**001.** Which of the following is not an actuator in IoT?  **D**
A    stepper motor                    B    A fan
C    An LED                           D    Arduino

**002.** Which of the following command is used to trigger the Amazon echo IOT device?  **C**
A    Hello                            B    Suri
C    Alexa                            D    Hey

**003.** Which layer is used for wireless connection in IoT devices?  **C**
A    Application layer                B    Network layer
C    Data link layer                  D    Transport layer

**004.** Who coined the term Internet of Things?  **A**
A    Kevin Aston                      B    John Wright
C    Edward Jameson                   D    George Garton

**005.** Which of the following is not an IoT device?  **A**
A    Table                            B    Laptop
C    Arduino                          D    Tablet

**006.** Which of the following is false about IoT devices?  **D**
A    IoT devices use the internet for    B    IoT devices need microcontrollers
     collecting and sharing data
C    IoT devices use wireless technology  D    IoT devices are completely safe

**007.** Which of the following is not an IoT platform?  **D**
A    Amazon Web Services              B    Microsoft Azure
C    Sales force                      D    Flipkart

**008.** What type of interface is used by fingerprint sensors to collect data?  **B**
A    IPI interface                    B    UART interface
C    I2P interface                    D    None

**009.** Through which network does Open IoT manage registration, deployment of sensors?  **C**
A    LSM                              B    HTTP
C    X-GSN                            D    GSN

**010.** What is the standard form of LLN?  **B**
A    Lower Lossy Network              B    B Low Power Lossy Network
C    Lossy Low Power Network          D    Low Lossy Powered Network

**011.** What is the use of PWM signals in IoT development boards?  **C**
A    They are used by sensors to have    B    They are used by sensors to have
     analog input                          digital input
C    They are used by actuators to have  D    They are used by actuators to have
     analog input                          digital input

**012.** How many number of elements in the Open IoT Architecture?  **B**
A    3 elements                       B    7 elements
C    8 elements                       D    6 elements

**013.** Which of the following cannot be considered an IoT device?  **D**
A    Smart watch                      B    Android Phone
C    Laptop                           D    Tube light

**014.** Which one out of these is not a Data Link Layer Technology?  **C**
A    Bluetooth                        B    Wi-Fi
C    HTTP                             D    Mobile Hotspot

**015.** Which protocol is lightweight?  **A**
A    MQTT                             B    HTTP
C    COAP                             D    SPI

**016.** Pub Nub publishes and subscribes _____ in order to send and receive messages  **D**
A    Network                          B    Account
C    Portal                           D    Keys

**017.** _____ allows us to control electronic components.  **A**
A    Restful API                      B    HTTP
C    HTTPS                            D    MQTT

**018.** Total types of voice communications in IoT environment is? **B**
    A   1                                    B   2
    C   3                                    D   4

**019.** _____an open source stack for gateways and the edge. **D**
    A   Eclipse Kapua                B   Red Hat
    C   Intercloud                   D   Eclipse Kura

**020.** _____ is a modular and cloud based platform. **A**
    A   Eclipse Kapua                B   Red Hat
    C   Intercloud                   D   Eclipse Kura

**021.** MQTT is_____protocol. **C**
    A   Machine to Machine          B   Internet of Things
    C   Machine to Machine and Internet of   D   Machine Things
        Things

**022.** _____ specifies the function that will be called on an error event. **B**
    A   Call back                  B   Error
    C   Connect                   D   Reconnect

**023.** _____ Specifies the function that will be called when a successful connection with **C**
the Pub Nub cloud.
    A   Call back                  B   Error
    C   Connect                   D   Reconnect

**024.** _____Specifies the function that will be called when there is a new message **D**
received from the channel.
    A   Reconnect                 B   Error
    C   Connect                   D   Call back

**025.** By clicking which key the Pub Nub will display public, subscribe, and secret keys. **B**
    A   Pane                      B   Demo Keyset
    C   Portal                    D   Network

**026.** The message Channel class declares the _____ class attribute that defines the **A**
key string.
    A   Command_Key            B   Command-key
    C   Command Key           D   Key Command

**027.** _____ method saves the received arguments in three attributes **C**
    A   _init                       B   Init_
    C   _init_                    D   init

**028.** _____ and _____ saves the publish and subscribe keys that we have **A**
generated with the Pub Nub Admin portal
    A   Public key and subscribe_key   B   Public key and subscribe-key
    C   Public key and subscribe key   D   Key Public and Key subscribe

**029.** What is the sensor/protocol used in GSN? **B**
    A   HTTP Protocol              B   COAP protocol
    C   MQTT Protocol              D   XMPP protocol

**030.** Which is the core wrapper of GSN? **D**
    A   Serial                     B   UDP
    C   GPS Test                 D   Zero MQ Wrapper

**031.** Internet of Things needs a lot of network connection. What is the proposed white **C**
Space radio standard called?
    A   Bluetooth                  B   WiMAX
    C   Weightless                 D   Zigbee

**032.** _____ specifies the function that will be called when a successful re-connection is **D**
completed
    A   Call back                  B   Error
    C   Connect                   D   Reconnect

**033.** _____ specifies the function that will be called when the client disconnects **D**
    A   Call back                  B   Error

|   |   |   |   |   |
|---|---|---|---|---|
| | C | Connect | D | Disconnect |

**034.** Which of the following is a source of IoT data that collects information from physical objects and sends it over the internet? **C**
- A Cloud computing
- B Artificial Intelligence
- C Sensors and actuator
- D Quantum computing

**035.** Which of the following is an example of IoT in action? **A**
- A A smart refrigerator that can order groceriesonline when supplies are low
- B A traditional calculator
- C A printed newspaper
- D A regular pen

**036.** What is one of the key technologies behind IoT that enables devices to communicate wirelessly over short distances? **B**
- A Ethernet
- B Bluetooth
- C USB
- D Serial Port

**037.** Which environment does Global Sensor Network work on? **B**
- A C++
- B JAVA
- C HTML
- D C

**038.** Open IoT manages the registration, data acquisition, deployment of sensors and interconnected of objects, through which network? **B**
- A GSN
- B X-GSN
- C LSM
- D HTTP

**039.** _____ is a community that is working together to establish an IoT architecture. **A**
- A Eclipse IOT
- B Red Hat
- C Inter cloud
- D Bot 2 Boat

**040.** What is the Internet of Things (IoT)? **B**
- A A network of interconnected servers
- B A network of interconnected devices that cancollect and exchange data over the internet
- C A network of interconnected satellites
- D A network of interconnected gaming consoles

**041.** Which of the following is not a part of the Internet of Things technology? **C**
- A Cloud computing
- B Big data analytics
- C Manual data entry
- D Sensor networks

**042.** What is one of the primary design principles for connected devices in IoT? **B**
- A High cost of implementation
- B Low power consumption
- C Large physical size
- D Single functionality

**043.** What is an essential characteristic of IoT applications? **D**
- A High latency
- B Low scalability
- C Limited data processing
- D Real-time data processing and analytics

**044.** What are the design principles for connected devices in IoT? **B**
- A High power consumption and limited connectivity
- B Interoperability and scalability
- C Closed systems and limited data sharing
- D Proprietary protocols and limited functionality

**045.** What is a common protocol used for internet connectivity in IoT devices? **C**
- A HTTP
- B Bluetooth
- C Wi-Fi
- D USB

**046.** Which of the following protocols is used for secure web communication in IoT applications? **B**
- A HTTP
- B HTTPS
- C FTP
- D Bluetooth

**047.** Which protocol is commonly used for file transfer in IoT applications? **C**
- A HTTP
- B HTTPS

| | C | FTP | | D | Bluetooth | |
|---|---|---|---|---|---|---|

**048.** Which of the following communication technologies is commonly used in IoT devices for short-range communication? **A**

| A | Bluetooth | B | LTE |
|---|---|---|---|
| C | WiMAX | D | Fiber optic |

**049.** Data enrichment in IoT refers to: **C**

| A | Reducing data complexity | B | Adding more data to a dataset |
|---|---|---|---|
| C | Enhancing data with additional information | D | Securing data transmission |

**050.** ETSI M2M domains mainly focus on: **C**

| A | Device hardware manufacturing | B | IoT application development |
|---|---|---|---|
| C | Interoperability and standardization | D | Mobile network infrastructure |

**051.** Which of the following is NOT a source of IOT data? **B**

| A | Sensors | B | Social media platforms |
|---|---|---|---|
| C | Wearable devices | D | Mobile applications |

**052.** Which of the following best describes an IoT/M2M business model? **B**

| A | Centralized data storage and processing | B | Device-centric monetization |
|---|---|---|---|
| C | One-time hardware sales | D | Traditional retail model |

**053.** The Internet of Things (IoT) is a network of interconnected. **C**

| A | People | B | Animals |
|---|---|---|---|
| C | Devices | D | Countries |

**054.** Which layer of the modified OSI stack for IoT/M2M is responsible for data encryption and decryption? **C**

| A | Application Layer | B | Transport Layer |
|---|---|---|---|
| C | Security Layer | D | Physical Layer |

**055.** In an IoT/M2M system, what does M2M stand for? **A**

| A | Machine-to-Machine | B | Mobile-to-Mobile |
|---|---|---|---|
| C | Man-to-Man | D | Module-to-Module |

**056.** Which layer of the OSI stack is responsible for addressing and routing in an IoT/M2M system? **B**

| A | Data Link Layer | B | Network Layer |
|---|---|---|---|
| C | Session Layer | D | Presentation Layer |

**057.** Which communication technology is typically used for long-range, low-power IoT applications? **C**

| A | Zigbee | B | NFC |
|---|---|---|---|
| C | LoRaWAN | D | Wi-Fi |

**058.** The process of aggregating data from multiple sources into a unified view is known as: **C**

| A | Data normalization | B | Data enrichment |
|---|---|---|---|
| C | Data consolidation | D | Data fragmentation |

**059.** Which of the following is a high-level capability of an IoT/M2M system? **B**

| A | Data encryption | B | Real-time analytics |
|---|---|---|---|
| C | Device manufacturing | D | Device activation |

**060.** The gateway in an IoT/M2M system is responsible for: **B**

| A | Data storage | B | Device management |
|---|---|---|---|
| C | Data analytics | D | Power supply to devices |

**061.** Which of the following is a key factor affecting the ease of designing IoT/M2M systems? **A**

| A | Device battery life | B | Number of users |
|---|---|---|---|
| C | Geographic location | D | Government regulations |

**062.** Data consolidation in IoT refers to: **B**

| A | Removing redundant data | B | Combining data from different sources |
|---|---|---|---|
| C | Encrypting data for security | D | Analyzing data for insights |

**063.** In an IoT/M2M business model, what does "M2M" represent?                **D**
    A    Market to Market        B    Machine to Mobile
    C    Mobile to Machine        D    Machine to Machine

**064.** Which IoT communication technology is commonly used for applications like home   **B**
automation and smart lighting?
    A    RFID        B    Z-Wave
    C    Bluetooth Low Energy (BLE)        D    WiMAX

**065.** The ETSI M2M standardization focuses on:                **B**
    A    Hardware development        B    Protocol development
    C    Market analysis        D    Consumer behaviour

**066.** Which IoT business model involves charging customers based on the amount of data   **B**
consumed?
    A    Subscription-based model        B    Pay-as-you-go model
    C    Freemium model        D    One-time purchase model

**067.** Which of the following is an essential component of an IoT device management   **C**
platform?
    A    GPS sensor        B    Real-time data analytics
    C    Remote firmware update capability    D    NFC communication

**068.** What layer of the modified OSI stack for IoT/M2M handles data representation and   **C**
formatting?
    A    Application Layer        B    Data Link Layer
    C    Presentation Layer        D    Physical Layer

**069.** The affordability of an IoT/M2M system depends on factors such as:                **A**
    A    Number of connected devices        B    Physical size of devices
    C    Type of data transmitted        D    Color of the devices

**070.** Which IoT communication technology is known for its high data rate and long-range   **D**
capability?
    A    LoRaWAN        B    Zigbee
    C    Wi-Fi        D    Cellular networks

**071.** Data enrichment in IoT involves:                **C**
    A    Reducing data accuracy        B    Adding irrelevant information to data
    C    Enhancing data with contextual        D    Deleting sensitive data
        details

**072.** Which IoT communication technology is known for its low-power consumption and   **D**
long-range capability?
    A    Wi-Fi        B    Bluetooth Classic
    C    Zigbee        D    Sigfox

**073.** The ETSI M2M standardization is focused on promoting:                **C**
    A    Proprietary technologies        B    Vendor lock-in
    C    Interoperability and global standards    D    Closed-loop systems

**074.** Which layer of the modified OSI stack for IoT/M2M involves device discovery and   **B**
service advertisement?
    A    Application Layer        B    Network Layer
    C    Presentation Layer        D    Physical Layer

**075.** Which IoT communication technology is commonly used in healthcare applications for   **D**
monitoring patients remotely?
    A    Bluetooth Classic        B    RFID
    C    Zigbee        D    Cellular networks

**076.** Data enrichment in IoT can be achieved through:                **C**
    A    Removing unnecessary data        B    Data normalization
    C    Data aggregation        D    Data anonymization

**077.** What is the primary function of a device management gateway in an IoT/M2M system? **D**
    A    Data storage and analytics        B    Data transmission and connectivity
    C    Device security and authentication    D    Device monitoring and control

**078.** The affordability of an IoT/M2M system is influenced by factors such as:    **C**
- A    Device battery life
- B    Geographic location
- C    Number of connected devices
- D    Type of data transmitted

**079.** In IoT/M2M systems, the Application Layer is responsible for:    **C**
- A    Data encryption and security
- B    Data transmission and communication
- C    Data representation and formatting
- D    Device discovery and service advertisement

**080.** Which IoT business model involves providing basic services for free and charging for premium features?    **B**
- A    Subscription-based model
- B    Freemium model
- C    Pay-as-you-go model
- D    One-time purchase model

**081.** The ETSI M2M standardization aims to achieve:    **B**
- A    Vendor lock-in and proprietary technologies
- B    Interoperability and global standards
- C    Closed-loop systems and local standards
- D    Hardware and software development guidelines

**082.** Which layer of the modified OSI stack for IoT/M2M is responsible for data transformation and protocol conversion?    **B**
- A    Data Link Layer
- B    Presentation Layer
- C    Transport Layer
- D    Application Layer

**083.** Which IoT communication technology is commonly used for connecting household appliances and smart home devices?    **C**
- A    Wi-Fi
- B    Bluetooth Classic
- C    Z-Wave
- D    LoRaWAN

**084.** Which layer of the modified OSI stack for IoT/M2M is responsible for hardware abstraction and communication?    **A**
- A    Physical Layer
- B    Presentation Layer
- C    Network Layer
- D    Application Layer

**085.** Which of the following is a high-level capability of an IoT/M2M system?    **D**
- A    Device activation
- B    Data encryption
- C    Device manufacturing
- D    Real-time analytics

**086.** In IoT/M2M systems, what is the primary focus of the Network Layer in the modified OSI stack?    **B**
- A    Data representation and formatting
- B    Data transmission and routing
- C    Data encryption and security
- D    Device discovery and service advertisement

**087.** Number of approaches gateway can be installed?    **B**
- A    2 approaches
- B    3 approaches
- C    4 approaches
- D    5 approaches

**088.** Central software management server communicates with the gateway devices in which approach?    **B**
- A    Factory Bootstrap
- B    Server Limited Bootstrap
- C    Client initiated Bootstrap
- D    Bootstrap

**089.** Gateway software should be smart enough to handle _____    **C**
- A    GPS
- B    Message
- C    Logging
- D    Sensors

**090.** Which IoT business model involves customers paying a fixed fee regularly for access to the service?    **C**
- A    One-time purchase model
- B    Pay-as-you-go model
- C    Subscription-based model
- D    Freemium model

**091.** What is the main function of data consolidation in an IoT/M2M system?    **D**
- A    Reducing data redundancy
- B    Enhancing data with additional information

|  | C | Storing data in multiple locations | D | Combining data from various sources | |
|---|---|---|---|---|---|

**092.** A sensor uses which Network? **D**
- A    LAN and HAN
- B    HAN and PAN
- C    LAN and PAN
- D    LAN, PAN and HAN

**093.** IoT promotes the creation of IoT terminal industry _____ **C**
- A    Devices
- B    Network
- C    Clusters
- D    Things

**094.** ITS stands for _____ **D**
- A    Internet Travel Services
- B    Internet Transportation Security
- C    Intelligent Transportation Security
- D    Intelligent Transportation Services

**095.** The core element is operated by_____ **B**
- A    PaaS
- B    IoT service Provider
- C    SaaS
- D    IaaS

**096.** Which mode assumes that it is the gateways responsibility to connect to the central repository server? **C**
- A    Factory Bootstrap
- B    Server Limited Bootstrap
- C    Client initiated Bootstrap
- D    Bootstrap

**097.** Bootstrap is used for _____ **A**
- A    Web Applications
- B    IOT
- C    Big Data
- D    Data

**098.** An IoT _____ center is envisaged as an important part of the generic IoT platform to unify the organization. **C**
- A    Individual Information
- B    Individual Integration
- C    Integrated Information
- D    Individual and Integrated Information

**099.** Which protocol enables real-time, bidirectional communication over a single TCP connection, making it suitable for real-time monitoring of IoT devices? **C**
- A    LWM2M
- B    HTTP/2
- C    Web Socket
- D    AMQP

**100.** Which messaging protocol is designed for reliable communication between distributed components and is suitable for IoT applications? **B**
- A    MQTT
- B    DDS
- C    CoAP
- D    HTTP

**101.** Which protocol is suitable for IoT devices with constrained resources, such as low-power devices and networks? **D**
- A    HTTP/2
- B    DDS
- C    Web Socket
- D    CoAP

**102.** Which protocol is the foundation of data communication on the web and is used for requesting and transmitting web pages and resources? **C**
- A    HTTPS
- B    MQTT
- C    HTTP
- D    WebSocket

**103.** Which protocol adds a layer of encryption to HTTP, ensuring secure data exchange between clients and servers? **D**
- A    HTTP/2
- B    CoAP
- C    MQTT
- D    HTTPS

**104.** Which protocol is designed for low-bandwidth, high-latency networks and is often used in IoT applications for efficient publish-subscribe messaging? **D**
- A    WebSocket
- B    AMQP
- C    CoAP
- D    MQTT

**105.** Which protocol is suitable for IoT devices in resource-constrained environments and utilizes UDP for transport? **C**
- A    HTTP/2
- B    MQTT
- C    CoAP
- D    Web Socket

**106.** Which protocol provides full-duplex communication channels over a single TCP connection, making it suitable for real-time interactive communication? **B**

| A | HTTP | B | Web Socket |
|---|------|---|------------|
| C | MQTT | D | AMQP |

**107.** Which protocol is an updated version of HTTP that focuses on improving performance **B**
by reducing latency and enhancing data transfer efficiency?

| A | HTTP | B | HTTP/2 |
|---|------|---|--------|
| C | HTTPS | D | MQTT |

**108.** Which protocol is known for its minimal overhead and supports various qualities of **A**
service levels for communication in IoT applications?

| A | MQTT | B | AMQP |
|---|------|---|------|
| C | LWM2M | D | HTTP/2 |

**109.** Which protocol provides features like message queuing, routing, and reliable delivery, **C**
making it suitable for scenarios where message integrity is crucial?

| A | Web Socket | B | DDS |
|---|-----------|---|-----|
| C | AMQP | D | HTTP |

**110.** Which protocol is designed for remote management and monitoring of IoT devices, **C**
including features like device discovery and firmware updates?

| A | DDS | B | Web Socket |
|---|-----|---|------------|
| C | LWM2M | D | CoAP |

**111.** Which protocol is used for reliable communication between distributed components **D**
and provides features like message queuing and routing?

| A | Web Socket | B | DDS |
|---|-----------|---|-----|
| C | CoAP | D | AMQP |

**112.** Which protocol is known for its efficiency in handling device-to-device and device-to- **B**
cloud communication in IoT applications?

| A | HTTP | B | MQTT |
|---|------|---|------|
| C | CoAP | D | Web Socket |

**113.** Which protocol is suitable for IoT applications requiring remote management, **C**
configuration, and firmware updates?

| A | MQTT | B | HTTP/2 |
|---|------|---|--------|
| C | LWM2M | D | Web Socket |

**114.** Which protocol is commonly used for transmitting web pages, images, and files **B**
between a client and a server?

| A | MQTT | B | HTTPS |
|---|------|---|-------|
| C | Web Socket | D | DDS |

**115.** Which protocol is specifically designed for low-power, constrained devices and focuses **B**
on lightweight communication? a

| A | HTTP | B | CoAP |
|---|------|---|------|
| C | AMQP | D | Web Socket |

**116.** Which protocol is designed for real-time data sharing and communication between **A**
devices in distributed systems?

| A | DDS | B | MQTT |
|---|-----|---|------|
| C | LWM2M | D | AMQP |

**117.** Which design principle emphasizes the importance of protecting data from **C**
unauthorized access and ensuring secure communication channels?

| A | Flexibility | B | Interoperability |
|---|-------------|---|------------------|
| C | Security | D | Reliability |

**118.** Which design principle emphasizes the ability of devices to adapt to changing **C**
requirements, technologies, and environments?

| A | Interactivity | B | Scalability |
|---|---------------|---|-------------|
| C | Flexibility | D | Reliability |

**119.** Which design principle focuses on ensuring that devices can communicate efficiently **B**
even as the number of connected devices increases?

| A | Security | B | Scalability |
|---|----------|---|-------------|
| C | Reliability | D | Flexibility |

**120.** Which protocol is used to ensure secure data exchange by adding encryption to HTTP **C**
communication?

A    MQTT                                             B    Web Socket
C    HTTPS                                       D    CoAP

**121.** Which protocol provides a client-server model for efficient communication in resource- **B**
constrained environments? a

A    HTTP/2                                     B    CoAP
C    AMQP                                      D    Web Socket

**122.** What design principle emphasizes the need for interoperability, enabling different **D**
devices and systems to communicate seamlessly? a

A    Security                                 B    Scalability
C    Interactivity                            D    Interoperability

**123.** Which design principle emphasizes the need for devices to be able to recover from **A**
communication failures and continue functioning correctly?

A    Reliability                               B    Scalability
C    Interoperability                       D    Security

**124.** Which design principle encourages the use of open standards and protocols to ensure **B**
that devices from different manufacturers can work together?

A    Proprietary Solutions                B    Interoperability
C    Flexibility                               D    Closed Ecosystems

**125.** Which design principle focuses on providing clear and well-defined communication **D**
interfaces, making integration and development easier?

A    Interactivity                            B    Flexibility
C    Clarity                                   D    Usability

**126.** Which design principle ensures that devices can exchange data and communicate **C**
without human intervention, enabling automation?

A    Interoperability                     B    Reliability
C    Interactivity                       D    Security

**127.** Which design principle emphasizes the need for devices to maintain consistent and **D**
accurate data exchange, even in challenging conditions?

A    Flexibility                              B    Scalability
C    Interactivity                       D    Reliability

**128.** Which design principle involves designing communication protocols that minimize data **A**
overhead and energy consumption for constrained devices?

A    Efficiency                               B    Security
C    Interoperability                     D    Scalability