**ST. JOSEPH’S COLLEGE (AUTONOMOUS), BENGALURU -27**

**IV SEMESTER : OPEN ELECTIVE**

**END SEMESTER EXAMINATION: APRIL 2023**

**(Examination conducted in MAY 2023)**

**CSOE8 : INTERNET OF THINGS**

**Time: 1 Hour Max Marks: 60**

**This paper contains 8 printed pages**

**Answer all Questions. Each question carries 1 Mark.**

1. Which one of the following is not an IoT device?
2. Amazon echo voice controller
3. Google Home
4. Nest Smoke Alarm
5. None of these
6. What is Arduino UNO?
7. Software
8. Hardware device
9. Network
10. Protocol
11. Which of the following is not an application of IoT?
12. Wearables
13. Smart Grid
14. Arduino
15. Smart City
16. What is the full form of the MQTT?
17. Multi-Queue Telemetry Things
18. Multiple Queue Telemetry Things
19. Message Queue Telemetry Things
20. Message Queue Telemetry Transport
21. Which of the following layers provides end-to-end communication in IoT?
22. Logical layer
23. Data link layer
24. Transport layer
25. Session layer
26. IoT is based on \_\_\_\_\_\_ technology.
27. Hardware
28. Software
29. None
30. Both A & B
31. An equation of internet of things..........

a. Physical object + controller sensor and actuator + internet

b. Controller sensor and actuator + internet

c. Physical object + internet

d. Physical object + controller + internet

1. A ....... tends to convert physical attribute to an electrical signal.
2. Actuator
3. Compiler
4. Sensor
5. Motors
6. SAAS stands for........
	1. software as a service
	2. service as a software
	3. service as a service
	4. software as a software
7. ...... Involves delivering different types of services over the Internet.
	1. physical computing
	2. chemical computing
	3. mechanism
	4. cloud computing
8. ........ is used by certain protocols to aid sensors in connecting with real time machine to machine network.
	1. real time analytics
	2. data collection
	3. device integration
	4. real time collection
9. A ......... 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

1. PAAS stands for........ .

a. principal as a service

b. platform as a service

c. physical computing as a service

d. principal as a software

1. ...... means large set of structured, unstructured and semi structured data.

a. big data

b. small data

c. physical computing

d. cloud computing

1. ........ helps in collaborate in IOT development.

a. physical computing

b. chemical computing

c. mechanism

d. cloud computing

1. IOT and cloud computing has........ relationship.

a. physically

b. graphically

c. complementary

d. coding

1. IAAS stands for........

a. infrastructure as a service

b. instructions as a service

c. inter communication as a service

d. internet as a service

1. IP stands for ......... .

a. intelligent protocol

b. internet protocol

c. intercommunication protocol.

d. ideal protocol

1. ........ is an open source electronic platform based on easy to use hardware and software.

a. servo motor

b. Arduino

c. CPU

d. GPU

1. The ......... is a way to connecting electronic components to each other without having solder them together.

a. servo motor

b. Arduino

c. Breadboard

d. GPU

1. API stands for ......... .

a. Application programming interface

b. Android programming interface

c. Arduino protocol information

d. Application protocol interface

22**.** Identify among the following which is not a fundamental component of IoT system.

1. Sensors
2. User interface
3. Transformers
4. Connectivity and data processing

23. Identify the protocol used to link all devices in IoT,

1. TCP/IP
2. UDP
3. Network
4. HTTP

#### 24. **Who coined the term IoT?**

1. Ross Ihaka
2. IBM
3. Kevin Ashton
4. Guido van Rossum

#### 25. **Identify the incorrect advantage of IoT.**

1. Security
2. Improve customer engagement
3. Enhanced data collection
4. Reduce waste

#### 26. **What IoT collects?**

#### **a. Human generated data**

#### **b. Sensor data**

#### **c. Machine generated data**

#### **d. Device data**

#### 27. **We need to invest in storage and prepossessing capacity to perform \_\_\_\_\_\_\_\_\_**

#### **a. C analytics**

#### **b. Bigdata analytics**

#### **c. Python analytics**

#### **d. IoT analytics**

28. The sensor classes are categorized into \_\_\_\_\_\_\_\_\_\_\_ based on the output

1. One
2. Two
3. Three
4. Four

29. \_\_\_\_\_\_\_\_ are the types of actuators

1. Hydraulic, pneumatic actuators
2. Electrical, thermal actuators
3. Mechanical actuators
4. All of the above

30. The MQTT protocol is designed for \_\_\_\_\_\_\_\_

1. Limited bandwidth
2. Remote connection
3. Small code footprint
4. All of the above

31. \_\_\_\_\_\_\_\_\_\_\_\_ are the components of the MQTT protocol

1. Subscribers
2. Brokers
3. Publishers
4. All of the above

32. The operations of the protocol requires \_\_\_\_\_\_\_\_\_\_ links

1. Unidirectional
2. Bidirectional
3. Either uni-directional or bi-directional
4. None of the above

33. What is the standard form of WSNs?

1. Wireless Sensor Networks
2. Wired Sensor Networks
3. Wireless Simple Networks
4. None of the above

34. IoT is an advanced automation and analytics system which deals with?

a. sensor, networking
b. electronic
c. cloud messaging
d. All of the above

35. Does MQTT support security?

a. True

b. False

c. Can’t Say

d. May be

36. MQTT is better than HTTP for sending and receiving data.

a. True

b. False

c. Can’t Say

d. May be

37. MQTT is \_\_\_\_\_\_\_\_\_ protocol.

a. Machine to Machine

b. Internet of Things

c. Machine to Machine and Internet of Things

d. Machine Things

38. An IoT device will monitor information from the environment.

1. True
2. False
3. Can’t Say
4. May be

39. Which of the following is an example of an IoT application?

1. Bank web page to monitor customer experience
2. Wearable device to monitor blood glucose level
3. Manufacturing Bolt using CNC machine
4. All of the above

40. Arduino Uno is pre-programmed with \_\_\_\_\_\_\_\_\_

1. EEPROM
2. drivers
3. boot loader
4. protocols

41. Which of the following is a classification of IoT protocols?

1. Device-to-Device
2. All the options
3. Cloud-to-Cloud
4. Device-to-Cloud

42. IoT is an interaction between the physical and the digital world.

1. False
2. True
3. Can’t Say
4. May be

43. An IoT device takes actions/decisions without human intervention.

1. True
2. False
3. Can’t Say

d. May be

44. What is the use of the ESP8266 WiFi Module?

a. Monitors Motion

b. Evaluates air pressure

c. Network Provider

d. Switches circuits

45. What is the use of the TX pin?

a. Upload

b. Download

c. Ground

d. Power input

46.What kind of device is the ESP8266 WiFi Module?

a. Passive Sensor

b. Active Sensor

c. Networking Device

d. Switching Device

47. Who operates the core element?

1. PaaS
2. IaaS
3. IoT service provider
4. SaaS

48. Which of the following IoT gateway must provide?

* 1. Protocol abstraction
	2. Security with hardware
	3. Simple and fast installation
	4. Data storage

49. Identify the service which permits the changes to IoT services.

* + 1. Enable
		2. Enable from suspension
		3. Update
		4. Registered service status

50. A program written with the IDE for Arduino is called

a. IDE source

b. Sketch

c. Cryptography

d. Source code

51. Arduino IDE consists of 2 functions. What are they?

a. Build() and loop()

b. Setup() and build()

c. Setup() and loop()

d. Loop() and build() and setup()

52. How many digital pins are there on the UNO board?

a. 14

b. 12

c. 16

d. 20

53. --------are pre built circuit boards that fit on top of Arduino.

a. Sensor

b. Data types

c. Breadboard

d. Sheilds

54. The huge numbers of devices connected to the Internet of things have to communicate automatically, not via humans. What is this called?

a. Bot to Bot (B2B).

b. Machine to Machine (M2M).

c. InterCloud

d. Skynet

55. What is the microcontroller used in Arduino UNO?

a. ATmega328p

b. ATmega2560

c. ATmega32114

d. ATmega256p

56. Do Arduino provides IDE Environment

a. True

b. False

c. can’t say

d. may be

57. The IoT operates at \_\_\_\_\_\_\_\_\_\_\_ scale.

a. Machine
b. Human
c. Device
d. Sensor

58. The process of building iot hardware and devices enhanced with smart sensors and embedded system using many of the shelf components like sensors , circuits and microcontrollers is called .......

a. prototyping

b. casting

c. protocasting

d. protocol typing

59. IOT devices should have the characteristic to be calm, ambient and ubiquitous. Which means

a. They are not present everywhere but silently working and not seeking attention

b. They are present everywhere but not silently working and seeking attention.

c.They are present everywhere, silently working not seeking attention.

d. They are present everywhere, silently working and seeking attention.

60. What is a sensor in IoT?

a. A device that converts physical or environmental parameters into digital signals
b. A device that connects to the internet and sends data
c. A device that provides a graphical user interface
d. A device that runs software programs