058/2024

Maximum : 100 marks

Time : 1 hour and 30 minutes

1. Name the proper instrument for measuring the rise time of a pulse :

   (A) Logic Probe
   (B) Oscilloscope
   (C) Logic Analyzer
   (D) Pulser

2. What is the Ripple Factor for Full Wave Rectifier?

   (A) 0.21
   (B) 1.21
   (C) 1.48
   (D) 0.48

3. How to adjust three capacitors to get the highest energy maintaining the same potential?

   (A) Two series and one parallel

   (B) Two parallel and one series

   (C) Three in parallel

   (D) Three in series

4. What is the phase angle in an RL circuit?

   (A) 0°
   (B) 90°
   (C) Positive
   (D) Negative

5. If two capacitors of 12F each are connected in a series combination, then find their equivalent capacitance :

   (A) 6F
   (B) 12F
   (C) 24F
   (D) 3F

6. Two resistors of RΩ and 30Ω are connected in parallel to get an effective resistance of 15Ω. What is the value of R?

   (A) 45Ω
   (B) 30Ω
   (C) 60Ω
   (D) 90Ω

A

3

7. Which of the following is not a use of a full wave rectifier?

(A) Suitable for signal modulation in electric welding

(B) Suitable to use when a small voltage is required to be rectified

(C) Suitable for using along with transformers

(D) Suitable for detecting the amplitude of modulated radio signals

8. If in an AC circuit, resistance is 3Ω and capacitive resistance is 4Ω, what is the impedance?

(A) 12Ω   (B) 7Ω

(C) 5Ω   (D) 1Ω

9. Electronic circuit that operates on one or more input signals to produce a standard output is known as :

(A) Series circuit   (B) Parallel circuit

(C) Logic signals   (D) Logic gates

10. How many AND and OR gates are required to realize Y=AB+AC+BC+BD?

(A) 4, 4   (B) 4, 1

(C) 4, 3   (D) 3, 4

11. Combinational logic is used to :

(A) Compute outputs   (B) Compute new stats

(C) Both (A) and (B)   (D) None of the above

12. Which method is used to represent negative integer numbers?

(A) 1's compliment   (B) 2's compliment

(C) Sign and Magnitude   (D) All of the above

13. How many characters are contained in the ASCII code?

(A) 64   (B) 25

(C) 128   (D) 256

14. The 2's compliment of binary number $(1001)_2$ is :

(A) 0111   (B) 1010

(C) 0110   (D) 1110

15. How many gates does a Very Large-Scale Integration (VLSI) circuit have?

    (A)   100 to 1000 gates   (B)   1000 to 10000 gates

    (C)   10000 to 100000 gates   (D)   10000 gates

16. In an IC's propagation delay is measured in :

    (A)   Nano seconds   (B)   Milli seconds

    (C) MH_2 (D)   None of the above

17. An invertor gate can be developed using :

    (A)   Two diodes

    (B)   A resistor and capacitor

    (C)   A transistor

    (D)   An inductor and capacitor

18. In diodes, current flow is :

    (A)   Uni-directional   (B)   Bi-directional

    (C)   Multi-directional   (D)   Both (A) and (B)

19. Which device among the following acts as a rectifier?

    (A)   Resistor   (B)   Capacitor

    (C)   Inductor   (D)   Diodes

20. CMOS refers to :

    (A)   Continuous Metal Oxide Semi-conductor

    (B)   Complementary Metal Oxide Semi-conductor

    (C)   Centred Metal Oxide Semi-conductor

    (D)   Concrete Metal Oxide Semi-conductor

21. A full adder logic circuit will have :

    (A)   2 inputs and 1 output

    (B)   3 inputs and 3 outputs

    (C)   3 inputs and 2 outputs

    (D)   2 inputs and 2 outputs

22. 2's compliment representation of the signed binary number is given as 101100 which indicates :

    (A) Positive number

    (B) Negative number

    (C) Number not suitable for subtraction

    (D) None of these

23. Which among the following is not a digital test instrument?

    (A) Current tracer   (B) Logic pulser

    (C) Logic clip   (D) Flipflops

24. The Boolean expression of OR gate is :

    (A) $A + B$ (B) $A' \cdot B'$

    (C) $A \cdot B$ (D) $A' + B'$

25. When is the output of two input AND gates high?

    (A) Only if both the inputs are high

    (B) Only if both the inputs are low

    (C) If at least one input is high

    (D) At least one of the inputs is low

26. Which of the following connectors are previously used to connect Keyboard and Mouse to a PC compatible computer?

    (A) RS 232 connectors   (B) RJ 11 connector

    (C) PS/2 connectors   (D) None of these

27. How much is one terabyte equal to?

    (A) 1024 Megabytes   (B) 1024 Bytes

    (C) 1024 Kilobytes   (D) 1024 Gigabytes

28. The main directory of a disk is called :

    (A) Folder   (B) Root

    (C) Network   (D) Sub

29. In linux the shortcut key to launch Terminal is :

   (A)   Alt + T   (B)   Alt + R

   (C)   Ctrl + Alt + T   (D)   Ctrl + Alt + C

30. The term SSD in Computer storage stands for :

   (A)   Secondary Storage Drive   (B)   Solid State Drive

   (C)   Solution State Drive   (D)   Secondary State Drive

31. Which of the following statements are true about input devices in a computer?

   (i)   Accept the data and instructions from outside world.
   (ii)   Convert the inputed data to a form that the computer can understand.
   (iii)   Receive the informations from the processing unit and display the results.

   (A)   (i) only   (B)   (ii) only

   (C)   Only (i) and (ii)   (D)   Only (i) and (iii)

32. Which of the following statements are True about parallel ports in a computer?

   (A)   To transfer a byte through a parallel port, all the eight bits are transferred simultaneously.

   (B)   To transfer a byte through a parallel port eight bits are queued and sent bit by bit.

   (C)   Both (A) and (B)

   (D)   None of these

33. The data connections to the CPU, RAM or PCIe are made through the _____ component of motherboard.

   (A)   Southbridge   (B)   Northbridge

   (C)   IDE controller   (D)   Front panel connectors

34. RJ-45 port is used to connect _____ to a motherboard.

   (A)   Keyboard and Mouse   (B)   Headphones and Speakers

   (C)   Network Cables   (D)   Printer

35. Which of the following is the fastest cache compared to others?

    (A) L1 Cache   (B) L2 Cache

    (C) L3 Cache   (D) Flash Cache

36. Which of the following is not a motherboard form factor?

    (A) Micro ATX   (B) NLX

    (C) LPX   (D) VNX

37. What is the maximum number of partitions allowed in a MBR (Master Boot Record) based disk partition table?

    (A) 3   (B) 4

    (C) 5   (D) 6

38. Which of the following is a software interface between an operating system and platform firmware?

    (A) BIOS   (B) UEFI

    (C) Both (A) and (B)   (D) None of these

39. The symbol that represents root directory in linux is _____.

    (A) \   (B) /

    (C) ~   (D) !

40. Which of the following command is used to add a new user to the linux system?

    (A) linuxconf   (B) useradd

    (C) adduser   (D) All of the above

41. What is the core of linux operating system?

    (A) Terminal   (B) Root

    (C) Kernel   (D) Shell

42. Which of the following is the register that contains the address of the next instruction to be executed?

    (A) Instruction Register   (B) Program Counter

    (C) Memory Address Register   (D) Memory Buffer Register

43. Which of the following device is used to read The cheque number written at the bottom of bank cheque?

    (A)   OCR   (B)   Barcode reader

    (C)   OMR   (D)   MICR

44. Which of the following is the printer used in ATM counters to print the receipts?

    (A)   Line Printer   (B)   Dot matrix printer

    (C)   Thermal printer   (D)   Laser printer

45. Consider the following statements comparing static RAM with dynamic RAM :

(1) In static RAM typical cell requires more number of transistors than the dynamic RAM.
(2) Power consumption per bit of static RAM is less than that of dynamic RAM.
(3) Dynamic RAM is less expensive than the static RAM.

Which of the above statements are correct?

    (A)   (1), (2) and (3)   (B)   (1) and (2) only

    (C)   (1) and (3) only   (D)   (2) and (3) only

46. Name a device operating in network layer?

    (A)   Router   (B)   Bridge

    (C)   Repeater   (D)   Switch

47. Which Protocol translate domain name like www.sample.com into IP Address?

    (A)   DHCP   (B)   DNS

    (C)   HTTP   (D)   FTP

48. Telnet stands for

    (A)   Transmission Network   (B)   Terminal Network

    (C)   Time Network   (D)   Transfer Network

49. Communication using Walkie-talkie is an example of

    (A)   Simplex   (B)   Full duplex

    (C)   Half duplex   (D)   Duplex

50. Which topology has a dedicated point to point link only to a central hub?

    (A)   Star   (B)   Ring

    (C)   Bus   (D)   Mesh

51. What is the full form of WiFi?

    (A)   Wired Fidelity   (B)   Wireless For Internet

    (C)   Wired Federation   (D)   Wireless Fidelity

52. Name the protocol for Email Facility :

    (A)   DHCP   (B)   SNMP

    (C)   SMTP   (D)   FTP

53. In classful addressing _____ address is reserved for future use.

    (A)   Class C   (B)   Class A

    (C)   Class E   (D)   Class B

54. Which protocol is used for remote login?

    (A)   Telnet   (B)   TCP

    (C)   HTTP   (D)   FTP

55. UTP stands for

    (A)   Unshielded Transmission Pair   (B)   Unshielded Twisted Pair

    (C)   Unshielded Transport Pair   (D)   United Twisted Pair

56. Which command used to check connectivity between two nodes?

    (A)   Ping   (B)   Ipconfig

    (C)   Whois   (D)   arp

57. 255.0.0.0 is the default mask for which class of networks?

    (A)   Class C   (B)   Class A

    (C)   Class D   (D)   Class B

58. HTTP stand for :

    (A)   Hyper Text Transfer Protocol   (B)   Hyper Test Transfer Protocol

    (C)   Hyper Text Transit Protocol   (D)   Hyper Text Transmission Protocol

59. Default mask for class B Network :

    (A)   255.0.0.0   (B)   255.255.255.0

    (C)   255.255.255.255   (D)   255.255.0.0

60. Which of the following cable is used to connect similar devices?

    (A)   Cross Over   (B)   Straight Through

    (C)   Roll Over   (D)   loopback

61. Which one of the following is class A address?

    (A)   16.22.120.34   (B)   255.0.20.1

    (C)   165.100.189.10   (D)   180.255.0.0

62. In RJ-45 RJ stands for :

    (A)   Registered Jack   (B)   Radio Jack

    (C)   Receiver Jack   (D)   Receiver Junction

63. IPv4 addresses uniquely identifies devices connected to the internet. Ipv4 is _____ bit address.

    (A)   128   (B)   32

    (C)   64   (D)   16

64. In Dotted Decimal notation IPv4 each byte or octet value ranges from :

    (A)   0-255   (B)   0-1021

    (C)   0-511   (D)   0-2047

65. Name the command used to display domain name for given IP address and vice-versa :

    (A)   ifconfig   (B)   host

    (C)   ping   (D)   arp

66. Which tag is used to follow the exact format of text which is written in HTML source document?

    (A)   <p>   (B)   <text>

    (C)   <b>   (D)   <pre>

67. Which of the following is the correct syntax of <iframe> tag?

    (A)   <iframe href="https://www.keralapsc.gov.in"title="KPSC"></iframe>

    (B)   <iframe link="https://www.keralapsc.gov.in"title="KPSC"></iframe>

    (C)   <iframe src="https://www.keralapsc.gov.in"title="KPSC"></iframe>

    (D)   <iframe path="https://www.keralapsc.gov.in"title="KPSC"></iframe>

68. Which of the following is used to create a web page which contains e-mail linking?

    (A)   <a href="info@keralatourism.org">

    (B)   <a href=mailto:"info@keralatourism.org">

    (C)   <mail href="info@keralatourism.org">

    (D)   <email href="info@keralatourism.org">

69. Which of the following is used to indicate to the browser about the direction in which the text in HTML should flow from right to left?

    (A)   direction="rtl"   (B)   dir="rtol"

    (C)   dir="rtl"   (D)   direction="rtol"

70. What will be the output of the following?

<p>HTML stands for Hyper Text ~~Mark~~

<ins>Markup</ins> Language</p>

    (A)   HTML stands for Hyper Text ~~Mark~~ Markup Language

    (B)   HTML stands for Hyper Text Markup Language

    (C)   HTML stands for Hyper Text (Mark) Markup Language

    (D)   HTML stands for Hyper Text ~~Mark~~ <u>Markup</u> Language

71. In HTML, if we set the background colour as #FFFFFF, what will be the colour?

    (A)   White   (B)   Black

    (C)   Red   (D)   Green

72. HTML code to display the equation $a^{\log_a^x} = x$ is :

    (A)   alog<sub>a</sub>x=x

    (B)   a<sub>log<sub>a</sub>x</sub>=x

    (C)   a<sup>log<sub>a</sub>x</sup>=x

    (D)   a<pow>log<pow>a</pow>x</pow>=x

73. Which tag is used to group related controls within a form?

  (A) <GROUP>   (B) <LEGEND>

  (C) <CONTROL>   (D) <FIELDSET>

74. Which attribute is used with <A> tag to display the linked page in a specified frame?

  (A) target   (B) destination

  (C) frame   (D) link

75. Which of the following defines a file-select field and a "Browse" button for file uploading?

  (A) <file src="browse">

  (B) <input type="browse">

  (C) <input type="file">

  (D) <input type="select">

76. Which of the following is a correct way to assign a value to an array element in VB Script?

  (A) arr(0) = "Hello"   (B) arr[0] = "Hello"

  (C) arr.set(0, "Hello")   (D) None of the above

77. Which function in VB Script is used to replace a specified part of a string with a specific string a specified number of times?

  (A) StrComp()   (B) InStr()

  (C) str_replace()   (D) Replace()

78. What will be the value of 'p' in the following VBScript code?

Const p=100;

p=p+50;

  (A) 150   (B) Execution Error

  (C) 100   (D) 50

79. Which is the use of & operator in VBScript?

   (i)   Concatenate two strings

   (ii) Concatenate two numbers

   (iii) Logical AND operation

   (iv) Logical OR operation

       (A) Only (i)   (B) Both (i) & (ii)

       (C) Only (iii)   (D) Only (iv)

80. What will be the output of following Javascript code?

```
<script>
function calc(x,y)
{
  if (x ==0) return y;
  return calc(x – 1, x + y);
}
window.alert(calc(5,4));
</script>
```

       (A) 16   (B) 18

       (C) 19   (D) 14

81. What will be the output of following Javascript code?

```
<script>
function fun(n){
  if (n ==0) return;
  document.write(n%2);
  fun(parseInt(n/2));
}
fun(4);
</script>
```

       (A) 001   (B) 100

       (C) 101   (D) 000

82. Which is correct order of precedence of operators (*,==, &&, %, =, +) in Javascript?

    (A) &&, *, %, +, ==, =

    (B) *, %, +, ==, &&, =

    (C) *, +, ==, %, &&, =

    (D) &&, *, +, ==, %, =

83. In Javascript, what will be the value returned by expression 'Computer' < 'book'?

    (A) 0

    (B) True

    (C) False

    (D) Invalid expression

84. Which of the following returns Live NodeList containing all elements with the specific name attribute?

    (A) getElementByName()

    (B) getElementsByName()

    (C) getElementsById()

    (D) getElementByID()

85. Which of the following returns a collection of all <img> elements in a document?

    (A) document.img

    (B) document.src

    (C) document.images

    (D) document.getImages

86. Which method is used to manipulate the HTML DOM and add a new element?

    (A) document.addNewElement()

    (B) document.addElement()

    (C) document.newElement()

    (D) document.createElement()

87. In PHP, which function is used to convert a string to uppercase?

    (A) strtoupper()

    (B) struppercase()

    (C) toUpperCase()

    (D) Ucase()

88. What are the predefined variables used to retrieve information from form to PHP?

(A) $__GET & $__POST

(B) $GET & $POST

(C) $_GET & $_POST

(D) GET & POST

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

```php
<?php
for ($i = 1; $i <= 5; $i+=2) {
if ($i ==3) {
continue;
}
echo $i*2. " ";
}
?>
```

(A) 2 4 6 8 10   (B) 2 10

(C) 2 6 10   (D) 1 10

90. Choose the correct Statement about PHP :

(i) PHP is an acronym for "Hypertext Prepocessor"

(ii) PHP is a widely-used, open source scripting language

(iii) PHP scripts are executed on the server

(iv) PHP is free to download and use

(A) (i), (ii) & (iii)   (B) (i), (ii) & (iv)

(C) (i), (iii) & (iv)   (D) All of the above

91. Which component in the laser printer is responsible for drawing the document onto the drum?

(A) Electric charges   (B) Toner particles

(C) Nozzles   (D) Magnets

92. In laser printers what is the purpose of combining heat and pressure during the printing process?

   (A) To make paper steady

   (B) To prevent the ink from smudging on the paper

   (C) To ensure proper adhesion of the ink onto the paper

   (D) To create a glossy finish on the printed document

93. What is the composition of toner stored in the toner cartridge?

   (A) Black carbon substance mixed with charcoal and aluminium oxide

   (B) Black carbon substance mixed with polyester resins and iron oxide particles

   (C) Black carbon substance mixed with color pigments and silica particles

   (D) Black carbon substance mixed with aluminium oxide and silica particles

94. Which part of the laser printer is responsible for controlling the movement of paper through the printing process?

   (A) Paper tray   (B) Paper roller

   (C) Paper transport assembly   (D) Paper carrier

95. Which of the following statements is TRUE about laser printing?

   (A) It uses high-voltage electricity to heat up the toner powder.

   (B) It uses high-voltage electricity to create an electrostatic image on a drum.

   (C) High voltage electricity is only needed for powering the laser beam unit.

   (D) Laser printers do not require any high voltage electricity.

96. Which type of paper is commonly used for printing high-quality images on multifunction printers with photo printing capabilities?

   (A) Cardstock   (B) Recycled paper

   (C) Plain paper   (D) Glossy photo paper

97. What is the primary advantage of using a multifunction printer in a home or small office environment?

   (A) Lower cost compared to individual devices

   (B) Higher printing speed

   (C) Better print quality

   (D) Larger paper handling capacity

98. Compared to separate single-function devices, multifunction printers generally offer :

   (A) Highly printing speeds   (B) Lower overall cost per print

   (C) Saving space   (D) None of the above

99. Which of the following is not a typical feature of a multifunction printer?

   (A) Automatic document feeder for scanning multiple pages at once

   (B) Flux printing

   (C) Wireless connectivity for printing from mobile devices

   (D) Convenient for networked environment

100. You are trying to connect a new printer to your computer. Which of the following will allow your computer to recognize and communicate with the printer?

   (A) A multifunction printer with all its features enabled

   (B) The physical printer cables alone

   (C) An existing MFP driver for a different printer brand

   (D) Driver software specifically designed for that MFP model

———————————

SPACE FOR ROUGH WORK

SPACE FOR ROUGH WORK