3.
False, False

4.
True, False

Any node is the path from the root to the node is called
1.
Successor node
2.
Ancestor node
3.
Internal node
4.
None of the above

State true of false.
i) A node is a parent if it has successor nodes.
ii) A node is child node if out degree is one.
1.
True, True

2.
True, False

3.
False, True

4.
False, False

. ……. Is a directed tree in which outdegree of each node is less than or equal to two.

1.
Unary tree

2.
Binary tree

3.
AVL tree

4.
All the above

Which of the following are the operations applicable an primitive data structures?

1.
Create

2.
Destroy

3.
Update

4.
All of the above

The use of pointers to refer elements of a data structure in which elements are logically adjacent is ....

1.
Pointers

2.
Linked allocation

3.
Stack

4.
Queue

Which of the following statement is false?

1.
Arrays are dense lists and static data structure.

2.
Data elements in linked list need not be stored in adjacent space in memory

3.
Pointers store the next data element of a list.

4.
Linked lists are collection of the nodes that contain information part and next pointer.

In a priority queue, insertion and deletion takes place at .....
1.
front, rear end
2.
only at rear end
3.
only at front end
4.
any position

A list which displays the relationship of adjacency between elements is said to be
1.
linear
2.
non linear
3.
linked list
4.
Trees

Snapshot of the data in the database at a given instant of time is called
1.
Database Schema
2.
Database Instance
3.
Database Snapshot
4.
All of the above

A ..... does not have a distinguishing attribute if its own and mostly are dependent entities, which are part of some another entity.
1.
Weak entity
2.
Strong entity
3.
Non attributes entity
4.
Dependent entity

Which topology requires a multi point connection?

1.
Mesh
2.
Star
3.
Bus
4.
Ring

A television broadcast is an example of _____ transmission.
1.
simplex
2.
half-duplex
3.
full-duplex
4.
automatic

_____ refers to the structure or format of the data, meaning the order in which they are presented.
1.
Semantics
2.
Syntax
3.
Timing
4.
All of the above

In a _____ connection, two and only two devices are connected by a dedicated link.
1.
multi point
2.
point-to-point
3.
(a) and (b)
4.
none of the above

A _____ is a data communication system within a building, plant, or campus, or between nearby buildings.

1.
MAN
2.
LAN
3.
WAN
4.
a) none of the above

A _____ is a set of rules that governs data communication.

1.
forum
2.
protocol
3.
standard
4.
none of the above

The process-to-process delivery of the entire message is the responsibility of the _____ layer.

1.
Network
2.
Transport
3.
Application
4.
Physical

When a host on network A sends a message to a host on network B, which address does the router look at?

1.
port
2.
logical
3.
physical
4.
a) none of the above

IPv6 has _____ -bit addresses.

1.
32
2.
64
3.
128
4. Variable

_____ provides full transport layer services to applications.

1.
TCP
2.
UDP
3.
a) ARP

4.
a) None of the above

The seven-layer _____ model provides guidelines for the development of universally compatible networking protocols.

1.OSI

2.ISO

3.
a) IEEE

4.
a) None of the above

The ____ address uniquely defines a host on the Internet.

1.
physical
2.
IP
3.
Port
4.
Specific

The TCP/IP _____ layer is equivalent to the combined session, presentation, and application layers of the OSI model

1.
application
2.
network
3.
data link
4.
a) physical

Transmission media are usually categorized as _____.

1.

fixed or unfixed

2.
guided or unguided
3.
determinate or indeterminate

4.
metallic or non-metallic

In fiber optics, the signal is _____ waves.

1.
light
2.
radio
3.
infrared
4.
a) very low-frequency

When the angle of incidence is _____ the critical angle, the light beam bends along the interface

1.
more than
2.
less than
3.
equal to
4.
none of the above

_____ consists of a central conductor and a shield.

1.
Coaxial
2.
Fiber-optic
3.
Twisted-pair
4.
a) none of the above

Radio waves are _____.

1.
omnidirectional
2.

unidirectional

3.
bidirectional
4.
none of the above

In cyclic redundancy checking, the divisor is _____ the CRC.
1.
The same size as
2.
one bit less than
3.
a) one bit more than
4.
none of the above

A burst error means that two or more bits in the data unit have changed.

1.
double bit

2.
burst

3.
single-bit

4.
None of the above

The divisor in a cyclic code is normally called the _____.

1.
degree

2.
generator

3.
redundancy

4.
a) none of the above

The IEEE 802.3 Standard defines _____ CSMA/CD as the access method for first- generation 10-Mbps Ethernet

1.
1-persistent

2.
p-persistent

3.
non-persistent

4.
a) none of the above

The ---------- is the physical path over which a message travels.

1.
Protocol

2.
Medium

3.
Signal

4.
All the above

Frequency of failure and network recovery time after a failure are measures of the _____ of a network.

1.
Performance

2.
Reliability

3.
Security

4.
Feasibility

. _____ uses thick coaxial cable.

1.

10Base5

2.

10Base2

3.

10Base-T

4.

a) 10Base-F

. Fast Ethernet has a data rate of _____Mbps.

1.

10

2.

100

3.

1000

4.

a) 10,000

In the Ethernet frame, the _____ field contains error detection information

1.

CRC

2.

preamble

3.

address

4.

a) none of the above

An IPv4 address consists of _____ bits.

1.

4

2.

8

3.

32

4.

64

Identify the class of the following IPv4 address: 191.1.2.3.

1.

A

2.

B

3.

C

4.

None of the above

The number of addresses in a class A block is _____.

1.
65,534
2.
16,777,216
3.
256
4.
none of the above

Find the number of addresses in a block of classless addresses if one of the addresses is 12.2.2.7/30.

1.
2
2.
4
3.
8
4.
None of the above

What is the last address of a block of classless addresses if one of the addresses is 12.2.2.127/28?

1.
12.2.2.16
2.
12.2.2.112
3.
12.2.2.127
4.
a) none of the above

What is the default mask for class A in CIDR notation?

1.
/9
2.
/8
3.
/16
4.
a) none of the above

In a block, the prefix length is /24; what is the mask?

1.
255.255.255.0
2.
255.255.242.0
3.
255.255.0.0
4.
none of the above

In a block, the mask is 255.255.192.0; what is the prefix length?

1.
/20
2.
/28
3.
/18
4.
None of the above

_____ refers to the physical or logical arrangement of a network.

1.
Data flow
2.
Mode of operation
3.
a) Topology

4.
None of the above

To make addresses more readable, IPv6 specifies _____notation.

1.
dotted decimal
2.
hexadecimal colon
3.
both a and b
4.
a) none of the above

A best-effort delivery service such as IPv4 includes _____.

1.
error checking
2.
error correction
3.
datagram acknowledgment
4.
a) none of the above

In IPv4 header, an HLEN value of decimal 10 means _____.

1.

a) there are 10 bytes of options

2.

there are 40 bytes of options

3.

there are 10 bytes in the header

4.

a) there are 40 bytes in the header

In IPv4, what is the value of the total length field in bytes if the header is 28 bytes and the data field is 400 bytes?

1.

428

2.

407

3.

107

4.

a) 427

In IPv4, what is the length of the data field given an HLEN value of 12 and total length value

1.

39,988

2.

40,012

3.

40,048

4.

39,952

In IPv4, if the fragment offset has a value of 100, it means that _____.

1.

a) The datagram is 100 byte in size

2.

the datagram is 100 bytes in size

3.

a) the first byte of the datagram is byte 100

4.

the first byte of the datagram is byte 800

In IPv4, what is needed to determine the number of the last byte of a fragment?

1.
Identification number
2.
Offset number
3.
Total length
4.

a) (b) and (c)

The IPv4 header size _____.

1.
is 20 to 60 bytes long
2.
is always 20 bytes long
3.
is always 60 bytes long
4.
depends on the MTU

The _____ protocol is the transmission mechanism used by the TCP/IP suite.

1.
ARP
2.
IP
3.
RARP
4.
None of the above

IP is _____ datagram protocol

1.
an unreliable
2.
a connectionless
3.
both a and b
4.
none of the above

The IPv4 header field formerly known as the service type field is now called the _____ field

1.

a) IETF

2.

a) Checksum

3.

a) Differentiated service

4.

a) None of the above

To have a hierarchical name space, a _____ was designed

1.

a) Domain space

2.

domain name

3.

domain name space

4.

a) none of the above

In the DNS, the names are defined in _____ structure.

1.

a linear list

2.

an inverted-tree

3.

a graph

4. none of the above

A full domain name is a sequence of labels separated by _____.

1.

semicolons

2.

dots

3.

colons

4.

a) none of the above

DNS can use the services of _____ using the well-known port 53.

1.
UDP
2.
TCP
3.
either (a) or (b)
4.
none of the above

TELNET is an abbreviation for _____.

1.
terminal network
2.
telephone network
3.
telecommunication network
4.
a) none of the above

TELNET is a _____ client-server application program.

1.
a) Specific Purpose

2.
general-purpose
3.
both a and b
4.
none of the above

When a user logs into a local time-sharing system, it is called _____ login

1.
local
2.
remote
3.
temporary
4.
a) none of the above

When a user wants to access an application program or utility located on a remote machine, he or she performs _____ login

1.
local

2.
remote

3.
temporary

4.
a) none of the above

NVT uses two sets of characters, one for _____and one for _____.

1.
Sending ; receiving

2.
Request; reply

3.
Data ; control

4.

None of the above

The _____ is software residing on the remote system that allows the remote system to receive characters from a TELNET server.

1.
terminal driver

2.
pseudo terminal driver

3.
TELNET client

4.
a) none of the above

The _____ translates local characters into NVT form.

1.
terminal driver

2.
TELNET client

3.
TELNET server

4.
a) none of the above

_____ is the standard mechanism provided by TCP/IP for copying a file from one host to another.

1.
TELNET
2.
SMTP
3.
TFTP
4.
a) none of the above

FTP uses the services of _____.

1.
UDP
2.
IP
3.
TCP
4.
a) none of the above

In FTP, the well-known port ____ is used for the control connection and the well-known port _____ for the data connection

1.
21; 22
2.
21; 20
3.
20; 21
4.
none of the above

When the sender and the receiver of an email are on the same system, we need only _____.

1.
one UA
2.
two UAs
3.
one UA and one MTA
4.
none of the above

When the sender and the receiver of an email are on different systems, we need only _____.

1.
one MTA
2.
two UAs
3.
two UAs and one pair of MTAs
4.
a) none of the above

When the sender is connected to the mail server via a LAN or a WAN, we need _____.

1.
a) Two MTA

2.
two UAs and two pairs of MTAs
3.
two UAs and a pair of MTAs
4.
a) none of the above

The message contains the _____ and the _____.

1.
header; envelop
2.
header; body
3.
envelop; body
4.
none of the above

The formal protocol that defines the MTA client and server in the Internet is called _____.

1**.SMTP**

2.SNMP

3.TELNET

4.
a none of the above

An unauthorized user is a network _____ issue.

1.
Performance
2.
Reliability
3.
Security
4.
All the above

Communication between a computer and a keyboard involves _____ transmission

1.
simplex
2.
half-duplex
3.
full-duplex
4.

a) automatic

A _____ connection provides a dedicated link between two devices.

1.
point-to-point
2.
multipoint
3.
primary
4.
Secondary

Which agency developed standards for physical connection interfaces and electronic signaling specifications?

1.
EIA
2.
ITU-T
3.
ANSI
4.

a) ISO

_____ is the protocol suite for the current Internet

1.

TCP/IP

2.

NCP

3.

UNIX

4.

a) ACM

Data flow between two devices can occur in a _____ way.

1.

Simplex

2.

half-duplex

3.

full-duplex

4.

a**) all of the above**

The _____ layer is the layer closest to the transmission medium.

1.

Physical

2.

Data link

3.

Network

4.

a) Transport

Layer 2 lies between the physical layer and the _____ layer.

1.

Network

2.

Data link

3.

Transport

4.

None of the above

Which of the following is an application layer service?

1.

a) Remote log-in

2.

a) File transfer and access

3.

a) Mail service

4.

a) All the above

In the OSI model, encryption and decryption are functions of the _____ layer

1.

Transport

2.

Session

3.

presentation

4.

Application

To deliver a message to the correct application program running on a host, the _____ address must be consulted.

1.

port

2.

IP

3.

physical

4.

a) none of the above

The session, presentation, and application layers are the ____ support layers.

1.

user

2.

network

3.

both (a) and (b)

4.

a) neither (a) nor (b)

Which of the following primarily uses guided media?

1.
cellular telephone system

2.
local telephone system

3.
satellite communications

4.
a) radio broadcasting

A parabolic dish antenna is a(n) _____ antenna.

1.
omnidirectional

2.
bidirectional

3.
unidirectional

4.
a) horn

_____ cable is used for voice and data communications.

1.
Coaxial

2.
Fiber-optic

3.
Twisted-pair

4.
a) none of the above

_____ cables carry data signals in the form of light.

1.
Coaxial

2.
Fiber-optic

3.
a) Twisted-pair

4.
a) None of the above

_____ uses four twisted-pair cables that connect each station to a common hub.

1.

a) 10Base 5

2.

a) 10Base 2

3.

a) 10Base-T

4.

a) 10Base-F

In Ethernet addressing, if the least significant bit of the first byte is 0, the address is _____.

1.

a) Unicast

2.

a) Multicast

3.

a) Broadcast

4.

a) None of the above

What is the result of ANDing 0 and 15?

1.

a) 255

2.

a) 15

3. 0

4.

a) None of the above

86. The number of addresses in a class C block is _____.

1.
65,534
2.
16,777,216
3.
256
4.
a) none of the above

The number of addresses assigned to an organization in classless addressing _____.
1.
can be any number
2.
must be a multiple of 256
3.
must be a power of 2
4.
a) none of the above

What is the default mask for class B in CIDR notation?
1.
/9
2.
/8
3.
/16
4.
none of the above

In IPv4, what is the length of the data field given an HLEN value of 12 and total length value of 40,000?
1.
39,988
2.
40,012
3.
40,048
4.
a) 39,952

The term _____ means that IP provides no error checking or tracking. IP assumes the unreliability of the underlying layers and does its best to get a transmission through to its destination, but with no guarantees.

1.
reliable delivery
2.
connection-oriented delivery
3.
best-effort delivery
4.
a) none of the above

An IPv4 datagram is fragmented into three smaller datagrams.
Which of the following is true?

1.
The *do not fragment* bit is set to 1 for all three datagrams
2.
The *more fragment* bit is set to 0 for all three datagrams
3.
The identification field is the same for all three datagrams
4.
The offset field is the same for all three datagrams

In IPv4, which field or bit value unambiguously identifies the datagram as fragment?

1.
a) Do not fragment bit ? 0

2.
a) More fragment bit ? 0

3.
a) Fragment offset = 1000

4.
a) None of the above

In the Internet, the domain name space (tree) is divided into _____ different sections.

1.
three
2.
two
3.
four
4.
a) none of the above

DNS can use the services of _____ using the well-known port 53.

1.
UDP
2.
TCP
3.
either (a) or (b)
4.
a) none of the above

_____ refers to two characteristics: when data should be sent and how fast it can be sent.

1.
Semantics
2.
Syntax
3.
Timing
4.
none of the above

Communication between a computer and a keyboard involves _____ transmission.

1.
simplex
2.
half-duplex
3.
full-duplex
4.
Automatic

This was the first network.

1.
a) CSNET

2.
a) NSFNET

3.
a) ANSNET

4.
a) ARPANET

Which organization has authority over interstate and international commerce in the communications field?

1.
ITU-T
2.
IEEE
3.
FCC
4.
a) ISOC

_____ are special-interest groups that quickly test, evaluate, and standardize new technologies

1.
a) Forums

2.
a) Regulatory agencies

3.
a) Standards organizations

4.
All the above

_____ defines how a particular pattern to be interpreted, and what action is to be taken based on that interpretation.

1.
Semantics
2.
Syntax
3.
Timing
4.
None of the above

Which one of the following models is not suitable for accommodating any change?

1.
Build & Fix Model
2.
Prototyping Model
3.
RAD Model
4.
Waterfall Model

Which of the following is the correct definition of software?

1.
Software is set of programs.
2.
Software is documentation and configuration of data.
3.
Both a and b
4.
None of the mentioned

Which of these does not account for software failure?

1.
Increasing Demand
2.
Low expectation
3.
Increasing Supply
4.
Less reliable and expensive.

What are attributes of good software?

1.
Software maintainability.
2.
Software functionality.
3.
Software development.
4.
a and b.

Which of these software engineering activities are not a part of software processes?

1.
Software dependence.
2.
Software development.
3.
Software validation.
4.
Software specification.

Which of the following statement is incorrect to software engineering?

1.
Software engineering belongs to Computer science.

2.
Software engineering is a part of more general form of System Engineering.

3.
Computer science belongs to Software engineering.

4.
Software engineering is concerned with the practicalities of developing and delivering useful software.

Which of the following statements is true?

1.
Generic products and customized products are types of software products.

2.
Generic products are produces by organization and sold to open market.

3.
Customized products are commissioned by particular customer.

4.
All of the above.

Which of these does not affect different types of software as a whole?

1.Heterogeneity

2.Flexibility

3.Business and social change

4.Security

The fundamental notions of software engineering does not account for?

1.
Software processes

2.
Software Security

3.
Software reuse

4.
Software Validation

Which is not true in the following statements?

1.
Web has led to availability of software services and possibility of developing highly distributed service based systems.

2.
Web based systems have led to degrade of programming languages.

3.
Web brings concept of software as service.

4.
Web based system should be developed and delivered incrementally.

What is the major advantage of using Incremental Model?

1.
Customer can respond to each increment

2.
Easier to test and debug

3.
It is used when there is a need to get a product to the market early

4.
Both b & c

The spiral model was originally proposed by

1.
IBM

2.
Barry Boehm

3.
Pressman

4.
Royce

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

1.
elicitation

2.
design

3.
analysis

4.
Documentation

Which one of the following is a requirement that fits in a developer's module?

1.
Availability
2.
Testability
3.
Usability
4.
Flexibility

What are the four dimensions of Dependability?
1.
Usability, Reliability, Security, Flexibility
2.
Availability, Reliability, Maintainability, Security
3.
Availability, Reliability, Security, Safety
4.
Security, Safety, Testability, Usability

FAST stands for
1.
Functional Application Specification Technique
2.
Fast Application Specification Technique
3.
Facilitated Application Specification Technique
4.
None of the mentioned

How many classification schemes have been developed for NFRs?
1.
Two
2.
Three
3.
Four
4.
Five

Choose the incorrect statement with respect to Non-Functional Requirement (NFR).

1.
Product-oriented Approach – Focus on system (or software) quality

2.
Process-oriented Approach – Focus on how NFRs can be used in the design process

3.
Quantitative Approach – Find measurable scales for the functionality attributes
4.
Qualitative Approach – Study various relationships between quality goals

The open source movement has meant that there is a huge reusable code base available at

1.
free of cost
2.
low cost
3.
high cost
4.
short period of time

COTS stands for
1.
Commercial Off-The-Shelf systems
2.
Commercial Off-The-Shelf states
3.
Commercial Off-The-System state
4.
None of the mentioned

Which of the following is a generic structure that is extended to create a more specific subsystem or application?
1.
Software reuse
2.
Object-oriented programming language
3.
Framework
4.
None of the mentioned

Consider the example and categorize it accordingly, “A pattern-matching system developed as part of a text-processing system may be reused in a database management system”.

1.
Application system reuse

2.
Component reuse

3.
Object and function reuse

4.
None of the mentioned

Which of the following is not an advantage of software reuse?

1.
lower costs

2.
faster software development

3.
high effectiveness

4.
lower risks

Which framework class include standards and classes that support component communication and information exchange?

1.
System infrastructure frameworks

2.
Middleware integration frameworks

3.
Enterprise application frameworks

4.
MVC

“An ordering system may be adapted to cope with a centralized ordering process in one company and a distributed process in another.” Which category the example belongs to?

1.
Process specialization

2.
Platform specialization

3.
Environment specialization

4.
Functional specialization

What are generic application systems that may be designed to support a particular business type, activity, or sometimes a complete enterprise?

1.
COTS-solution systems
2.
COTS-integrated systems
3.
ERP systems
4.
Both COTS-solution and COTS-integrated systems

ERP stands for
1.
Effective Reuse Planning
2.
Enterprise Resource Planning
3.
Effective Research Planning
4.
None of the mentioned

What are the various Testing Levels?

1.
Unit Testing
2.
System Testing
3.
Integration Testing
4.
All of the mentioned

White Box techniques are also classified as

1.
Design based testing
2.
Structural testing
3.
Error guessing technique
4.
None of the above

What is Cyclomatic complexity?

1.

Black box testing

2.

White box testing

3.

Yellow box testing

4.

Green box testing

Which of the following term describes testing?

1.

Finding broken code

2.

Evaluating deliverable to find errors

3.

A stage of all projects

4.

None of the mentioned

Acceptance testing is also known as

1.

Grey box testing

2.

White box testing

3.

Alpha Testing

4.

Beta testing

SPICE stands for

1.

Software Process Improvement and Compatibility Determination

2.

Software Process Improvement and Control Determination

3.

Software Process Improvement and Capability Determination

4.

None of the mentioned

Unit testing is done by

1.

Users

2.

Developers

3.

Customers

4.

All the above

Which of the following is not used in measuring the size of the software

1.
KLOC
2.
Function Points
3.
Size of module
4.
None of the above

Behavioral testing is
1.
White box testing
2.
Black box testing
3.
Grey box testing
4.
Acceptance testing

Beta testing is done at
1.
User's end
2.
Developer's end
3.
Customer
4.
All the above

Which of the following is non-functional testing?
1.
Black box testing
2.
Performance testing
3.
Unit testing
4.
None of the mentioned

The UML was designed for describing _____.

1.
object-oriented systems
2.
architectural design
3.
SRS
4.
Both object-oriented systems and Architectural design

A _____ view shows the system hardware and how software components are distributed across the processors in the system.

1.
physical
2.
logical
3.
process
4.
All the above

Which of the following view shows that the system is composed of interacting processes at run time?

1.
physical
2.
development
3.
logical
4.
Process

Which of the following is an architectural conflict?

1.
Using large-grain components improves performance but reduces maintainability.
2.
Introducing redundant data improves availability but makes security more difficult
3.
Localizing safety-related features usually means more communication so degraded performance

4.
All of the mentioned

Which of the following is not included in Architectural design decisions?

1.
type of application
2.
distribution of the system
3.
architectural styles
4.
testing the system

Which of the following pattern is the basis of interaction management in many web-based systems?

1.
architecture
2.
repository pattern
3.
model-view-controller
4.
different operating system

What describes how a set of interacting components can share data?

1.
model-view-controller
2.
architecture pattern
3.
repository pattern
4.
None of the mentioned

Which view in architectural design shows the key abstractions in the system as objects or object classes?

1.
physical
2.
development
3.
logical
4.
Process

Which of the following is a type of Architectural Model?

1.
Static structural model
2.
Dynamic process model
3.
Distribution model
4.
All of the mentioned

Which of these following sensors is a useful as part of a burglar alarm system for commercial buildings?

1.
Movement detector
2.
Door sensor
3.
Window sensor
4.
All of the mentioned

Which of the following is not real-time architectural patterns that are commonly used?

1.
Asynchronous communication
2.
Observe and React
3.
Environmental Control
4.
Process Pipeline

A monitoring system examines its environment through:_____

1.
operating system
2.
communication
3.
set of sensors
4.
none of these

Which of the following is applicable on software radio?

1.
Environmental Control
2.
Process Pipeline
3.
Distributed system
4.
None of the mentioned

An example of a system that may use a process pipeline is a high-speed
1.
data distributing system
2.
data acquisition system
3.
data collector system
4.
none of the mentioned

Which of the following is an example of a controller for a car braking system?

1.
Observe and React
2.
Process Pipeline
3.
Environmental Control
4.
None of the above

ETL stands for
1.
Data Extraction Transformation & Loading
2.
Data Execution Transformation & Loading
3.
Extraction Transformation & Loading
4.
Execution Transformation & Loading

Control systems may make use of the Environmental Control pattern, which is a general control pattern that includes _____processes.

1.
sensor
2.
actuator
3.
pipeline
4.
both sensor and actuator

_____ can be associated with a separate processor or core, so that the processing steps can be carried out in parallel.

1.
Process Pipeline
2.
Environmental Control
3.
Observe and React
4.
none of the mentioned

Which of the following examples is/are models of application architectures?
1.
a means of assessing components for reuse
2.
a design checklist
3.
a vocabulary for talking about types of applications
4.
All of the mentioned

Which of the following type describes application architectures?
1.
Transaction processing applications
2.
Language processing systems
3.
Client management systems
4.
Transaction processing applications and Language processing systems

All the operations in a transaction need to be completed before the database changes are made _____.

1.
functional
2.
available to the users
3.
permanent
4.
None of the mentioned

Systems that involve interaction with a shared database can be considered as.
1.
software-based
2.
transaction-based
3.
server-based
4.
client-based

What translates a natural or an artificial language into another representation of that language and, for programming languages also execute the resulting code?

1.
ERP systems
2.
Transaction-based information systems
3.
Language processing systems
4.
None of the mentioned

Which of the following is/are commonly used architectural pattern(s)?
1.
Model-View-Controller
2.
Layered Architecture
3.
Client–server
4.
All of the mentioned

A language-processing systems may translate an XML data description into

1.
a machine code
2.
an alternative XML representation
3.
machine code and alternative XML representation
4.
a software module

Transaction processing systems may be organized as_____ architecture with system components responsible for input, processing, and output.

1.
Repository
2.
Client–server
3.
Model-View-Controller
4.
Pipe and Filter

Which is the first step in the software development life cycle?

1.
Analysis
2.
Design
3.
Problem/Opportunity Identification
4.
Development and Documentation

Which tool is use for structured designing?
1.
Program flowchart
2.
Structure chart
3.
Data-flow diagram
4.
Module

A step by step instruction used to solve a problem is known as

1.
Sequential structure
2.
A List
3.
A plan
4.
An Algorithm

In the Analysis phase, the development of the _____ occurs, which is a clear statement of the goals and objectives of the project.

1.
documentation
2.
flowchart
3.
program specification
4.
Design

Actual programming of software code is done during the _____ step in the SDLC.

1.
Maintenance and Evaluation
2.
Design
3.
Analysis
4.
Development and Documentation

Who designs and implement database structures_____.

1.
Programmers
2.
Project managers
3.
Technical writers
4.
Database administrators

_____ is the process of translating a task into a series of commands that a computer will use to perform that task.

1.
Project design
2.
Installation
3.
Systems analysis
4.
Programming

Debugging is: _____.

1.
Creating program code.
2.
Finding and correcting errors in the program code.
3.
Identifying the task to be computerized.
4.
Creating the algorithm.

In Design phase, which is the primary area of concern_____?
1.
Architecture.
2.
Data.
3.
Interface.
4.
All of the mentioned.

The importance of software design can be summarized in a single word which is: ____.
1.
Efficiency
2.
Accuracy
3.
Quality
4.
Complexity

Cohesion is a qualitative indication of the degree to which a module_____.

1.
can be written more compactly.
2.
focuses on just one thing.
3.
is able to complete its function in a timely manner.
4.
is connected to other modules and the outside world.

Coupling is a qualitative indication of the degree to which a module_____.
1.
can be written more compactly.
2.
focuses on just one thing.
3.
is able to complete its function in a timely manner.
4.
is connected to other modules and the outside world.

The Unified Modeling Language (UML) has become an effective standard for software modelling. How many different notations does it have?

1.
Three

2.
Four

3.
Six

4.
Nine

Which model in system modelling depicts the dynamic behaviour of the system?

1.
Context Model
2.
Behavioral Model
3.
Data Model
4.
Object Model

Which model in system modelling depicts the static nature of the system?

1.
Behavioral Model
2.
Context Model
3.
Data Model
4.
Structural Model

Which perspective in system modelling shows the system or data architecture?

1.
Structural perspective
2.
Behavioral perspective
3.
External perspective
4.
None of the above

Which of the following diagram is not supported by UML considering Data-driven modelling?

1.
Activity
2.
Data Flow Diagram (DFD)
3.
State Chart
4.
Component

_____ allows us to infer that different members of classes have some common characteristics.

1.
Realization
2.
Aggregation
3.
Generalization
4.
Dependency

_____ & _____ diagrams of UML represent Interaction modeling.

1.
Use Case, Sequence
2.
Class, Object
3.
Activity, State Chart
4.
None of the above

Which level of Entity Relationship Diagram (ERD) models all entities and relationships?

1.
Level 1
2.
Level 2
3.
Level 3
4.
Level 4

_____ classes are used to create the interface that the user sees and interacts with as the software is used.

1.
Controller
2.
Entity
3.
Boundary
4.
Business

Which of the following statement is incorrect regarding the Class-responsibility-collaborator (CRC) modeling?

1.
All use-case scenarios (and corresponding use-case diagrams) are organized into categories in CRC modelling

2.
The review leader reads the use-case deliberately.
3.
Only developers in the review (of the CRC model) are given a subset of the CRC model index cards.
4.
All the above

The model in which the requirements are implemented by its category is _____.

1.
Evolutionary Development Model
2.
Waterfall Model
3.
Prototyping
4.
Iterative Enhancement Model

If every requirement can be checked by a cost-effective process, then the SRS is:

1.
Verifiable
2.
Traceable
3.
Modifiable
4.
Complete

The software design paradigm is a part of software development and it includes:

1.
Design, Maintenance, Programming
2.
Coding, Testing, Integration
3.
Requirement gathering, Software design, Programming
4.
None of the above

The New modules, that are need to be replaced or modified, and they are also designed against requirement specifications set in the previous stage is _____ .

1.
Acceptance testing
2.
System Testing
3.
Delivery
4.
Design

Which of the following is/are considered stakeholder in the software process?

1.
Customers
2.
End-users
3.
Project managers
4.
All of the above.

What is the main aim of Software engineering?
1.
Reliable software
2.
Cost effective software
3.
Reliable and cost effective software
4.
None of the above

Choose the correct option according to the given statement.
Statement 1: Software is a physical rather than a logical system element.
Statement 2: Computer software is the product that software engineers design and build.
Statement 3: Software is a logical rather than a physical system element.
Statement 4: Software is a set of application programs that are built by software engineers.
1.
Statement 1 and 2 are correct.
2.
Only Statement 2 and 3 are correct.
3.
Statement 2 and 3 and 4 are correct.
4.
All statements are correct

If requirements are easily understandable and defined then which model is best suited?
1.
Spiral model
2.
Waterfall model
3.
Prototyping model
4.
None of the above

CASE Tool stands for_____.
1.
Computer Aided Software Engineering
2.

Component Aided Software Engineering
3.
Constructive Aided Software Engineering
4.
Computer Analysis Software Engineering

Software is defined as ____.
1.
Instructions
2.
Data Structures
3.
Documents
4.
All of the above

What is the meaning of requirement elicitation in software engineering?
1.
Gathering of requirement.
2.
Understanding of requirement.
3.
Getting the requirements from client.
4.
All of the above.

Which document is created by system analyst after the requirements are collected from various stakeholders?
1.
Software requirement specification
2.
Software requirement validation

3.
Feasibility study
4.
Requirement Gathering

If every requirement stated in the Software Requirement Specification (SRS) has only one interpretation, SRS is said to be correct _____ .
1.
Unambiguous
2.
Consistent
3.
Verifiable
4.
None of the above