

'O' LEVEL (August 2022)
M4-R-5: Internet of Things

SET – 02

Time Allowed: 3 Hrs

Maximum Marks: 100

1. What are three R's in SQ3R reading comprehension method?

- (A) Read, Recite and Review
- (B) Read, Remember and Review
- (C) Read, Recite and Recall
- (D) Read, Recite and Retain

Ans. (A)

2. The statement that are TRUE about 'Arduino.h' header file are:

- (A) Avrdude software uploads the hex file
- (B) Gives access to all of Arduino's core functionality
- (C) #include <Arduino.h>
- (D) All of these

Ans. (D)

3. The enduring feature that describes an individual's behavior and attitude is called _____ .

- (A) Education
- (B) Personality Traits
- (C) Financial Status

(D) Job Profile

Ans. (B)

4. Keyboard pins while interfacing can cause interrupt called as:

(A) Timer Interrupt

(B) Software Interrupt

(C) External Hardware Interrupt

(D) Interfacing Interrupt

Ans. (C)

5. The output of given C code is:

```
#include
```

```
Int main ()
```

```
{
```

```
Int x=1, y=1, z;
```

```
Z= x++ +y;
```

```
Print ("%d, %d", x, y);
```

```
}
```

(A) x=1, y=1

(B) x=2, y=1

(C) x=1, y=2

(D) x=2, y=2

Ans. (B)

6. The major characteristics on which OSI and TCP/IP model differs:

- (A) OSI model is independent generic protocol & TCP/IP is communication protocol
- (B) In OSI model, Transport layer guarantees the delivery
- (C) (A) and (B)
- (D) TCP/IP model consists of 7 layer

Ans. (C)

7. Reading is an art to bring in knowledge. It basically_____.

- (A) Encodes
- (B) Translates
- (C) Decode
- (D) None of these

Ans. (C)

8. The examples of Open-loop system in control system are:

- (A) Traffic Light, Toaster
- (B) Traffic Light, Temperature Controller
- (C) Traffic, Automatic washing machine
- (D) All of these

Ans. (D)

9. IR Sensor are used in:

- (A) GPS Tracking
- (B) Moisture sensing

(C) Object detection

(D) Analog signals

Ans. (C)

10. Which is not the synonym of memo?

(A) Circular

(B) Memorandum

(C) Message

(D) Minute

Ans. (A)

11. What is the basic function of the spring in a control valve?

(A) Characterize flow

(B) Oppose the diaphragm to position the valve according to signal pressure

(C) Close the valve if air failure occurs

(D) Open the valve if air failure occurs

Ans. (B)

12. The wireless network types that promote IoT deployment in industries are:

(A) Cellular (2G-5G) network protocol

(B) Bluetooth

(C) Near-field communication

(D) All of these

Ans. (D)

13. IoT enabled technologies include following:

- (A) Security Protocol**
- (B) Wireless Sensor Networks**
- (C) Cloud Computing**
- (D) All of these**

Ans. (D)

14. UART stands for:

- (A) Universal Asymmetrical Radio Telecasting**
- (B) Universal Asymmetrical Radio Transmitter**
- (C) Universal Asynchronous Receiver/Transmitter**
- (D) Universal Asynchronous Radio Transmitter**

Ans. (C)

15. the speed of DC motor is controlled by Aruino using _____.

- (A) PCM**
- (B) PPM**
- (C) PWM**
- (D) QAM**

Ans. (C)

16. In embedded C, Literals means:

- (A) a word**
- (B) a letter**

(C) a digit

(D) a string constant

Ans. (D)

17. Which of the following operators isn't a bitwise operator?

(A) *

(B) &&

(C) ||

(D) <<

Ans. (A)

18. What is true about sending and receiving the Serial TTL Signals:

(A) At least one serial port is there

(B) Communicates on digital input, 0(Rx) and 1(Tx)

(C) UART or USART

(D) All of these

Ans. (D)

19. MQ135 Sensor is:

(A) AI detector

(B) Gas Sensor

(C) Monitors Air Pollution

(D) (B) and (C)

Ans. (D)

20. The language of memos should be _____ and _____ to understand

- (A) Indirect, personal
- (B) Direct, concise
- (C) Lucid, easy
- (D) Concise, difficult

Ans. (C)

21. The essential feature/features of an email as communication medium is/are:

- (A) Automatic filing
- (B) Facility to send copies of message
- (C) Automatic retrieval
- (D) All of these

Ans. (D)

22. An IoT device connects with other interfaces using connections which are:

- (A) wired
- (B) wired and wireless
- (C) wireless
- (D) None of these

Ans. (B)

23. Which of the following operators have the highest precedence?

- (A) ==and! =
- (B) Logical

(C) Relational

(D) Arithmetic

Ans. (D)

24. The IoT temperature monitoring is related to:

(A) Analog to Digital conversion

(B) Save time

(C) Real Time system

(D) All of these

Ans. (D)

25. The role of public cloud computing in the IoT architecture is:

(A) Need for on-premises hosting

(B) Remote processing power

(C) Enhanced inter-device communication

(D) Both (B) and (C)

Ans. (B)

26. LCD displays the text form of data when EN line shows _____ and RS line is _____.

(A) 0 to 1 transitions & High

(B) 1 to 0 transitions & High

(C) 0 to 1 transitions & Low

(D) 1 to 0 transitions & Low

Ans. (B)

27. Choose the correct option of C program having array:

```
Int main()  
{  
Int xyz (4) – [10,20,30,40;  
Printf (“%d”, xyz (1));  
}
```

- (A) 0
- (B) Compile error
- (C) 10
- (D) 20

Ans. (B)

28. The routine reports prepared in time-intervals like daily, weekly, monthlyare called:

- (A) Formal Reports
- (B) Conference Reports
- (C) Progress Reports
- (D) Periodic Reports

Ans. (D)

29. Self-esteem promotes _____.

- (A) Self-worth
- (B) Disappointment
- (C) Failure

(D) ill-health

Ans. (A)

30. Which type of IoT communication model is bi-directional and fully duplex?

(A) Publish-Subscribe

(B) Request-Response

(C) Exclusive Pair

(D) Push-Pull

Ans. (C)

31. In bar code system _____.

(A) No line of sight required for reading

(B) Same as RFID system

(C) From any angle reader can read

(D) Line of sight required for reading

Ans. (D)

32. Which macro confirms "Hello Friend" will be stored in Flash memory?

(A) Serial. Print (F ("Hello Friend"));

(B) Serial. Print (A ("Hello Friend"));

(C) Serial. Print (C ("Hello Friend"));

(D) Serial. Print (N ("Hello Friend"));

Ans. (A)

33. What is the Optiboot bootloader in the Arduino IDE?

- (A) Default bootloader
- (B) ATmega328p
- (C) Both (A) and(B)
- (D) Takes 1024 bytes for initiating

Ans. (A)

34. In a function, an array is passed by:

- (A) Address relocation
- (B) Call by value
- (C) Function arguments
- (D) Call by reference

Ans. (D)

35. The difference in If-Else and switch case statement is:

- (A) If-Else enforces binary search
- (B) Switch-case enforces linear search
- (C) Multiple statements can be used for numerous decisions inside If-Else
- (D) Multiple statements can be used for numerous decisions inside switch case

Ans. (C)

36. The format specifier for print () and wprint () of long integer in C is denoted as:

- (A) % ld
- (B) % d
- (C) % li

(D) % f

Ans. (A)

37. Humidity Sensor is related to:

(A) DHT11

(B) Hygrometer

(C) Parts Per Million or Relative Humidity

(D) All of these

Ans. (D)

38. Arduino can be programmed using following languages:

(A) Python

(B) C++

(C) Both (A) and (B)

(D) None of the above

Ans. (B)

39. The future IoT trust infrastructure are based on _____ technology for business-critical interface between devices without direct human interaction.

(A) XML

(B) .Net

(C) Blockchain

(D) None of these

Ans. (C)

40. The function `pgm_read_word((&(var_data[x][y])))` reads _____ from flash memory:

- (A) Address
- (B) Integers
- (C) Strings
- (D) Data files

Ans. (B)

41. The keyword 'PROGMEM' is a variable modifier of PROGMEM Utility. Which header file contains it?

- (A) `avt/pspace.h`
- (B) `avr/pgmspace.h`
- (C) `avr/pmspace.h`
- (D) `avr/progmem.h`

Ans. (B)

42. A constant variable can be declared as:

- (A) only in variable declaration area
- (B) After `main()`
- (C) `const number int`
- (D) `#define number 35`

Ans. (D)

43. An array index, `xyz []` starts with _____.

- (A) 0

(B) -1

(C) 1

(D) 2

Ans. (A)

44. Which application layer protocol is responsible for machine to machine (M2M) communication in restricted environment?

(A) MQTT

(B) CoAP

(C) XMPP

(D) AMQP

Ans. (A)

45. Which one is not a microcontroller in Embedded Ecosystem?

(A) PIC

(B) 8086

(C) ARM

(D) 8051

Ans. (B)

46. The communication technologies used for IoT is /are:

(A) Bluetooth

(B) Zigbee

(C) WiMAX

(D) All of these

Ans. (D)

47. A LED interfacing with Arduino as shown implies:

digitalWrite (led_pin, LOW);

digitalWrite (led_pin, HIGH);

- (A) LED off and on**
- (B) LED off and on by varying VCC**
- (C) Can introduce delay for better o/p**
- (D) All of these**

Ans. (D)

48. Which is IoT integrated development environment (IDE) and tools?

- (A) HTML**
- (B) Pascal**
- (C) Arduino**
- (D) PHP**

Ans. (C)

49. The main security challenge to overcome to make IoT services available at low cost is:

- (A) Open security**
- (B) Scalability**
- (C) Detachment**
- (D) None of these**

Ans. (D)

50. The IoT supports:

- (A) Cloud computing**
- (B) Block-chain Technology**
- (C) Data Analytics**
- (D) All of these**

Ans. (D)

51. The prototype hardware used to IoT architecture is/ are:

- (A) Raspberry Pi**
- (B) Ardunio Uno**
- (C) Cubie Board**
- (D) All of these**

Ans. (D)

52. Microprocessors have following components embedded in them:

- (A) RAM**
- (B) Memory**
- (C) ROM**
- (D) None of these**

Ans. (D)

53. In a sentence, subject communicates about _____ and predicate talks about _____.

- (A) Predicate, sentence**
- (B) sentence, verb**

(C) sentence, subject

(D) predicate, subject

Ans. (C)

54. The difference in an a open-loop and a closed-loop system are based on:

(A) Feedback

(B) Stability

(C) Complexity

(D) All of these

Ans. (A)

55. LDR Sensor are made of:

(A) Semiconductor

(B) PbS

(C) Lead Sulfide

(D) All of these

Ans. (D)

56. What is WoT and its usage in the IoT?

(A) Wireless of Things & increase time complexity

(B) Wireless of Things & reduce security

(C) Web of Things & improves interoperability

(D) Web of Things & increment in cost

Ans. (C)

57. IoT comprises of internet, physical devices, sensors, microcontroller, and _____:

- (A) Information
- (B) Actuators
- (C) Intranet
- (D) Electronics

Ans. (B)

58. An IoT device may need interface for:

- (A) sensors
- (B) audio/video
- (C) Internet connectivity
- (D) All of these

Ans. (D)

59. How to run two variables x and y in for loop simultaneously?

- (A) `for (x =0;x<m, x++), for (y =0; y<m, y+=3){}`
- (B) `for(x =0, y=0;x<m, y<m; x++,y+3)`
- (C) Both (A) and (B)
- (D) `for (x =0; x<m,x++) {}, for (y =0; y<m, y+3) {}`

Ans. (B)

60. A _____ is a document that can be used as evidence in court.

- (A) Notice
- (B) Minutes

(C) Letter

(D) Email

Ans. (B)

61. The role of a moderator is:

(A) Focus on group

(B) Managing the dynamics

(C) Smooth running of discussion

(D) All of these

Ans. (D)

62. The message meant for the general public and that sent to a specific group are called _____, _____ respectively.

(A) Circular, Memo

(B) Notice, Circular

(C) Note, Circular

(D) Minute, Circular

Ans. (B)

63. Paralanguage is a part of meta-communication that deals with non-verbal communicate. Also Known as _____.

(A) Poetry

(B) Prosody

(C) Haptics

(D) Vocalic

Ans. (D)

64. Communication with oneself is called _____

- (A) Interpersonal**
- (B) Intrapersonal**
- (C) Impersonal**
- (D) Formal**

Ans. (B)

65. In Microcontroller, external access is used for:

- (A) Power supply**
- (B) Latches**
- (C) Memory Interfacing**
- (D) Peripherals**

Ans. (C)

66. An IoT protocols does not include:

- (A) Network/Internet protocol layer**
- (B) Link layer protocol**
- (C) Application layer protocol**
- (D) Session layer protocol**

Ans. (D)

67. What is ESP8266 used in IoT applications?

- (A) Low-cost Wi-Fi module**

- (B) Microprocessor on a chip
- (C) In-build HTTP software
- (D) High-cost Wi-Fi module

Ans. (A)

68. IoT promotes the creation of IoT terminal industry _____.

- (A) Devices
- (B) Network
- (C) Clusters
- (D) Things

Ans. (C)

69. Which address schemes are used by Ipv4 and Ipv6 internet protocol?

- (A) 128-bit and 16-bit
- (B) 32-bit and 128-bit
- (C) 32-bit and 64-bit
- (D) 16-bit and 128-bit

Ans. (B)

70. Mr. Rahul is seeking feedback after completing and implementing his project. This act represents _____.

- (A) Time- Management
- (B) Self-Awareness
- (C) Gratitude
- (D) Self-Love

Ans. (C)

71. In the given C code, for loop executes for:

```
#include  
  
void main ()  
{  
    int x=10;  
    for{::} {printf("%d/n",x);} }  
}
```

(A) 10 times

(B) 9 times

(C) infinite

(D) Zero

Ans. (C)

72. Which of the following is not the component of IoT End point?

(A) Router

(B) Gateway

(C) Communication Module

(D) MCU

Ans. (B)

73. Sensors convert signals from analog to which domain?

(A) Digital

- (B) Electrical
- (C) Mechanical
- (D) Both (A) and (B)

Ans. (D)

74. The memory used while saving the data during 'PROGMEM utility' is:

- (A) DRAM
- (B) Flash
- (C) SRAM
- (D) EEPROM

Ans. (B)

75. Which feature defines IoT?

- (A) Local network
- (B) Non-changing conditions
- (C) Self-configuring
- (D) Non-interoperable protocol

Ans. (C)

76. Choose the correct option to access the 4th element of the array:

```
int z [30];
```

```
int *pz;
```

```
pz = z;
```

- (A) *(z+3)

- (B) `z[3]`
- (C) `pz[3]`
- (D) `(*pz+3)`

Ans. (B)

77. LDR Sensors:

- (A) Light Dependent Resistor
- (B) 2 pinned IC
- (C) Controls Light Intensity
- (D) All of these

Ans. (D)

78. Microcontroller are:

- (A) Embedded System
- (B) Application-specific
- (C) Harvard
- (D) All of these

Ans. (D)

79. How can we initialize the array?

- (A) Initializing
- (B) Assigning array
- (C) Factoring and array
- (D) Populating an array

Ans. (D)

80. The leadership trait/traits is/are:

- (A) To influence people**
- (B) To guide followers**
- (C) To achieve a common goal**
- (D) All of these**

Ans. (D)

81. Arduino is a _____.

- (A) Open-source Text editor**
- (B) Open-source electronics platform**
- (C) Web programming language**
- (D) None of these**

Ans. (B)

82. Main components of IoT based systems are:

- (A) Sensors**
- (B) Actuators**
- (C) Microcontroller**
- (D) All of the above**

Ans. (D)

83. Sketches in Arduino are saved with the extension _____.

- (A) .exe**

(B) .ino

(C) .ide

(D) .doc

Ans. (B)

84. What are the effective stages of IoT architecture?

(A) Internet gateway, Edge information

(B) Sensors and Actuators

(C) Data centre and cloud analysis

(D) All of these

Ans. (D)

85. The wireless battery free sensor designed to record environmental and material temperature is:

(A) DHT11

(B) ESP8266

(C) RFM3200

(D) LM35

Ans. (C)

86. What is the bootloader in the Arduino IDE?

(A) a piece of code

(B) initiates the sketch

(C) stored in the memory space

(D) All of these

Ans. (D)

87. How to terminate an infinite loop in embedded C?

- (A) End**
- (B) Exit**
- (C) Break**
- (D) Abort**

Ans. (C)

88. The way we dress is an example of _____ communication.

- (A) Verbal**
- (B) Nonverbal**
- (C) Written**
- (D) Spoken**

Ans. (B)

89. Choose the correct option for the ternary operator in embedded C:

- (A) Based on ternary condition**
- (B) condition? Expression1: Expression2**
- (C) condition? Expression1 < Expression2**
- (D) Similar to execution of a loop**

Ans. (B)

90. IoT devices are vulnerable to attacks and threats. “One of them is Cryptanalysis attack” that means:

- (A) By recovering the encryption information**
- (B) Inject malicious codes**
- (C) Find ciphertext to break the encryption**
- (D) Tamper with the hardware**

Ans. (C)

91. 8051 is:

- (A) 4-bit Microcontroller**
- (B) 8-bit Microcontroller**
- (C) 12-bit Microcontroller**
- (D) 16-bit Microcontroller**

Ans. (B)

92. The selection of Microcontroller for IoT is based on:

- (A) Individual Characteristics**
- (B) Stability**
- (C) Desirable output**
- (D) All of these**

Ans. (D)

93. Following layer is not mentioned in TCP/IP Model.

- (A) Presentation**
- (B) Network**
- (C) Application**

(D) Transport

Ans. (A)

94. What is true about Arduino Codes?

(A) Setup () is a startup function

(B) Loop () is executed repeatedly

(C) Also known as sketches

(D) All of these

Ans. (C)

95. The communication process comprises of:

(A) Sender(Decoder)=> channel=> Receiver(Encoder)=> Response=> Feedback

(B) Sender(Encoder)=> channel=>Receiver(Decoder)=> Response=> Feedback

(C) Sender(Encoder)=> channel=> Receiver(Response)=> Decoder=> Feedback

(D) Sender(Response)=> channel=> Receiver(Decoder)=> Encoder=> Feedback

Ans. (B)

96. The stress management technique based on mental exercise which to produce relaxation response:

(A) Autogenic Technique

(B) Eating

(C) Sleeping

(D) Medicine intake

Ans. (A)

97. Stochastic control system has:

- (A) Feedback with unknown random actions
- (B) Positive Feedback with unknown random actions
- (C) Negative Feedback with unknown random actions
- (D) All of these

Ans. (D)

98. How many pwn pins does the Arduino Uno have?

- (A) 1
- (B) 2
- (C) 4
- (D) 6

Ans. (D)

99. Which document that can be used as an evident in legal cases?

- (A) Notice
- (B) Minutes of a meeting
- (C) Agenda
- (D) Memo

Ans. (B)

100. Choose the correct option for indexing of the given code:

```
int main()  
{  
int xyz (8);
```

}

(A) 0, 7

(B) 0, 8

(C) -1, 7

(D) 1, 7

Ans. (A)

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