FINAL ANSWER KEY

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Question1:-Who chaired the Travancore 'Book Committee' which was formed in 1867 for a very long time?
    A:-Rev. Mead
    B:-Rani Gowri Lakshmi Bhai
    C:-John Munroe
    D:-Kerala Verma Valia Koil Thampuran
    Correct Answer:- Option-D

Question2:-Who was the founder editor of the newspaper 'Mithavadi'?
    A:-C. Krishnan
    B:-C.V. Kunjiraman
    C:-Kandathil Varghese Mappilai
    D:-V.K. Hamza Abbas
    Correct Answer:- Option-A

Question3:-Who was the author of 'Parangodi Parinayam'?
    A:-K.P. Keshav Menon
    B:-Chandu Menon
    C:-Murkoth Kumaran
    D:-Kizhakkeppattu Ramankutty Menon
    Correct Answer:- Option-D

Question4:-Who among the following was involved in the 'Kuttamkulam Struggle'?
    A:-Panampilly Govinda Menon
    B:-P.K. Chatan Master
    C:-E.M.S. Namboodiripad
    D:-Anna Chandi
    Correct Answer:- Option-B

Question5:-Who founded the Cheramar Mahajana Sabha?
    A:-Sahodaran Ayyappan
    B:-Dr. Palpu
    C:-K.P. Vallon
    D:-Pampadi John Joseph
    Correct Answer:- Option-D

Question6:-What is the name of the e-health programme of the Kerala Government?
    A:-Jeevan Anand
    B:-Jeevan Rekha
    C:-Jeevan Arogya
    D:-Jeevan Samridhi
    Correct Answer:- Option-B

Question7:-Who was the Chief Guest for the 68th Republic Day Celebrations in India?
    A:-Sheik Mohamed Bin Salman Al Saud
    B:-President François Hollande
    C:-Sheikh Mohamed bin Zayed Al Nahyan
    D:-King Jigme Khesar Namgyel
    Correct Answer:- Option-C

Question8:-Who is the founder of The Hong Kong and Shanghai Banking Corporation (HSBC)?
    A:-Sir Peter Sutherland
    B:-Mark Tucker
    C:-Sir Thomas Sutherland
    D:-John Flint
    Correct Answer:- Option-C

A:-October 11th

B:-September 11th

C:-November 14th

D:-October 14th

Correct Answer:- Option-A

Question10:-Who was the author of 'AUTOBIOGRAPHY OF AN INDIAN INDENTURED LABOURER'?

A:-Kalachand

B:-Munshi Rahman Khan

C:-Chota Bandhu

D:-Navin Ramgoolam

Correct Answer:- Option-B

Question11:-$\tan x + (\cos x)/(1 + \sin x) = ?$

A:-$\sec x$

B:-$\cot x$

C:-$\cos x$

D:-$\sin 2x$

Correct Answer:- Option-A

Question12:-The area of a circle of radius α can be found by the following integral

A:-$4\int_0^a (a^2 - x^2)\, dx$

B:-$\int_0^{2\pi} \sqrt{a^2 - x^2}\, dx$

C:-$2\int_{-a}^a \sqrt{a^2 - x^2}\, dx$

D:-$\int_0^a \sqrt{a^2 - x^2}\, dx$

Correct Answer:- Option-C

Question13:-What is the angle between the lines $x + y = 1$ and $x - y = 1$

A:-60°

B:-0°

C:-45°

D:-90°

Correct Answer:- Option-D

Question14:-If $A = [[\alpha,0],[1,1]]$ and $B = [[1,0],[5,1]]$ then $A^2 = B$ for

A:-$\alpha = 4$

B:-$\alpha = 1$

C:-$\alpha = -1$

D:-no α

Correct Answer:- Option-D

Question15:-Let $A = [[4,4k,k],[0,k,4k],[0,0,4]]$, if $\det(A^2) = 16$ then $|k|$ is

A:-4

B:-$(1)/(4)$

C:-1

D:-4^2

Correct Answer:- Option-B

Question16:-The constant term in the expansion of $((3x^2)/(2) - (1)/(3x))^9$, $x \neq 0$ is

A:-$(5)/(18)$

B:-$(7)/(18)$

C:-$(5)/(17)$

D:-$(7)/(17)$

Correct Answer:- Option-B

Question17:-If $y = 3 \ln (4x^7)$, then $dy/dx =$

A:-$(84)/(x)$

B:-$(84)/(x^7)$

C:-$(12)/(x^6)$

D:-$(21)/(x)$

Correct Answer:- Option-D

Question18:-$\int_0^{(\pi)/(2)} \sin 4x \sin 6x\, dx$

A:-$(\pi)/(2)$

B:-$(3\pi)/(4)$

C:-$(\pi)/(4)$

D:-0

Correct Answer:- Option-D

Question19:-If the system of equations `x + ay = 0`, `az + y = 0` and `ax+ z = 0` has infinite number of solutions then `a = ?`

    A:-0

    B:-1

    C:--1

    D:--2

    Correct Answer:- Option-C

Question20:-The function `F(x) = x^2 (x^2 - 4(x - 1))` has a local minimum at the point `x = ?`

    A:-1

    B:--1

    C:-4

    D:-2

    Correct Answer:- Option-D

Question21:-Quick setting cement is produced by adding _____ and by finely grinding the cement.

    A:-Gypsum

    B:-Aluminium Sulphate

    C:-Sodium Sulphate

    D:-None of these

    Correct Answer:- Option-B

Question22:-_____ aggregates increases the workability of cement concrete.

    A:-Angular

    B:-Flaky

    C:-Elongated

    D:-Rounded

    Correct Answer:- Option-D

Question23:-Which foundation can be adopted in areas where differential settlement of soil is very high?

    A:-Isolated footing

    B:-Cantilever footing

    C:-Raft foundation

    D:-Rubble foundation

    Correct Answer:- Option-C

Question24:-_____ is a line which joins subsidiary stations on the main line in a chain surveying.

    A:-Tie line

    B:-Main line

    C:-Base line

    D:-None of these

    Correct Answer:- Option-A

Question25:-The readings taken with a dumpy level to stations A, B and C are 1.200, 0.900 and 1.050 respectively. What is the reduced level of station C, if the reduced level of bench mark at station A is 100.000m?

    A:-100.000m

    B:-100.150m

    C:-101.050m

    D:-100.300m

    Correct Answer:- Option-B

Question26:-Gudgeon pin forms the link between

    A:-Piston and big end of connecting rod

    B:-Piston and small end of connecting rod

    C:-Connecting rod and crank

    D:-Big end and small end of connecting rod

    Correct Answer:- Option-B

Question27:-Piston rings are usually made of

    A:-Cast Iron

    B:-Aluminium

    C:-Phosphor bronze

    D:-Carbon steel

    Correct Answer:- Option-A

Question28:-Which is not the feature of a petrol engine when compared with a diesel engine?

    A:-light construction and low initial cost

    B:-greater noise and vibration

C:-requires less maintenance

D:-greater risk of fire

Correct Answer:- Option-B

Question29:-In thermal power plant, the dearator is used mainly to

A:-remove air from condenser

B:-increases feed water temperature

C:-reduce steam pressure

D:-remove dissolve gases from free water

Correct Answer:-Question Cancelled

Question30:-The most commonly used moderator in nuclear power plant is

A:-heavy water

B:-concrete and brick

C:-steel

D:-graphite

Correct Answer:- Option-D

Question31:-In a series RLC circuit having high Q factor, the current peaks at which frequency?

A:-Resonant frequency

B:-Greater than the resonant frequency

C:-Less than the resonant frequency

D:-None of these

Correct Answer:- Option-A

Question32:-The current $i(t)$ through a 1 Ω resistor in series with an inductance is given by $i(t)=3+4 \sin(100\ t+45^\circ)$ amperes. The RMS value of the current and power dissipated in the circuit are

A:-7 A, 7 W respectively

B:-$\sqrt{17}$ A, 170 W respectively

C:-$\sqrt{17}$ A, 17 W respectively

D:-4 A, 16 W respectively

Correct Answer:- Option-C

Question33:-Earthing of electrical equipment is necessary for the protection against

A:-Over loading

B:-Voltage fluctuation

C:-Danger of electric shock

D:-High conductor temperature

Correct Answer:- Option-C

Question34:-Two heaters rated at 2000 W, 250 V each are connected in series across a 250 V, 50 Hz ac mains. The total power drawn from the supply would be

A:-2000 W

B:-500 W

C:-250 W

D:-1000 W

Correct Answer:- Option-D

Question35:-A capacitor of 20 μF is charged to a potential difference of 1000 V, the energy stored in the capacitor is

A:-0.01 J

B:-10 J

C:-20 J

D:-100 J

Correct Answer:- Option-B

Question36:-A full wave rectifier is made of centre tapped transformer. The peak voltage difference measured between the extreme ends of the secondary coil is 200 V. The Peak Inverse Voltage appearing across the diode is

A:-200 V

B:-100 V

C:-150 V

D:-400 V

Correct Answer:- Option-A

Question37:-A LED is connected in a +14 V dc power supply module for indication. A series resistor is required to be connected to limit the current through the diode to 10 mA. Assume the voltage drop across the diode is equal to 2 V. Then the series resistance will be

A:-1 KΩ

B:-1.2 KΩ

C:-1.4 KΩ

D:-1.14 KΩ

Correct Answer:- Option-B

Question38:-A program counter register in a micro controller is used to

A:-index stack memory

B:-index FIFO for accessing a data

C:-point to the next instruction that execute in a code sequence

D:-none of them

Correct Answer:- Option-C

Question39:-In _____, a physical contact is required to be established with the actuator of it, to make/break a connection.

A:-proximity switch

B:-limit switch

C:-relay switch

D:-all the above

Correct Answer:- Option-B

Question40:-(i)   CDMA uses spread spectrum technology

(ii)   GSM stands for Global System for Mobile communications

(iii)   GSM uses TDMA

A:-(i) and (ii) are correct

B:-(i) and (iii) are correct

C:-(ii) and (iii) are correct

D:-(i), (ii) and (iii) are correct

Correct Answer:- Option-D

Question41:-How many number of duplex mode links are possible in a mesh topology?

A:-n^2

B:-$n(n-1)$

C:-${n(n-1)}/2$

D:-$n^2/2$

Correct Answer:- Option-C

Question42:-Data is being carried in a signal in which one data element is encoded as one signal element (r = 1). If the bit rate is 50 kbps, calculate the average value of baud rate assuming case factor c = 1/2.

A:-25 kbaud

B:-50 kbaud

C:-100 kbaud

D:-none of these

Correct Answer:- Option-A

Question43:-Why is a trailer often added to the end of a frame in the data link layer?

A:-Flow control

B:-Error control

C:-Addressing

D:-Access control

Correct Answer:- Option-B

Question44:-How many bytes are used in an Ethernet physical address?

A:-6

B:-4

C:-2

D:-8

Correct Answer:- Option-A

Question45:-Elimination-Yield Non-Preemptive Multiple Access mechanism (EY-NPMA) is associated with which of the following technologies?

A:-LAN

B:-HIPERLAN

C:-ATM

D:-TOKEN RING

Correct Answer:- Option-B

Question46:-Which modulation mechanism is used in bluetooth technology to transform bits to a signal?

A:-ASK

B:-PSK

C:-QPSK

D:-GFSK

Correct Answer:- Option-D

Question47:-Which among the following devices operates only used in physical layer?

    A:-Two layer switch
    B:-Router
    C:-Repeater
    D:-Bridge
    Correct Answer:- Option-C

Question48:-SEAL (Simple and Efficient Adaptation Layer) is associated with which AAL sub layer of ATM technology?

    A:-AAL1
    B:-AAL2
    C:-AAL3/4
    D:-AAL5
    Correct Answer:- Option-D

Question49:-Which among the following is port number of TELNET Server?

    A:-21
    B:-23
    C:-25
    D:-20
    Correct Answer:- Option-B

Question50:-In which layer a proxy firewall filters data

    A:-Network layer
    B:-Transport layer
    C:-Application layer
    D:-Data link layer
    Correct Answer:- Option-C

Question51:-Which among the following are used in digital signature?

    A:-Private key of receiver and Public key of sender
    B:-Private and Public key of receiver
    C:-Private key of sender and Public key of receiver
    D:-Private and Public key of sender
    Correct Answer:- Option-D

Question52:-A5 algorithm is used in GSM for

    A:-Encryption
    B:-Generation of Cipher key
    C:-Authentication
    D:-Integrity
    Correct Answer:- Option-A

Question53:-What are the states of the Auxiliary Carry (AC) and Carry (CY) flags after executing the following 8086 program?

MOV AL, 9AH
MOV BL, 4CH
ADD AL, BL

    A:-AC =0 and CY = 0
    B:-AC =1 and CY =0
    C:-AC = 0 and CY =1
    D:-AC = 1 and CY = 1
    Correct Answer:- Option-B

Question54:-Which of the following instruction is not valid?

    A:-MOV AX, 0546H
    B:-PUSH BX
    C:-XCHG AL, BL
    D:-MOV CS, 2000H
    Correct Answer:- Option-D

Question55:-For a microprocessor system of Memory mapped IO the following statement is true

    A:-Memory and IO address spaces are distinct
    B:-Memory space available is greater
    C:-Same instruction can control both memory and I/O
    D:-I/O address space is greater
    Correct Answer:- Option-C

Question56:-Which signal received by an 8086 processor indicates that an external device had requested the use of System bus?

    A:-HOLD

    B:-INTR

    C:-TEST

    D:-READY

    Correct Answer:- Option-A

Question57:-Which processor design characteristic given below is not true for a CISC processor?

    A:-Variable-length instruction format

    B:-Complex instruction set

    C:-Small set of instructions

    D:-More memory access

    Correct Answer:- Option-C

Question58:-What will be the hexadecimal value in the register AX after executing the following instructions?

MOV BL, 25H
MOV BH, 35H
XOR BL, BL
MOV CL, 3
SHR BX, CL

    A:-0D40

    B:-06A0

    C:-02A4

    D:-0549

    Correct Answer:- Option-B

Question59:-The 10's complement of $(52520)_{10}$ is _____.

    A:-48420

    B:-47480

    C:-47840

    D:-48470

    Correct Answer:- Option-B

Question60:-The binary equivalent of $(0.6875)_{10}$ is

    A:-$(0.1011)_{2}$

    B:-$(0.1101)_{2}$

    C:-$(0.1001)_{2}$

    D:-$(0.1111)_{2}$

    Correct Answer:- Option-A

Question61:-Which of the following is a simplified form of the Boolean function?
F = A'C + A'B + AB'C + BC

    A:-C' + AB

    B:-C + AB

    C:-C + A'B

    D:-A + BC

    Correct Answer:- Option-C

Question62:-A _____ is a combinational logic circuit that converts binary information from n input lines to a maximum of 2^n unique output lines.

    A:-Decoder

    B:-Multiplexer

    C:-Demultiplexer

    D:-Encoder

    Correct Answer:- Option-A

Question63:-If a multiplexer has 16 input lines, how many selection lines would be necessary?

    A:-16

    B:-8

    C:-4

    D:-2

    Correct Answer:- Option-C

Question64:-Clock pulses are applied to all flip-flops in the case of _____ counters.

    A:-Asynchronous

    B:-Ripple

C:-Synchronous

D:-Serial

Correct Answer:- Option-C

Question65:-_____ is used to restore the contents of the cells in synchronous DRAM.

A:-Sense amplifier

B:-Refresh counter

C:-Restorer

D:-Restore counter

Correct Answer:- Option-A

Question66:-If a block can be placed in a limited set of places in the cache, the cache is said to be

A:-Fully associative

B:-Set associative

C:-Direct mapped

D:-Restricted mapped

Correct Answer:- Option-B

Question67:-Another way of writing the instructions, SUB #5, R1 is

A:-SUB [5], [R1];

B:-SUBI 5, R1;

C:-SUBIME 5, [R1];

D:-There is no other way

Correct Answer:- Option-B

Question68:-Consider an unpipelined processor and has a 1 ns clock cycle and that it uses 4 cycles for ALU operations and branches, and 5 cycles for memory operations. Assume that the relative frequencies of these operations are 40%, 20% and 40% respectively. Suppose that due to clock skew and setup, pipelining the processor adds 0.2 ns of overhead to the clock. Ignoring any latency impact, how much speedup in the instruction execution rate will we gain from the pipeline?

A:-3.7 times

B:-5.8 times

C:-2.6 times

D:-6.5 times

Correct Answer:- Option-A

Question69:-BIOS (Basic Input Output System) resides in

A:-RAM

B:-ROM

C:-Cache

D:-CPU

Correct Answer:- Option-B

Question70:-The address of the instruction following the CALL instructions stored in/on the

A:-stack pointer

B:-instruction counter

C:-program counter

D:-stack

Correct Answer:- Option-D

Question71:-In Process Scheduling, which of the following does not belong to a scheduler?

A:-Medium Term Scheduler

B:-Short Term Scheduler

C:-Long Term Scheduler

D:-Average Term Scheduler

Correct Answer:- Option-D

Question72:-Consider the following set of processes, with the length of the CPU-burst time and process arrival time is given in milliseconds. Calculate the average waiting time for the Preemptive Shortest Job First scheduling algorithm.

Process	Burst Time	Arrival Time
P1	19	0
P2	3	1
P3	6	2

A:-3.67 ms

B:-2.34 ms

C:-5.67 ms

D:-7.34 ms

Question73:-Which of the following is not a solution to Critical Section Problem in Process Synchronization?

    A:-Mutual Exclusion

    B:-Progress

    C:-Hold and Wait

    D:-Bounded waiting

    Correct Answer:- Option-C

Question74:-Which concept in operating system where the processes spend more time in paging rather than its execution?

    A:-Demand Paging

    B:-Thrashing

    C:-Segmentation

    D:-Fragmentation

    Correct Answer:- Option-B

Question75:-For multithreading a web server, which among the following factors does not determine the number of threads needed in a thread pool?

    A:-Number of CPUs

    B:-Amount of Physical Memory

    C:-Number of concurrent client requests

    D:-Number of client requests serviced by the web server in the past

    Correct Answer:- Option-D

Question76:-What is the main advantage of using C-SCAN Algorithm over SCAN Algorithm in disk scheduling?

    A:-Provides more uniform wait time

    B:-Easily Implemented

    C:-Can calculate seek time in advance

    D:-No Deadlock

    Correct Answer:- Option-A

Question77:-In Java, which of these keywords must be used to monitor for exceptions?

    A:-throw

    B:-finally

    C:-try

    D:-catch

    Correct Answer:- Option-C

Question78:-In java, if a class member is declared protected, then which type will this member become in a subclass?

    A:-private member

    B:-public member

    C:-protected member

    D:-static member

    Correct Answer:- Option-A

Question79:-Which of these method waits for the thread to terminate in Java?

    A:-sleep( )

    B:-join( )

    C:-isAlive( )

    D:-stop( )

    Correct Answer:- Option-B

Question80:-Which method is called first by a Java applet program?

    A:-start( )

    B:-init( )

    C:-begin( )

    D:-run( )

    Correct Answer:- Option-B

Question81:-Which of the following data structure is linear type?

    A:-Tree

    B:-Stack

    C:-Binary tree

    D:-Graph

    Correct Answer:- Option-B

Question82:-The number of leaf nodes in a complete binary tree of depth 'd' is

    A:-2^d+1

    B:-$2^{(d+1)}$

    C:-2^d

D:-`2^d-1`

Correct Answer:- Option-C

Question83:-How many elements will be there in the adjacency matrix if there are 8 vertices?

A:-8

B:-16

C:-32

D:-64

Correct Answer:- Option-D

Question84:-In a binary search tree, which of the following traversals print the numbers in ascending order?

A:-In-order traversal

B:-Pre-order traversal

C:-Post-order traversal

D:-Level-order traversal

Correct Answer:- Option-A

Question85:-Which among the following is a fault based testing technique?

A:-Unit testing

B:-Path testing

C:-Beta testing

D:-Mutation testing

Correct Answer:- Option-D

Question86:-Which maintenance results in modification in software to accommodate changes to its external environment?

A:-Adaptive maintenance

B:-Perfective maintenance

C:-Corrective maintenance

D:-Preventive maintenance

Correct Answer:- Option-A

Question87:-Which of the following life cycle model can be chosen if the product to be developed has risks involved?

A:-RAD

B:-Waterfall

C:-Spiral

D:-Iterative Model

Correct Answer:- Option-C

Question88:-What will be the cyclomatic complexity of a program if the control flow graph of the program has 9 edges and 7 nodes?

A:-3

B:-4

C:-5

D:-6

Correct Answer:- Option-B

Question89:-DBMS is a _____ that enables user to create and maintain one or more databases.

A:-key

B:-file

C:-program

D:-dataset

Correct Answer:- Option-C

Question90:-The most efficient lock that allows concurrent transactions to access rows of the same table consistently is known as

A:-Database - level lock

B:-Table - level lock

C:-Page - level lock

D:-Row - level lock

Correct Answer:- Option-D

Question91:-In order to maintain transactional integrity and database consistency, what technology does a DBMS deploy?

A:-Triggers

B:-Pointers

C:-Locks

D:-Cursors

Correct Answer:- Option-C

Question92:-What is the state of the database system, if there exists a set of transactions such that every transaction in the

A:-Idle
B:-Waiting
C:-Deadlock
D:-Ready
Correct Answer:- Option-C

Question93:-What kind of the query that retrieves rows from more than one table or view?
A:-Delete
B:-Insert
C:-Join
D:-All of the above
Correct Answer:- Option-C

Question94:-Functional dependencies are the types of constraints that are based on
A:-Key
B:-Name
C:-Row
D:-Table
Correct Answer:- Option-A

Question95:-Which of the following attribute of the text-box-control allow to limit the maximum characters inside the text-box-control?
A:-size
B:-len
C:-maxlength
D:-all of these
Correct Answer:- Option-C

Question96:-Which of the following option is correct with regard to HTML?
A:-It is a modelling language
B:-It is a functional language
C:-It is a partial programming language
D:-It is used to structure documents
Correct Answer:- Option-D

Question97:-Which tag is used to display a picture in a webpage?
A:-picture
B:-image
C:-img
D:-src
Correct Answer:- Option-C

Question98:-When the bellow web page is loaded into a browser, what will happen?
```
<html>
    <head> <title> JavaScript</title> </head>
      <body bgcolor=" "#0000ff" ">
          <script language=""JavaScript" ">
              document.write(" "<h1> Welcome to exam </h1" ");
          </script>
      </body>
</html>
```
A:-The body of the web page will not contain any text
B:-The body of the web page will contain the text "welcome to exam" as an H1 heading
C:-The background colour of the web page will be green
D:-<h1> welcome to exam </h1>
Correct Answer:- Option-A

Question99:-What will be the output of the following php code?
```
<?php
$num  = 1;
$num1 = 2;
print $num  . "+". $num1;
?>
```
A:-3
B:-1 + 2
C:-1 .+. 2
D:-$num ."+". $num1

Correct Answer:- Option-B

Question100:-Which mysql command is used to create a backup of the database?

    A:-mysqldump
    B:-mysqladmin
    C:-mysqlimport
    D:-mysqlexport
    Correct Answer:- Option-A