IOT Complete Book MCQ's महा मैराथन

Understanding Things and Connections: Key MCQs for IoT Chapter 2 (TCP/IP, OSI Model, IP Address)

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1. **DNS run over:**
   a) Port 80
   b) Port 21
   c) Port 53
   d) Port 32

2. **The _____is the physical path over which a message travels.**
   a) Path
   b) Medium
   c) Protocol
   d) Route

3. **What flavor of Network Address Translation can be used to have one IP Address allow many users to connect to the global Internet?**
   a) Static
   b) Dynamic
   c) PAT
   d) NAT

4. **A set of rules that governs data communication:**
   a) Protocols
   b) Standards
   c) RFCs
   d) None of the Mentioned

5. **Which of the following statement is/are correct:**
   a) An IP address consists of four bytes (or 32 bits) each of which can be a number from 0 to 255
   b) For Browsing or sending an email, an IP Address assign to the computer is required
   c) IP Address is always unique for each computer
   d) All are correct

6. **Which layer links the network support layers and user support layers?**
   a) Session Layer
   b) Data Link Layer
   c) Transport Layer
   d) Network Layer

7. **Which of this is not a class of IP address?**
   a) Class E
   b) Class C
   c) Class D
   d) Class G

8. **TCP/IP Model was Developed _____the OSI Model.**
   a) Prior to
   b) After
   c) Simultaneous to
   d) None of the Mentioned

9. **HTTP client requests by establishing a _____ connection to a particular port on the server.**
   a) User Datagram Protocol
   b) Transmission Control Protocol
   c) Broader Gateway Protocol
   d) None of the Mentioned

10. **Multicast addresses in IPV4 are those start with the pattern _____.**
    a) 1100
    b) 1110
    c) 1111
    d) None of the Above

11. **Transmission Mode(s) used in FTP is/are_____**
    a) Stream
    b) Block
    c) Compressed
    d) All of the Above

12. **Which protocol is used to link all then devices in the IOT?**
    a) TCP/IP
    b) Network
    c) UDP
    d) HTTP

13. **Which of the following is not a TCP/IP Layer?**
    a) Application Layer
    b) Transport Layer
    c) Session Layer
    d) Link Layer

14. **Which protocol interacts asynchronously over UDP?**
    a) HMTP
    b) CaAP
    c) MQTT
    d) TCP/IP

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15. **In IoT Transport Layer setup connections with shakes/acknowledgements using:**
    a) UDP
    b) TCP
    c) FTP
    d) HTTP

16. **Which of the following is an established set of rules that determines how data is transmitted between different device in the same network?**
    a) Network Connection
    b) TCP/IP Protocol
    c) Network Protocol
    d) TCP Protocol

17. **In the IoT Network, Secure Shell(SSH) is:**
    a) Gateway
    b) Secure Network Protocol
    c) Router
    d) Firewalls

18. **IP address of a packet is normally analysed by-**
    a) CPU
    b) Router
    c) Modem
    d) Hub

19. **TCP stands for_____**
    a) Transmission Control Protocol
    b) Telecommunication Control Protocol
    c) Temperature Control Protocol
    d) Transmission and Communication Protocol

20. **In which form data is transferred in network layer?**
    a) Packets
    b) Datagram
    c) Bytes
    d) Bits

21. **IP address stand for:**
    a) Internet Protocol Address
    b) Internet Provider Address
    c) Intranet Protocol Address
    d) None of the Mentioned

22. **What is the standard length of MAC and IPV6 address?**
    a) 48 and 128
    b) 48 and 32
    c) 48 and 64
    d) 52 and 168

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23. Datagram Transport Layer Security Provides:
a) Security features on UDP
b) Security features on TCP
c) Security features on UDP and TCP
d) None of the Above

24. How many layers are there in OSI?
a) 5
b) 4
c) 7
d) 9

25. Which address schemes are used by IPv4 and IPv6 Internet Protocols?
a) 128-bit and 16-bit
b) 32-bit and 128-bit
c) 32-bit and 64-bit
d) 16-bit and 128-bit

26. Following Layer is not mentioned in TCP/IP Model.
a) Presentation
b) Network
c) Application
d) Transport

27. The major characteristics on which OSI and TCP/IP model differs:
a) OSI model is independent generic protocol and TCP/IP is communication protocol
b) In OSI model, Transport layer guarantees the delivery
c) Both a) and b)
d) TCP/IP model consists of 7 layers

28. Which service provides dynamic IP addressing to clients?
a) WINS
b) DNS
c) DHCP
d) PPP

29. In IoT, Transport layer set up connections without handshakes/acknowledgements using:
a) UDP
b) TCP
c) FTP
d) HTTP

30. Which of the following is an established set of rules that determines how data is transmitted between device in the same network?
a) Network Protection
b) TCP/IP Model
c) Network Protocol

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d) TCP Protocol

31. This layer is an addition to OSI model when compared with TCP/IP Model:

a) Application Layer
b) Presentation Layer
c) Session Layer
d) Both Session and Presentation Layer

32. What is the size of packet in IPv6 Addressing Scheme?

a) 32 bits
b) 64 bits
c) 128 bits
d) 48 bits

Understanding Sensors and Actuators: Key MCQs for IoT Chapter 3

33. How are sensors classified?

a) Functions
b) Performance
c) Output
d) All of the Above

34. Which sensor is LM35?

a) Pressure Sensor
b) Humidity Sensor
c) Temperature Sensor
d) Touch Sensor

35. What type of output do analog sensors provide?

a) Analog
b) Digital
c) Both a) and b)
d) None of these

36. What type of output do analog sensors provide?

a) Analog
b) Digital
c) Both a) and b)
d) None of these

37. **_____consists of two different metals connected at two points?**

a) Thermistor
b) Resistance Thermometer
c) Thermocouple
d) Semiconductor Based Sensor

Explanation:-

- **Thermocouples** are temperature sensors that consist of two dissimilar metals

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joined at two points (junctions).

- When there's a temperature difference between these junctions, a voltage is generated, which can be measured to determine the temperature.

38. Which are the types of temperature sensor?

a) Thermistor
b) Thermocouple
c) Both a) and b)
d) None of these

39. Which device measures gases or liquids?

a) Proximity Sensor
b) Pressure Sensor
c) Temperature Sensor
d) Touch Sensor

40. LDR sensor works on the principle of?

a) Resistivity
b) Photoconductivity
c) Conductivity
d) Both(a and b)

41. Most sensors have what type of transfer function?

a) Zero
b) Infinity
c) Linear
d) Non-linear

42. Which of the following is used to capture date from the physical world in IOT device?

a) Sensors
b) Actuators
c) Microprocessors
d) Microcontrollers

43. MQ- 135 is a type of _____

a) Humidity sensor
b) Gas sensor
c) Light sensor
d) Temperature sensor

44. What is the use of IR sensor?

a) Humidity detection
b) Image Processing
c) Object detection
d) GPS

45. Which of the example of an LDR sensor application?

a) Streat lights
b) Clocks

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c) Light Intensity Meters
d) All of the above

46. The smallest difference that a sensor can detect is?
a) Scale
b) Accuracy
c) Resolution
d) Precision

47. In a capacitive type humidity sensor, how many different types of failure have you seen?
a) 2
b) 4
c) 6
d) 3

48. What is temperature in Celsius LM35 for corresponding 270m V as an output voltage?
a) 50
b) 25
c) 27
d) 54

Explanation:- Temperature = Output Voltage / Sensitivity (270/10=27)

49. How many terminals does MQ2 Gas sensor have?
a) 1
b) 2
c) 3
d) 4

Explanation:- Heater (H), Signal(S), Ground(G)

50. What will happen if we supply a voltage of 25V to the Vcc of the IR sensor?
a) Damage is caused
b) Sensor will work fine
c) Sensor will not respond for the time the voltage is applied
d) Sensor will function normally

Explanation:- Most IR sensors are designed to operate within a specific voltage range, typically between 3.3V and 5V.

51. **DHT11 is** _____
a) Microprocessor
b) Motion sensor
c) Switching Device
d) Humidity sensor

52. Which of the following is a function of a sensor?
a) Separate physical parameters
b) Activate a response
c) Track data and data processor
d) Move a robotic arm

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53. Sensor generates an output signal based on

a) Input
b) Data
c) Physical quantity
d) None

54. Which of the following is not passive transducer?

a) Thermistor
b) Transfer
c) Robot
d) Thermocouple

55. LDR sensor are made of :

a) Semiconductor
b) Lead sulfide
c) PbS
d) All of the above

56. The wireless battery free sensor designed to record environmental and material temperatures is :

a) DHT11
b) RFM3200
c) ESP8266
d) LM35

57. LDR Sensor

a) Light dependent resister
b) 2 pinned IC
c) Control light intensity
d) All of the above

58. MQ135 sensor is

a) AI detector
b) Gas sensor
c) Monitor air pollution
d) Both b and c

Understanding C Language: Top MCQs for IoT Chapter 4

59. What is the result of 0110 & 1100?

a) 1000
b) 0100
c) 0001
d) 1010

60. Identify wrong keywords of C below:

a) auto, double, int, struct
b) break, else, long, switch
c) case, function, register, typedef

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d) char, extern, case, return

61. A C program is a combination of?
a) Statements
b) Functions
c) Variable
d) All of these

62. Which loop is most suitable to perform the operation and then test the condition?
a) For loop
b) While Loop
c) Do while loop
d) None of these

63. End of file detecting by?
a) Fend()
b) Endf()
c) EOF
d) Fend

64. Which one of the following is not a keyword in C language?
a) Main
b) Endl
c) Float
d) Switch

65. Which of the following is not a proper storage class in 'C'?
a) Auto
b) Static
c) Dec
d) Extern

66. Which is the correct syntax to declare in error an array in 'C'?
a) data _type array_name[array_size];
b) data _type array _name{array_size};
c) data_type array _name[];
d) All of the above

67. What will be the output of the following C code?
a)
```
#include <stdio.h>
void main()
{
int x=10;
int y=x+++20;
printf("%d,%d",x,y);
return 0;
}
```

68. A function cannot be defined inside another function?
a) True
b) False

69. If return type for a function is not specified, it default to int?
a) True

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b) False

70. Difference between colloc ()and malloc() is?

a) Calloc() takes a single argument while malloc() needs to arguments
b) Malloc() takes a single argument while calloc() needs to arguments
c) Malloc initialize() the allocated memory to ZERO?
d) Calloc initialize () the allocated memory to NULL?

71. Each statement in a C program should end with?

a) Semicolon
b) Colon
c) Comma
d) None of these

72. Strings are character array it always end with

a) \n
b) \t
c) \o
d) None

73. **What will be the output of the following c code?**

```
#include <stdio.h>
Int main()
{
Int x=20;
X% = 3;
Printf("%d",x);
Return0;
}
```

a) 2
b) 2.5
c) Error
d) Warning

74. An identifier can start with. ?

a) Alaphabet
b) Underscore(_) sign
c) Any character that can be typed on a keyword
d) Option a and b

75. Which operator is used to find the remainder of two number in C?

a) /
b) \
c) %
d) //

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

a) Switch
b) Goto
c) Back return
d) Return

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77. Which is correct with respect to the size of the data type in 'c'?

a) Char>int>float
b) Char<int<float
c) Int<char<float
d) Int<chat>float

78. C is _____type of programming language?

a) Object oriented
b) Procedural
c) Bit level language
d) Function

79. Which is an indirection operator among the following ?

a) &
b) *
c) ->
d) .

80. A pointer in C which has not been initialized is known as null pointer.

a) True
b) False

81. Which is the correct format specifier for double type value in C?

a) %d
b) %f
c) %lf
d) %LF

82. A variable declared inside a function is called local variable?

a) True
b) False

83. The conditional operator (?:) is a ternary operator ?

a) True
b) False

84. # is used to insert comments in the program ?

a) True
b) False

85. For (i=0;i<5;i++); statement has syntax error because of semicolon at the end ?

a) True
b) False

86. Function can not return a floating point number ?

a) True
b) False

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87. Number of keyword presents in c language are?
a) 32
b) 34
c) 33
d) 64

88. All static variables are initialize to zero.
a) True
b) False

89. User-Defined data type can be derived by_____
a) struct
b) enum
c) typedef
d) All of the mentioned

90. It is necessary to have default case in switch statement.
a) True
b) False

91. Function can be called either by value or reference
a) True
b) False

92. while loop is post tested loop?
a) True
b) False

93. #define line should end with a semicolon
a) True
b) False

94. Every variable in C have three most fundamental attributes: Name, Value, Addtress.
a) True
b) false

95. The index of an array starts from 1
a) True
b) False

96. Arguments that take input by user before running a program are called?
a) Main function arguments
b) Main arguments
c) Command line arguments
d) Parameterized arguments

97. Which header file should be included to use functions like malloc() and calloc().
a) memory.h

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b) stdlib.h

98. A group of related data that share a common name is

a) Pointer
b) Array
c) Function
d) None of the Above

99. Prototype of a function means_____

a) Name of Function
b) Output of Function
c) Declaration of Function
d) Input of a Function

100. Variables of type auto, static and extern are all stored in____

a) ROM
b) RAM
c) CPU
d) Compiler

101. An uninitialized pointer in C is called

a) Constructor
b) Dangling pointer
c) Wild pointer
d) Destructor

102. Which of the following operator has the higher precedence in the following?

a) ()
b) /
c) *
d) +

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