

Question Paper Preview

Notations :

1. Options shown in green color and with ✓ icon are correct.
2. Options shown in red color and with ✖ icon are incorrect.

Question Paper Name:	Computer Science and Information technology 29th May 2018 Shift2
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Calculator:	None
Magnifying Glass Required?:	No
Ruler Required?:	No
Eraser Required?:	No
Scratch Pad Required?:	No
Rough Sketch/Notepad Required?:	No
Protractor Required?:	No

Display Number Panel:	Yes
Group All Questions:	No

Question Number : 1 Question Id : 5113466961 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If $A = \{1, 2, 3, 4, 5, 6, 7\}$, $B = \{3, 4, a, b\}$ then the Symmetric difference of sets A, B is

Options :

1. ✖ $\{1, 2, 5, 6, 7, b\}$
2. ✓ $\{1, 2, 5, 6, 7, a, b\}$
3. ✖ $\{3, 4, a, b\}$
4. ✖ ϕ (Null set)

Question Number : 2 Question Id : 5113466962 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

A non-directed graph G has 8 edges. If the degree of each vertex in G is 2 then the number of vertices in G is

Options :

1. ✘ 4
2. ✘ 6
3. ✔ 8
4. ✘ 10

Question Number : 3 Question Id : 5113466963 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The number of ways to put 4 letters in 4 addressed envelopes so that all are in wrong envelopes is

Options :

1. ✘ 6
2. ✔ 9
3. ✘ 12
4. ✘ 16

Question Number : 4 Question Id : 5113466964 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If $A = \frac{1}{3} \begin{bmatrix} 1 & 2 & 2 \\ 2 & 1 & x \\ -2 & y & -1 \end{bmatrix}$ is orthogonal then the values of x and y are

Options :

1. ✔ $x = -2, y = 2$
2. ✘ $x = -2, y = -2$
3. ✘ $x = 2, y = 2$

4. ✘ $x = 2, y = -2$

Question Number : 5 Question Id : 5113466965 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The Eigen values of $A = \begin{vmatrix} 2 & \sqrt{2} \\ \sqrt{2} & 1 \end{vmatrix}$ are

Options :

1. ✘ 1 and 3

2. ✘ -1 and 2

3. ✔ 0 and 3

4. ✘ 1 and 2

Question Number : 6 Question Id : 5113466966 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The value of $\lim_{x \rightarrow 0} \frac{6^x - 3^x - 2^x + 1}{x^2} =$

Options :

1. ✘ $\log_e \frac{3}{2}$

2. ✘ $\log_e 6$

3. ✘ $\log_e \frac{2}{3}$

4. ✔ $\log_e 2 \log_e 3$

Question Number : 7 Question Id : 5113466967 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If the probability of a Poisson variate taking the values 3 and 4 are equal, then the probability of the variate taking the value zero is

Options :

1. ✘ e^4
2. ✔ e^{-4}
3. ✘ e^{-1}
4. ✘ e^3

Question Number : 8 Question Id : 5113466968 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The number of subsets of $A = \{2, 2, 2, 3, 3, 5, 11\}$ is

Options :

1. ✔ 48
2. ✘ 52
3. ✘ 58
4. ✘ 60

Question Number : 9 Question Id : 5113466969 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Let 'o' be a binary operation on the set Q^+ (set of positive rational numbers) defined by

$xoy = \frac{xy}{2} \forall x, y \in Q^+$. If (Q^+, o) is a group, then the identity of the group is

Options :

1. ✘ $\frac{1}{2}$
2. ✘ 1
3. ✔ 2
4. ✘ 3

Question Number : 10 Question Id : 5113466970 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If the median of a distribution 40 and the mean is 35, then the mode of the distribution is

Options :

1. ✘ 25
2. ✔ 50
3. ✘ 60
4. ✘ 70

Display Number Panel:

Yes

Group All Questions:

No

Question Number : 11 Question Id : 5113466971 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

In how many ways we can get a sum of 8 when two indistinguishable dice are rolled

Options :

1. ✔ 3
2. ✘ 6
3. ✘ 5
4. ✘ 8

Question Number : 12 Question Id : 5113466972 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

In how many ways 3 digit number can be formed using 1, 3, 4, 5, 6, 8, 9 if no digit is repeated

Options :

1. ✘ 313
2. ✔ 210
3. ✘ 999

4. ✘ 333

Question Number : 13 Question Id : 5113466973 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

How many ways are there to pick a man and a woman who are not married from 30 married couples

Options :

1. ✘ 900

2. ✘ 60

3. ✔ 870

4. ✘ 600

Question Number : 14 Question Id : 5113466974 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

A certain computer centre employs 100 computer programmers. Of these 47 can program in JAVA, 35 in Python and 23 can program in both languages. How many can program in neither of these 2 languages

Options :

1. ✘ 64

2. ✘ 159

3. ✔ 41

4. ✘ 105

Question Number : 15 Question Id : 5113466975 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

How many vertices will the graph possess if it contains 16 edges and all vertices are of degree 2

Options :

1. ✔ 16

2. ✘ 32
3. ✘ 48
4. ✘ 8

Question Number : 16 Question Id : 5113466976 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

A graph obtained by joining a single new vertex to each vertex of a cycle graph of order $n-1$ is a

Options :

1. ✘ Path graph
2. ✔ Wheel graph
3. ✘ Null graph
4. ✘ Complement of a graph

Question Number : 17 Question Id : 5113466977 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

A complete graph K_n is planar if and only if

Options :

1. ✘ $n > 4$
2. ✘ $n < 4$
3. ✔ $n \leq 4$
4. ✘ $n = 4$

Question Number : 18 Question Id : 5113466978 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

A path in a connected graph that traverses each vertex of a graph exactly once is a

Options :

1. ✓ Hamiltonian path
2. ✗ Euler's path
3. ✗ Multigraph
4. ✗ Both Euler's path and Hamiltonian path

Question Number : 19 Question Id : 5113466979 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The maximum number of edges in a bipartite graph $K_{3,3}$ are

Options :

1. ✗ 6
2. ✓ 9
3. ✗ 27
4. ✗ 8

Question Number : 20 Question Id : 5113466980 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The number of non negative integral solutions to $x_1+x_2+x_3=10$ are

Options :

1. ✓ ${}^{12}C_{10}$
2. ✗ ${}^{10}C_3$
3. ✗ ${}^{12}C_3$
4. ✗ ${}^{13}C_{10}$

Question Number : 21 Question Id : 5113466981 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The function $f(x) = x^3 - 6x^2 + 9x + 5$ has

Options :

1. ✓ A maxima at $x = 1$ and minima at $x = 3$
2. ✗ A maxima at $x = 3$ and minima at $x = 1$
3. ✗ No maxima but minima at $x = 1$
4. ✗ A maxima at $x = 1$ but no minima

Question Number : 22 Question Id : 5113466982 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If $f(0) = 2$ and $f(x) = 1/(5-x^2)$, then lower and upper bound of $f(1)$ estimated by mean value theorem are

Options :

1. ✗ 1.9, 2.2
2. ✓ 2.2, 2.5
3. ✗ 2.25, 2.5
4. ✗ 1, 2.8

Question Number : 23 Question Id : 5113466983 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The Eigen values of $\begin{bmatrix} 5 & 6 & 17 \\ 0 & -19 & 13 \\ 0 & 0 & 37 \end{bmatrix}$ are

Options :

1. ✓ 19, 5, -37
2. ✗ 19, -5, -37
3. ✗ 2, -3, 7
4. ✗ 3, -5, 37

Question Number : 24 Question Id : 5113466984 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Three unbiased coins are tossed, what is the probability of getting at least 2 tails

Options :

1. ✘ $1/3$
2. ✘ $1/6$
3. ✔ $1/2$
4. ✘ $1/8$

Question Number : 25 Question Id : 5113466985 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

In which approach to probability the outcomes are equally likely to occur

Options :

1. ✔ Classical probability
2. ✘ Subjective probability
3. ✘ Relative frequency
4. ✘ Independent

Question Number : 26 Question Id : 5113466986 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Let C: The crop will be destroyed, F: There is a flood. Write the following statement into symbolic form: "The crop will be destroyed if there is a flood"

Options :

1. ✘ $C \rightarrow F$
2. ✔ $F \rightarrow C$
3. ✘ FUC
4. ✘ $C \cap F$

Question Number : 27 Question Id : 5113466987 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If $A = \{15, 16, 17, 18, 19\}$ and $B = \{18, 19, 20, 21, 22\}$. The Boolean sum of A & B is

Options :

1. ✘ $\{18, 19\}$
2. ✘ A
3. ✘ Φ
4. ✔ $\{15, 16, 17, 20, 21, 22\}$

Question Number : 28 Question Id : 5113466988 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

A relation R in X is said to be a compatibility relation if it is

Options :

1. ✔ reflexive and symmetric
2. ✘ reflexive, symmetric and transitive
3. ✘ reflexive, antisymmetric
4. ✘ reflexive and transitive.

Question Number : 29 Question Id : 5113466989 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Let $S = \{a, b, c\}$. One of the following subsets is the partition of S

Options :

1. ✘ $\{\{a, b\}, \{b, c\}\}$
2. ✘ $\{\{a\}, \{a, c\}\}$
3. ✔ $\{\{a\}, \{b, c\}\}$
4. ✘ $\{\{b\}, \{b, c\}\}$

Question Number : 30 Question Id : 5113466990 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Consider a relation $R = \{(a, b), (a, c), (c, b)\}$ in a set $X = \{a, b, c\}$. What is the transitive closure of R in X

Options :

1. ✘ $\{(a, b)\}$
2. ✘ $\{(a, b), (a, c)\}$
3. ✘ $\{(a, c), (b, c)\}$
4. ✔ $\{(a, b), (a, c), (c, b)\}$

Question Number : 31 Question Id : 5113466991 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The TTL field has value 10. How many routers (max) can process this datagram

Options :

1. ✘ 11
2. ✘ 5
3. ✔ 10
4. ✘ 1

Question Number : 32 Question Id : 5113466992 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Three companies A, B and C supply 25%, 35% and 40% of note books to a school. Past experience shows that 5%, 4% and 2% of note books produced by these companies are defective. If a notebook was found to be defective, what is the probability that the notebook was supplied by A?

Options :

1. ✘ $44/69$
2. ✔ $25/69$

3. ✘ 13/24

4. ✘ 11/24

Question Number : 33 Question Id : 5113466993 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

In a moderately asymmetric series, the values of arithmetic mean and mode are 20.6 and 26.1 respectively. The value of median is

Options :

1. ✘ 35.3

2. ✘ 28.0

3. ✘ 25.1

4. ✔ 22.43

Question Number : 34 Question Id : 5113466994 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

In the first 10 overs of a game the run rate was only 3.2. What should be the run rate in the remaining overs to reach the target of 282 runs?

Options :

1. ✔ 6.25

2. ✘ 6.5

3. ✘ 6.75

4. ✘ 7

Question Number : 35 Question Id : 5113466995 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The average monthly income of P & Q is Rs.5050. The average monthly income of Q and R is Rs. 6250 and the average monthly income of P and R is Rs.5200. The monthly income of P is:

Options :

1. ✘ 3500
2. ✔ 4000
3. ✘ 4050
4. ✘ 5000

Question Number : 36 Question Id : 5113466996 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Tickets numbered 1 to 20 are mixed up and then a ticket is drawn at a random. What is the probability that the ticket drawn has a number which is multiple of 3 or 5?

Options :

1. ✘ $1/2$
2. ✘ $2/5$
3. ✘ $8/15$
4. ✔ $9/20$

Question Number : 37 Question Id : 5113466997 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Total number of words formed by 2 vowels and 3 consonants taken from 4 vowels and 5 consonants is equal to

Options :

1. ✘ 60
2. ✘ 120
3. ✔ 7200
4. ✘ 720

Question Number : 38 Question Id : 5113466998 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The number of diagonals that can be drawn by joining the vertices of an octagon is

Options :

1. ✘ 28
2. ✘ 48
3. ✔ 20
4. ✘ 64

Question Number : 39 Question Id : 5113466999 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The dual of $(P \cap Q) \cup T$ is

Options :

1. ✘ $(P \cup Q) \cap T$
2. ✘ $(P \cap Q) \cup F$
3. ✘ $(P \cap Q) \cup T$
4. ✔ $(P \cup Q) \cap F$

Question Number : 40 Question Id : 5113467000 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

A statement formula which is true regardless of truth values of the statements which replace the variable in it is called

Options :

1. ✔ Tautology
2. ✘ Contradiction
3. ✘ Substitution
4. ✘ Duality

Question Number : 41 Question Id : 5113467001 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

One of the following expression is used to generate carry in a full adder where X, Y, Z are its inputs

Options :

1. ✘ $X + Y + Z$
2. ✘ $X' + Y' + Z'$
3. ✔ $XY + (X'Y + XY')Z$
4. ✘ $XY + (XY + X'Y)Z$

Question Number : 42 Question Id : 5113467002 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

One of the following is obtained as a result of interconnection of flip flop and gates.

Options :

1. ✘ Combinational circuit
2. ✘ Decoder
3. ✘ Multiplexer
4. ✔ Sequential circuit

Question Number : 43 Question Id : 5113467003 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The number of selection inputs in 64 X 1 MUX are

Options :

1. ✘ 16
2. ✔ 6
3. ✘ 32
4. ✘ 64

Question Number : 44 Question Id : 5113467004 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

A memory unit is specified by number of words times the number of bits per word which is represented as $2K \times 16$. The number of address lines are

Options :

1. ✘ 16
2. ✘ 10
3. ✘ 12
4. ✔ 11

Question Number : 45 Question Id : 5113467005 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The decimal equivalent of the binary number $(101001.1011)_2$ is

Options :

1. ✘ 49.6875
2. ✘ 41.375
3. ✔ 41.6875
4. ✘ 49.375

Question Number : 46 Question Id : 5113467006 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Find 8's complement for the given octal number $(5670)_8$

Options :

1. ✘ 2107
2. ✘ 2108
3. ✔ 2110
4. ✘ 2100

Question Number : 47 Question Id : 5113467007 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The normalized form of the floating point number $0.0035e-15$ is

Options :

1. ✓ $0.35e-17$
2. ✗ $0.035e-16$
3. ✗ $0.35e-13$
4. ✗ $0.35e-14$

Question Number : 48 Question Id : 5113467008 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

A computer uses a memory unit with 256 K words of 32 bits each. The instructions has three parts: Indirect bit, operation code and an address part. What is the size of operation code (in bits)

Options :

1. ✓ 13
2. ✗ 14
3. ✗ 14
4. ✗ 18

Question Number : 49 Question Id : 5113467009 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

In the following mode of operation, the operant is specified in the instruction itself.

Options :

1. ✗ Register mode
2. ✗ Register indirect mode
3. ✓ Immediate mode
4. ✗ Auto increment/decrement mode

Question Number : 50 Question Id : 5113467010 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

A relative mode branch type of instruction is stored in memory at an address equivalent to decimal 750. The branch is made to an address equivalent to decimal 500. What should be the value of relative address field of instruction (in decimal)

Options :

1. ✘ 251
2. ✔ -251
3. ✘ 250
4. ✘ -250

Question Number : 51 Question Id : 5113467011 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Compute the floating point addition (X+Y) given $X=0.0950e+4$, $Y=0.8200e+2$

Options :

1. ✔ $1.0324e+3$
2. ✘ $1.7704e+3$
3. ✘ $0.91504e+2$
4. ✘ $1.0324e+2$

Question Number : 52 Question Id : 5113467012 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

One of the following asynchronous data transfer uses single control line for data transfer which can be initiated either by source or destination unit

Options :

1. ✔ Strobe control
2. ✘ Hand shaking
3. ✘ Three way handshaking

4. ✘ Asynchronous data transfer

Question Number : 53 Question Id : 5113467013 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Project risk factor is considered in the following process model

Options :

1. ✘ Waterfall model
2. ✘ Spiral model
3. ✔ Prototyping model
4. ✘ Iterative model

Question Number : 54 Question Id : 5113467014 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Number of phases in unified process model are

Options :

1. ✘ 5
2. ✘ 6
3. ✔ 4
4. ✘ 3

Question Number : 55 Question Id : 5113467015 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

CASE Tool is

Options :

1. ✔ Computer Aided Software Engineering
2. ✘ Component Aided Software Engineering
3. ✘ Constructive Aided Software Engineering

4. ✘ Computer Analysis Software Engineering

Question Number : 56 Question Id : 5113467016 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

One of the following is not a requirements elicitation techniques

Options :

1. ✘ Interviews
2. ✘ Questionnaires
3. ✘ Use case approach
4. ✔ FAST

Question Number : 57 Question Id : 5113467017 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Context level Data Flow Diagram (DFD) describes

Options :

1. ✔ Overview of the system
2. ✘ Internal view of the system
3. ✘ Entities of the system
4. ✘ Performance of the system

Question Number : 58 Question Id : 5113467018 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

One of the following is not a non-functional requirement

Options :

1. ✘ Efficiency
2. ✘ Reliability
3. ✔ Product features

4. ✘ Availability

Question Number : 59 Question Id : 5113467019 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The relationship of data elements in a module is called

Options :

1. ✘ Coupling
2. ✔ Cohesion
3. ✘ Modularity
4. ✘ Stability

Question Number : 60 Question Id : 5113467020 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Software testing is the process of

Options :

1. ✘ Demonstrating that errors are not present
2. ✘ Establishing confidence that a program does what it is supposed to do
3. ✘ Executing a program to show that it is working as per specification
4. ✔ Executing a program with the intent of finding errors

Question Number : 61 Question Id : 5113467021 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Testing which is performed after making changes to the existing software is known as

Options :

1. ✔ Regression testing
2. ✘ Integration testing
3. ✘ System testing

4. ✘ Acceptance testing

Question Number : 62 Question Id : 5113467022 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Adaptive maintenance is related to

Options :

1. ✘ Modification in software due to failures
2. ✘ Modification in software due to demand of new functionalities
3. ✘ Modification in software due to increase in complexity
4. ✔ Modification in software to match changes in ever changing environment.

Question Number : 63 Question Id : 5113467023 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The number of independent paths in a program is computed by the following metrics

Options :

1. ✘ Function point
2. ✘ LOC
3. ✔ Cyclomatic complexity
4. ✘ Effort

Question Number : 64 Question Id : 5113467024 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

A unit of storage that can store one or more records in a hash file organization is denoted as

Options :

1. ✔ Bucket
2. ✘ Disk pages

3. ✘ Blocks

4. ✘ Nodes

Question Number : 65 Question Id : 5113467025 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If the state of the database no longer reflects a real state of the world that the database is supposed to capture, then such a state is called

Options :

1. ✘ Consistent state

2. ✘ Parallel state

3. ✘ Atomic State

4. ✔ Inconsistent state

Question Number : 66 Question Id : 5113467026 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Let the relation $R(A, B, C, D, E)$ has the following functional dependencies: $A \rightarrow B$, $B \rightarrow C$, $BC \rightarrow A$, $A \rightarrow D$, $E \rightarrow A$, $D \rightarrow E$. Which of the following is not a key

Options :

1. ✘ A

2. ✘ E

3. ✔ B, C

4. ✘ D

Question Number : 67 Question Id : 5113467027 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

In _____ we have strict parent child relationship

Options :

1. ✓ Hierarchical databases
2. ✗ Network databases
3. ✗ Object oriented databases
4. ✗ Relational databases

Question Number : 68 Question Id : 5113467028 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which two files are used during operations of the DBMS

Options :

1. ✗ Query language & utilities
2. ✗ DML & Query language
3. ✓ Data dictionary & Transaction log
4. ✗ Data dictionary & query language

Question Number : 69 Question Id : 5113467029 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which type of join is needed to retrieve rows where the attribute of a relation references to the primary key of the same relation

Options :

1. ✗ Left outer join
2. ✗ Right outer join
3. ✗ Full outer join
4. ✓ Self join

Question Number : 70 Question Id : 5113467030 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

A collection of instructions that performs single logical function is called

Options :

1. ✓ Transaction
2. ✗ Operation
3. ✗ Function
4. ✗ Database

Question Number : 71 Question Id : 5113467031 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The property that ensures that data used during execution of transaction cannot be used by second transaction until the first one is completed

Options :

1. ✗ Atomicity
2. ✓ Isolation
3. ✗ Serializability
4. ✗ Durability

Question Number : 72 Question Id : 5113467032 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following is not a valid unary operator in relational algebra?

Options :

1. ✗ Select
2. ✓ Min
3. ✗ Project
4. ✗ Rename

Question Number : 73 Question Id : 5113467033 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The SQL clause which is used to delete all the rows permanently is

Options :

1. ✘ Delete
2. ✘ Remove
3. ✔ Truncate
4. ✘ Minus

Question Number : 74 Question Id : 5113467034 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The SQL keyword(s) used with wild card characters are

Options :

1. ✔ Like
2. ✘ IN
3. ✘ NOT IN
4. ✘ IN and NOT IN

Question Number : 75 Question Id : 5113467035 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If every non key attribute is functionally dependent on primary key then the relation will
be in

Options :

1. ✘ 1NF
2. ✔ 2NF
3. ✘ 3NF
4. ✘ BCNF

Question Number : 76 Question Id : 5113467036 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The index which has entry for every key value is

Options :

1. ✓ Dense index
2. ✗ Sparse index
3. ✗ Clustered index
4. ✗ Linear index

Question Number : 77 Question Id : 5113467037 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

While inserting the record into the index, if the search-key value does not appear in the index.

Options :

1. ✗ The system adds a pointer to the new record in the index entry
2. ✗ The system places the record being inserted after the other records with the same search-key values
3. ✓ The system inserts an index entry with the search-key value in the index at the appropriate position
4. ✗ The system deletes a pointer in the index entry

Question Number : 78 Question Id : 5113467038 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

What is the output of the following program

```
#include<stdio.h>
int main()
{
    printf("%c", "PGECET"[5]);
    return 0;
}
```

Options :

1. ✘ Compile time error
2. ✘ Runtime error
3. ✔ T
4. ✘ C

Question Number : 79 Question Id : 5113467039 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Assume size of an integer is 4 bytes, what is the output of the following program

```
#include<stdio.h>
int main()
{
    int i=5, j=10,k=15;
    printf ("%d", sizeof (k/=(i+j)));
    printf("%d", k);
    return 0;
}
```

Options :

1. ✘ 4 1
2. ✘ 2 1
3. ✔ 4 15
4. ✘ Compile time error.

Question Number : 80 Question Id : 5113467040 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Consider the following program

```
#include<stdio.h>
int i;
int main()
{
    if (i);
    else
        printf("Else");
    return 0;
}
```

What is correct about the above program

Options :

1. ✘ if block is executed
2. ✔ else block is executed
3. ✘ it is unpredictable as "i" is not initialized
4. ✘ Error: misplaced else

Question Number : 81 Question Id : 5113467041 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Consider the following C declaration

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

Assume that objects of type short, float and long occupy 2 bytes, 4 bytes and 8 bytes respectively. The memory required for variable 't' ignoring alignment considerations is

Options :

1. ✘ 22 bytes
2. ✘ 14 bytes

3. ✓ 18 bytes

4. ✗ 10 bytes

Question Number : 82 Question Id : 5113467042 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which of the following is a valid class declaration

Options :

1. ✓ `class A {int x;};`

2. ✗ `class B{ }`

3. ✗ `public class A { }`

4. ✗ `object A {int x;};`

Question Number : 83 Question Id : 5113467043 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Constructors are used to

Options :

1. ✓ Initialize the objects

2. ✗ Construct data members

3. ✗ Both initialize objects and construct data members

4. ✗ Create private data members.

Question Number : 84 Question Id : 5113467044 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which constructor is used to keep the call by reference value as intact.

Options :

1. ✗ `static`

2. ✓ `const`

3. ✘ abs

4. ✘ in

Question Number : 85 Question Id : 5113467045 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

When the properties of one class are inherited by more than one classes, then the inheritance is said to be

Options :

1. ✘ Single

2. ✘ Multiple

3. ✘ Multilevel

4. ✔ Hierarchical

Question Number : 86 Question Id : 5113467046 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If a class contains pure virtual function, then it is termed as

Options :

1. ✘ Virtual class

2. ✘ Sealed class

3. ✘ Pure class

4. ✔ Abstract class

Question Number : 87 Question Id : 5113467047 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

One of the following statements is true

Options :

Runtime polymorphism is achieved only when virtual function is accessed through a
1. ✔ pointer to base class

Runtime polymorphism is achieved only when virtual function is accessed through a pointer to derived class

2. ✘

Static polymorphism is achieved when virtual function is accessed through a pointer to base class

3. ✘

Polymorphism is a process of deriving a new class from base class

4. ✘

Question Number : 88 Question Id : 5113467048 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the sparsity of a matrix?

Options :

1. ✔ The fraction of zero elements over the total number of elements

2. ✘ The fraction of non-zero elements over the total number of elements

3. ✘ The fraction of total number of elements over zero elements

4. ✘ The fraction of total number of elements over non-zero elements

Question Number : 89 Question Id : 5113467049 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Consider the following operations performed on a stack of size 5:

push(1); pop(); push(2); push(3); pop(); push(4); pop(); pop(); push(5);

After completion of all operations, the number of elements present in the stack are

Options :

1. ✔ 1

2. ✘ 2

3. ✘ 3

4. ✘ 4

Question Number : 90 Question Id : 5113467050 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

In breadth first search of the graphs, the following data structure is used

Options :

1. ✘ Stack
2. ✔ Queue
3. ✘ Linked list
4. ✘ Arrays

Question Number : 91 Question Id : 5113467051 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Given a pointer to a node X in a singly linked list. Only one pointer is given, pointer to head node is not given, can we delete the node X from given linked list

Options :

1. ✔ Possible if X is not last node
2. ✘ Possible if size of linked list is even
3. ✘ Possible if size of linked list is odd
4. ✘ Possible if X is not first node

Question Number : 92 Question Id : 5113467052 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

What is the time complexity of inserting a node in doubly linked list

Options :

1. ✘ $O(n \log n)$
2. ✘ $O(\log n)$
3. ✔ $O(n)$
4. ✘ $O(1)$

Question Number : 93 Question Id : 5113467053 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which one of the following is not an application of priority queues

Options :

1. ✘ Huffman codes
2. ✘ Interrupt handling in operating system
3. ✔ Undo operation in text editors
4. ✘ Bayesian spam filter.

Question Number : 94 Question Id : 5113467054 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which one of the following is not true about quick sort?

Options :

1. ✘ In-place algorithm
2. ✔ Pivot position can be changed
3. ✘ Adaptive sorting algorithm
4. ✘ Can be implemented as stable sort.

Question Number : 95 Question Id : 5113467055 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

What is the average case time complexity of binary search using recursion

Options :

1. ✘ $O(n \log n)$
2. ✔ $O(\log n)$
3. ✘ $O(n)$
4. ✘ $O(n^2)$

Question Number : 96 Question Id : 5113467056 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

What is the maximum height of an AVL tree with 7 nodes. Assume that the height of a tree with single node is zero(0).

Options :

1. ✘ 2

2. ✔ 3

3. ✘ 4

4. ✘ 5

Question Number : 97 Question Id : 5113467057 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Regular expressions are

Options :

1. ✔ Type 0 languages

2. ✘ Type 1 languages

3. ✘ Type 2 languages

4. ✘ Type 3 languages

Question Number : 98 Question Id : 5113467058 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Recursively enumerable languages are not closed under

Options :

1. ✘ Union

2. ✘ Homomorphism

3. ✔ Complementation

4. ✘ Concatenation

Question Number : 99 Question Id : 5113467059 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Let the class of language accepted by finite state of machine be L_1 and class of languages represented by regular expression be L_2 then

Options :

1. ✘ $L_1 < L_2$
2. ✘ $L_1 \geq L_2$
3. ✘ $L_1 \cup L_2 = *$
4. ✔ $L_1 = L_2$

Question Number : 100 Question Id : 5113467060 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Finite automata requires _____ number of stacks

Options :

1. ✘ 1
2. ✔ 0
3. ✘ 2
4. ✘ 3

Question Number : 101 Question Id : 5113467061 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which one of the following is not a tool to construct lexical analyser from a regular expression?

Options :

1. ✘ Lex
2. ✘ Flex
3. ✘ Jflex

4. Rflex

Question Number : 102 Question Id : 5113467062 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

A grammar that produces more than one parse tree for same sentence is called

Options :

1. Ambiguous

2. Unambiguous

3. Regular

4. Incomplete

Question Number : 103 Question Id : 5113467063 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

In one of the following parameter passing mechanisms, the argument is evaluated each time it is used

Options :

1. Call by value

2. Call by reference

3. Call by value result

4. Call by name

Question Number : 104 Question Id : 5113467064 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

A process stack doesn't contain

Options :

1. Function parameters

2. Local variables

3. ✘ Return address
4. ✔ PID of child process.

Question Number : 105 Question Id : 5113467065 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The address of next instruction to be executed by the current process is provided by the

Options :

1. ✘ CPU registers
2. ✔ Program counter
3. ✘ Process stack
4. ✘ Pipe

Question Number : 106 Question Id : 5113467066 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

A process control block (PCB) doesn't contain the following

Options :

1. ✘ Code
2. ✘ Stack
3. ✔ Bootstrap program
4. ✘ Data

Question Number : 107 Question Id : 5113467067 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

An IPC facility provides at least two operations

Options :

1. ✘ Write and delete message
2. ✘ Delete and receive message

3. ✘ Send and delete message
4. ✔ Receive and send message

Question Number : 108 Question Id : 5113467068 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Bounded capacity and unbounded capacity queues are referred to as

Options :

1. ✘ Programmed buffering
2. ✔ Automatic buffering
3. ✘ User defined buffering
4. ✘ No buffering

Question Number : 109 Question Id : 5113467069 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

RPC provides a(an) _____ on the clients side, a separate one for each remote procedure call

Options :

1. ✔ Stub
2. ✘ Identifier
3. ✘ Name
4. ✘ Process identifier

Question Number : 110 Question Id : 5113467070 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The remote method invocation (RMI)

Options :

1. ✘ Allows a process to invoke memory on a remote object

2. ✓ Allows a thread to invoke a method on a remote object
3. ✗ Allows a thread to invoke a memory on a remote object
4. ✗ Allows a process to invoke a method on a remote object

Question Number : 111 Question Id : 5113467071 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

When high priority task is indirectly pre-empted by medium priority task effectively inverting the relative priority of the two tasks, the scenario is called

Options :

1. ✓ Priority inversion
2. ✗ Priority removal
3. ✗ Priority exchange
4. ✗ Priority modification

Question Number : 112 Question Id : 5113467072 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Round robin scheduling algorithm in a time shared system

Options :

1. ✓ Uses very large time slices & converts it into first come first serve scheduling algorithm
2. ✗ Uses very small time slices & converts it into first come first serve scheduling algorithm
3. ✗ Uses extremely small time slices to increase the performance
4. ✗ Uses very small time slices & converts it into shortest job first algorithm.

Question Number : 113 Question Id : 5113467073 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Orders are processed in the sequence they arrive if _____ rule sequences the jobs

Options :

1. ✘ Earliest due date
2. ✘ Slack time remaining
3. ✔ First come first served
4. ✘ Critical ratio

Question Number : 114 Question Id : 5113467074 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which one of the following extends a private network across public networks

Options :

1. ✘ Local area network
2. ✔ Virtual private network
3. ✘ Enterprise private network
4. ✘ Storage area network

Question Number : 115 Question Id : 5113467075 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Transmission data rate is decided by

Options :

1. ✘ Network layer
2. ✔ Physical layer
3. ✘ Data link layer
4. ✘ Transport layer

Question Number : 116 Question Id : 5113467076 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Which one of the following algorithm is not used for congestion control

Options :

1. ✘ Traffic aware routing
2. ✘ Admission control
3. ✘ Load shedding
4. ✔ CRC

Question Number : 117 Question Id : 5113467077 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The topology that requires multipoint connection is

Options :

1. ✘ Star
2. ✘ Mesh
3. ✘ Ring
4. ✔ Bus

Question Number : 118 Question Id : 5113467078 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The values of GET, POST, HEAD etc are specified in _____ of HTTP message

Options :

1. ✔ Request line
2. ✘ Header line
3. ✘ Status line
4. ✘ Entity body

Question Number : 119 Question Id : 5113467079 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

If 5 files are transferred from server A to client B in the same session, the number of TCP connections between A and B is

Options :

1. ✘ 5
2. ✘ 10
3. ✘ 2
4. ✔ 6

Question Number : 120 Question Id : 5113467080 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

The server program tells its TCP that it is ready to accept a connection. This process is called.

Options :

1. ✔ Active open
2. ✘ Active close
3. ✘ Passive close
4. ✘ Passive open