

INTRODUCTION TO INTERNET OF THINGS ASSIGNMENT 01 ANSWERS

Question 01 of 15

In the context of IoT, what is the meaning of ubiquitous?

- A) Spreading widely throughout
- B) Present everywhere
- C) Countless
- D) Uncontrollable

The answer is – (B) Present everywhere

Question 02 of 15

Typical IoT networks have to support the existence of intermittent connectivity. Which one of the following is a characteristic of intermittent connectivity?

- A) Controlled network drops
- B) No network drops
- C) Random/uncontrolled network drops
- D) Continuous connection

The answer is – (C) Random/uncontrolled network drops

Which of the following uses point-to-point communication?

- A) Internet of Things (IoT)
- B) Machine-to-Machine (M2M) communications
- C) Cyber-Physical Systems (CPS)
- D) Web-of-Things (WoT)

The answer is – (B) Machine-to-Machine (M2M) communications

INTRODUCTION TO INTERNET OF THINGS ASSIGNMENT 01 ANSWERS

Question 06 of 15

Which of the following enables access and control over IoT resources using web technology?

- A) Machine-to-Machine (M2M) communications
- B) Cyber-Physical Systems (CPS)
- C) Web-of-Things (WoT)
- D) None of these

The answer is – (C) Web-of-Things (WoT)

Question 07 of 15

Which of the following terminologies is most suitable for cyber-physical systems in the context of IoT?

INTRODUCTION TO INTERNET OF THINGS ASSIGNMENT 01 ANSWERS

Question 03 of 15

In a typical IoT deployment, which of the following is true with respect to the cardinality of each type mentioned below?

- A) Applications > Smart Systems > Sensors
- B) Sensors > Applications > Smart Systems
- C) Smart Systems > Sensors > Applications
- D) Sensors > Smart Systems > Applications

The answer is – (D) Sensors > Smart Systems > Applications

Question 04 of 15

In the IoT connectivity layers, the service providers are responsible for which of the following services?

- A) Services
- B) Local connectivity
- C) Global connectivity
- D) None of the above

The answer is – (B) Local connectivity

Question 05 of 15

- A) Scale
- B) Autonomy
- C) Environment
- D) Synthesis

The answer is – (B) Autonomy

Question 08 of 15

The ___ is responsible for connecting the IoT LAN to a WAN and then to the internet.

- A) IoT LAN
- B) IoT Proxy
- C) IoT Node
- D) IoT Gateway

The answer is – (D) IoT Gateway

Question 09 of 15

Under Unique Local Addresses (ULA), what happens in case of unavailability of the pre-assigned local address when a device migrates from one LAN to another?

- A) Use the same local address but a different MAC address
- B) Do not allow networking to that device

C) Assign a new available local address

D) Disconnect the previously existing device

The answer is – (A) Use the same local address but a different MAC address

INTRODUCTION TO INTERNET OF THINGS ASSIGNMENT 01 ANSWERS

Question 10 of 15

Changes in network prefixes do not affect the remote anchor point to which the IoT gateways are attached.

A) True

B) False

The answer is – (A) True

Question 11 of 15

What is a device called that detects or measures a physical property?

A) Sensors

B) Actuators

C) Nodes

D) Users

The answer is – (A) Sensors

B) Local network

C) Backend Services

D) Internet

The answer is – (C) Backend Services

Question 15 of 15

Typically, how many categories (application-specific) is IoT classified into?

A) 1

B) 2

C) 3

D) 4

The answer is – (B) 2

INTRODUCTION TO INTERNET OF THINGS ASSIGNMENT 02 ANSWERS

Question 01 of 15

Concerning protocol design, which of the following category best defines WiFi, Bluetooth, and LPWAN?

A) Connectivity

B) Discovery

Question 12 of 15

Which of the following may be referred to as a transducer?

A) Sensors

B) Actuators

C) Neither sensor nor actuator

D) Both sensor and actuator

The answer is – (D) Both sensor and actuator

Question 13 of 15

Which of the following types of sensors may be identified when categorized based on output?

A) Analog

B) Scalar

C) Vector

D) Multimedia

The answer is – (A) Analog

Question 14 of 15

Which IoT component is responsible for hosting analytics on the data?

A) Things

C) Transport

D) Multi-layer framework

The answer is – (C) Transport

Question 02 of 15

Which of the following refers to data protocol?

A) MQTT

B) EPC

C) RPL

D) TR-069

The answer is – (A) MQTT

Question 03 of 15

In MQTT, who controls the publish-subscribe messaging pattern?

A) Publisher

B) Subscriber

C) Broker

D) Service provider

The answer is – (C) Broker

Question 04 of 15

In what format are the topics in MQTT updated by the broker?

- A) Packet
- B) Message
- C) Bit
- D) Signal

The answer is – (B) Message

INTRODUCTION TO INTERNET OF THINGS ASSIGNMENT 02 ANSWERS

Question 05 of 15

Which wildcard would you use for getting messages from an entire subtree of topics in MQTT?

- A) +
- B) –
- C) *
- D) #

The answer is – (D) #

Question 06 of 15

How many messaging modes does COAP have?

- A) 1

Question 09 of 15

XMPP is suitable for cloud computing deployments and does not support M2M or P2P communications.

- A) True
- B) False

The answer is – (B) False

INTRODUCTION TO INTERNET OF THINGS ASSIGNMENT 02 ANSWERS

Question 10 of 15

Which of the following is not true for XMPP?

- A) Centralized
- B) No royalties necessary
- C) Support for security
- D) Support for interoperability

The answer is – (A) Centralized

Question 11 of 15

What is the basic unit of data in the AMQP protocol?

- A) Packet
- B) Bit

- B) 2

- C) 3

- D) 4

The answer is – (D) 4

Question 07 of 15

What message request does CoAP use for updates?

- A) GET
- B) PUT
- C) PUSH
- D) DELETE

The answer is – (C) PUSH

Question 08 of 15

Which of the following is true for piggyback messages in COAP?

- A) ACK
- B) ACK+DATA
- C) CON+DATA
- D) ACK+CON

The answer is – (B) ACK+DATA

- C) Frame

- D) Segment

The answer is – (C) Frame

Question 12 of 15

Which IEEE 802.15.4 variant is used for industrial applications?

- A) D
- B) E
- C) F
- D) G

The answer is – (B) E

Question 13 of 15

What network topology is popularly used in Zigbee networks?

- A) Bus
- B) Star
- C) Mesh
- D) Ring

The answer is – (C) Mesh

Question 14 of 15

Which of the following is the root in a Zigbee network?

- A) Zigbee coordinator
- B) Zigbee router
- C) Zigbee end device
- D) Any of these

The answer is – (A) Zigbee coordinator

Question 15 of 15

In the LOADng routing protocol, who responds to the RREQ messages?

- A) Destination
- B) Relays
- C) Sensor
- D) Both destination and relays

The answer is – (A) Destination

INTRODUCTION TO INTERNET OF THINGS ASSIGNMENT 03 ANSWERS

Question 01 of 15

HART encompasses _____ number of field devices incorporated in the field.

- D) Transport

The answer is – (D) Transport

Question 04 of 15

How many channels does the wireless HART employ in the 2.4 GHz band to increase reliability?

- A) 7
- B) 14
- C) 15
- D) 21

The answer is – (C) 15

INTRODUCTION TO INTERNET OF THINGS ASSIGNMENT 03 ANSWERS

Question 05 of 15

What is the process of identifying channels that are consistently affected by interference and then removing them?

- A) Channel drop
- B) Channel blacklisting
- C) Channel avoidance
- D) Channel hopping

- A) Minimum
- B) Maximum
- C) Some
- D) Most

The answer is – (D) Most

Question 02 of 15

Owing to the available wireless protocols, which of the following is true for the implementation of wireless HART?

- A) Cheaper and easier
- B) Expensive, but easier
- C) Cheaper, but harder
- D) Expensive and harder

The answer is – (A) Cheaper and easier

Question 03 of 15

Which layer from the OSI reference model is missing in Wireless HART?

- A) Physical
- B) Data Link
- C) Network

The answer is – (B) Channel blacklisting

Question 06 of 15

Which version (wired/wireless) is the application layer in HART best suited for?

- A) Wired HART
- B) Wireless HART
- C) Neither wired nor wireless HART
- D) Does not matter

The answer is – (D) Does not matter

Question 07 of 15

What channel number in the 2.4 GHz band does HART not use?

- A) 17
- B) 26
- C) 16
- D) 21

The answer is – (B) 26

Question 08 of 15

Which of the following media access control mechanism does Zigbee use?

A) TDMA

B) FDMA

C) CDMA

D) None of the above

The answer is – (A) TDMA

Question 09 of 15

Zigbee variants such as Zigbee, Zigbee Pro, and others are not compatible with each other.

A) True

B) False

The answer is – (A) True

INTRODUCTION TO INTERNET OF THINGS ASSIGNMENT 03 ANSWERS

Question 10 of 15

Typically, what is NFC's data transmission frequency?

A) 13.56 GHz

B) 13.56 MHz

C) 2.4 GHz

D) 2.4 MHz

C) Hold

D) Park

The answer is – (D) Park

Question 14 of 15

What type of networks, in terms of range, are piconets used to refer to?

A) Long-range

B) Medium range

C) Short-range

D) Very Short range

The answer is – (C) Short-range

Question 15 of 15

The dumb behavior of the sensors is temporal in nature.

A) True

B) False

The answer is – (A) True

INTRODUCTION TO INTERNET OF THINGS ASSIGNMENT 04 ANSWERS

Question 01 of 15

The answer is – (B) 13.56 MHz

Question 11 of 15

Bluetooth ad-hoc networks are also referred to as ad-hoc piconets.

A) True

B) False

The answer is – (B) False

Question 12 of 15

Which class of Bluetooth devices supports a range of 10 meters or 30 feet?

A) Class 1

B) Class 2

C) Class 3

D) Class 4

The answer is – (B) Class 2

Question 13 of 15

Under which mode does a Bluetooth device remain inactive until the master tells it to wake up?

A) Active

B) Sniff

Choose the appropriate answer about the parameter that the sensor detects:

A) Passive Infrared: Detect object, Ultrasonic: Distance

B) Passive Infrared: Distance, Ultrasonic: Detect object

C) Passive Infrared: Color, Ultrasonic: Detect sound

D) Passive Infrared: Detect sound, Ultrasonic: Color

The answer is – (A) Passive Infrared: Detect object, Ultrasonic: Distance

Question 02 of 15

In typical wireless multimedia sensor network deployments, what is the relation between the number of cameras (C) and scalar sensors (S)?

A) $S < C$

B) $S > C$

C) $S = C$

D) None of the above

The answer is – (C) $S = C$

Question 03 of 15

Which of the following represents nanoscale?

A) 10^{12}

B) 10^{-12}

C) 10^{-9}

D) 10^9

The answer is – (C) 10^{-9}

Question 04 of 15

In molecular communications, what works as a mediator between cells and vesicles?

A) Dendrite

B) Axon

C) Nucleus

D) Gap junction

The answer is – (D) Gap junction

INTRODUCTION TO INTERNET OF THINGS ASSIGNMENT 04 ANSWERS

Question 05 of 15

Typically, what frequency range does the nano nodes in a nano network operate/communicate?

A) THz

B) GHz

C) MHz

Fill in the blank:

Coverage algorithms are centralized ____ decentralized ____ localized

A) and, and

B) and, or

C) or, and

D) or, or

The answer is – (C) or, and

Question 09 of 15

The main objective of coverage in networking is to increase the lifetime of the network with the maximum number of sensor nodes in an area.

A) True

B) False

D) The answer is – (B) False

INTRODUCTION TO INTERNET OF THINGS ASSIGNMENT 04 ANSWERS

Question 10 of 15

In the given diagram, if the nodes have the same sensing range (r_s), what is the distance between them in case of optimal coverage?

A) r_s

D) $2r_s$

The answer is – (A) r_s

Question 06 of 15

Which of the following relations is necessary for establishing that coverage implies connectivity?

A) Transmission range $> 2 \times$ sensing range

B) Transmission range $\geq 2 \times$ sensing range

C) Transmission range $< 2 \times$ sensing range

D) Transmission range $\leq 2 \times$ sensing range

The answer is – (B) Transmission range $\geq 2 \times$ sensing range

Question 07 of 15

In sensor networks, how many types of reporting exists?

A) 1

B) 2

C) 3

D) 4

The answer is – (C) 3

Question 08 of 15

B) $3 r_s$

C) $\sqrt{3} r_s$

D) $\sqrt{2} r_s$

The answer is – (C) $\sqrt{3} r_s$

Question 11 of 15

Sensor nodes are capable of collaborating with one another.

A) True

B) False

The answer is – (A) True

Question 12 of 15

What device is responsible for collecting data from the sensor nodes and deliver it to sink nodes?

A) Sensor nodes

B) User devices

C) Data mules

D) Relays

The answer is – (C) Data mules

Question 13 of 15

In UAV networks, what topology requires one node from each group to connect to the ground base station?

- A) star
- B) Multi star
- C) Hybrid star
- D) Hierarchical star

The answer is – (B) Multi star

Question 14 of 15

In UAV networks, what topology supports multi-point to multi-point communications?

- A) Bus
- B) Star
- C) Ring
- D) Mesh

The answer is – (D) Mesh

Question 15 of 15

M2M is a peer-to-peer networking paradigm and does not support cross-platform communications.

- A) True

The answer is – (A) UMB Adaptor

Question 03 of 15

Which UMB interoperability component is responsible for routing the metadata messages to the destinations or other intermediate devices?

- A) UMB Adaptor
- B) UMB Core
- C) UMB Hypervisor
- D) UMB Hypervisor

The answer is – (B) UMB Core

Question 04 of 15

What does the routing component in UMB use for routing the metadata messages?

- A) Flow Table
- B) Routing Table
- C) Middleware Routing Table
- D) Middleware Flow Table

The answer is – (C) Middleware Routing Table

INTRODUCTION TO INTERNET OF THINGS ASSIGNMENT 05 ANSWERS

- B) False

The answer is – (B) False

INTRODUCTION TO INTERNET OF THINGS ASSIGNMENT 05 ANSWERS

Question 01 of 15

What interoperability solution approach creates virtual maps among the physical devices of all middleware home networks?

- A) Universal Middleware Hub
- B) Universal Middleware Router
- C) Universal Middleware Bridge
- D) Universal Middleware Gateway

The answer is – (C) Universal Middleware Bridge

Question 02 of 15

Which UMB interoperability component is responsible for converting physical devices into virtually abstracted ones?

- A) UMB Adaptor
- B) UMB Core
- C) UMB Hypervisor
- D) UMB Hypervisor

Question 05 of 15

What type of input signals does an Arduino accept?

- A) Analog
- B) Digital
- C) Neither analog nor digital
- D) Both analog and digital

The answer is – (D) Both analog and digital

Question 06 of 15

What external hardware module is necessary for loading the programs into an Arduino board?

- A) ESP8266
- B) ESP32
- C) ESP12e
- D) None of these

The answer is – (D) None of these

Question 07 of 15

In the Arduino shown, what is A?



- A) USB connector
- B) Power connector
- C) Ethernet LAN connector
- D) Analog reference

The answer is – (A) USB connector

Question 08 of 15

What is a program written in Arduino called?

- A) Stretch
- B) Snippet

The answer is – (C) isHexadecimalDigit(Char)

Question 11 of 15

In Arduino, what function is used to manipulate time or induce delays?

- A) sleep()
- B) timer()
- C) delay()
- D) stop()

The answer is – (C) delay()

Question 12 of 15

Choose the right option for the if/conditional operator.

- A) Val = (condition)?(Statement 1):(Statement 2)
- B) Val= (condition)? (Statement 2):(Statement 1)
- C) Val = (condition): (Statement 1)?(Statement 2)
- D) Val= (condition): (Statement 2)?(Statement 1)

The answer is – (A) Val = (condition)?(Statement 1):(Statement 2)

Question 13 of 15

What is a loop inside a loop called?

- A) Loop

- C) Service

- D) Sketch

The answer is – (D) Sketch

Question 09 of 15

Which function in Arduino is analogous to the main() function in C/C++?

- A) setup()
- B) loop()
- C) _init_0
- D) main()

The answer is – (A) setup()

INTRODUCTION TO INTERNET OF THINGS ASSIGNMENT 05 ANSWERS

Question 10 of 15

In Arduino, what function is used to find if a character is hexadecimal?

- A) ishexdigit(Char)
- B) isxdigit(Char)
- C) isHexadecimalDigit(Char)
- D) ishex(Char)

- B) Infinite loop

- C) Nested loop

- D) Recursive loop

The answer is – (C) Nested loop

Question 14 of 15

What function is useful for generating the same set of random numbers every time a program is run?

- A) randomgen()
- B) randomint()
- C) randomseed()
- D) constrandom()

The answer is – (C) randomseed()

Question 15 of 15

How many types of interrupts are possible in an Arduino?

- A) 1
- B) 2
- C) 3
- D) 4

The answer is – (B) 2

INTRODUCTION TO INTERNET OF THINGS ASSIGNMENT 06 ANSWERS

Question 01 of 15

In Python programming, what is used to indicate the different blocks of code?

- A) Curly braces
- B) Indentation
- C) Square brackets
- D) First brackets

The answer is – (B) Indentation

Question 02 of 15

How many data types does Python support?

- A) 3
- B) 4
- C) 5
- D) 6

The answer is – (C) 5

- A) void
- B) int
- C) def
- D) float

The answer is – (B) int

Question 06 of 15

What are variables that are declared and have their scope within a function in python called?

- A) Global variable
- B) Local variable
- C) Hierarchical variable
- D) Dangling variable

The answer is – (B) Local variable

Question 07 of 15

Which of the following arguments is used for both file read and write operations in python?

- A) r+
- B) r-
- C) r*

Question 03 of 15

What is the keyword for else if condition in Python?

- A) else if
- B) else
- C) elseif
- D) elif

The answer is – (D) elif

Question 04 of 15

What is the keyword for ending the current iteration of a loop and start a new iteration?

- A) break
- B) continue
- C) exit
- D) stop

The answer is – (B) continue

INTRODUCTION TO INTERNET OF THINGS ASSIGNMENT 06 ANSWERS

Question 05 of 15

How are functions with return values defined in python?

- D) r#

The answer is – (A) r+

Question 08 of 15

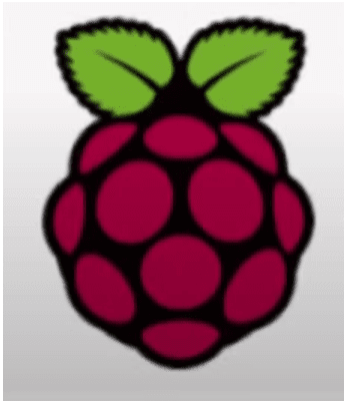
Which of the following communication modules does a Raspberry Pi device support?

- A) Ethernet
- B) WiFi
- C) Bluetooth
- D) All of these

The answer is – (D) All of these

Question 09 of 15

What does this image represent?



- A) Arduino
- B) Lilypad
- C) Raspberry pi
- D) NodeMCU

The answer is – (C) Raspberry pi

INTRODUCTION TO INTERNET OF THINGS ASSIGNMENT 06 ANSWERS

Question 10 of 15

For enabling a raspberry pi camera, which options to select after raspi-config?

The answer is – (C) PIN 3

Question 13 of 15

For a downloaded python library in raw format (like Github for instance), what is the python command to install the package in the raspberry pi terminal?

- A) sudo python setup.py install
- B) sudo python install setup.py
- C) sudo install python setup.py
- D) sudo setup.py python install

The answer is – (A) sudo python setup.py install

Question 14 of 15

What is the linux command for listing contents of a folder/directory?

- A) dir
- B) ls
- C) mkdir
- D) cd

The answer is – (B) ls

Question 15 of 15

True or False?

- A) Boot options
- B) Interfacing options
- C) Advanced options
- D) Localization options

The answer is – (B) Interfacing options

Question 11 of 15

In Raspberry pi, what is the command for capturing an image?

- A) raspicapture
- B) raspicam
- C) raspisnap
- D) raspistill

The answer is – (D) raspistill

Question 12 of 15

In a DHT22 sensor, which pin number gives NULL?

- A) PIN 1
- B) PIN 2
- C) PIN 3
- D) PIN 4

The Raspberry Pi device supports only the Raspbian OS.

- A) True
- B) False

The answer is – (B) False

INTRODUCTION TO INTERNET OF THINGS ASSIGNMENT 07 ANSWERS

Question 01 of 15

On what basis is SDN network management simplified?

- A) Device
- B) Network
- C) Traffic
- D) Flow

The answer is – (A) Device

Question 02 of 15

Which of the following is not a component of policies in SDN?

- A) Controller
- B) Gateway
- C) Orchestration

D) Service logic

The answer is – (B) Gateway

Question 03 of 15

Which of the following layers in the SDN architecture is responsible for rule placement and traffic engineering at the backbone networks?

A) Constrained node networks

B) Intelligent aggregation

C) Transport Network

D) IoT network

The answer is – (C) Transport Network

Question 04 of 15

Fill in the blank:

The Soft-WSN method increases the packet delivery ratio as well as

A) Data packets

B) Control packets

C) Replicated packets

D) Fragmented packets

The answer is – (B) Control packets

A) Southbound API

B) Northbound API

C) East-Westbound API

D) None of these

The answer is – (A) Southbound API

Question 08 of 15

Fill in the blank:

Controllers in SDN receive requests from the

A) End users

B) Gateways

C) Switches

D) Routers

The answer is – (C) Switches

Question 09 of 15

How many deployment architectures are possible in SDN?

A) 1

B) 2

C) 3

INTRODUCTION TO INTERNET OF THINGS ASSIGNMENT 07 ANSWERS

Question 05 of 15

Which of the following programming languages does SDN-WISE use for programming the nodes?

A) C/C++

B) Python

C) Java

D) Any programming language

The answer is – (A) Any programming language

Question 06 of 15

In the SDN-WISE protocol stack, which layer contains the flow rules?

A) Forwarding layer

B) Routing layer

C) Topology manager

D) Emulated node

The answer is – (A) Forwarding layer

Question 07 of 15

Which of the following APIs in SDN uses OpenFlow protocol?

D) 4

The answer is – (C) 3

INTRODUCTION TO INTERNET OF THINGS ASSIGNMENT 07 ANSWERS

Question 10 of 15

Among centralized and distributed systems, which of them may be considered as unstable?

A) Centralized

B) Distributed

C) Neither centralized nor distributed

D) Cannot be determined

The answer is – (A) Centralized

Question 11 of 15

Which of the following types of controller does Mininet support?

A) Remote controller

B) Local controller

C) Neither remote nor local controller

D) Both remote and local controller

The answer is – (D) Both remote and local controller

Question 12 of 15

Which of the following effects the performance of SDN?

- A) Rule placement
- B) Controller placement
- C) Neither rule nor controller placement
- D) Both rule and controller placement

The answer is – (D) Both rule and controller placement

Question 13 of 15

SDN helps in separating the data and control planes. However, it also provides provisions to interact with the application layer.

- A) True
- B) False

The answer is – (A) True

Question 14 of 15

Under what condition may the SDN network be congested with PACKET-IN messages?

- A) Large number of SDN controllers
- B) Fewer number of SDN controllers
- C) Does not matter

A signal with power 3 mW is distorted by noise with power 0.001 mW and interference of 0.003 mW. What is the signal to interference plus noise ratio (SINR) in dB?

- A) 38.75
- B) 3.875
- C) 28.75
- D) 2.875

The answer is – (C) 28.75

Question 03 of 15

In ODIN, which of the following components are placed on the physical devices?

- A) Odin agent
- B) Odin master
- C) Either Odin agent or Odin master
- D) Neither Odin agent nor Odin master

The answer is – (A) Odin agent

Question 04 of 15

In ODIN, which of the following is responsible for assigning light virtual access points to the clients?

- A) Odin agent

D) SDN network does not get congested

The answer is – (B) Fewer number of SDN controllers

Question 15 of 15

True or False?

The OpenFlow protocol supports Flow Rules in any format.

- A) True
- B) False

The answer is – (A) False

INTRODUCTION TO INTERNET OF THINGS ASSIGNMENT 08 ANSWERS

Question 01 of 15

True or False?

Although SDN and OpenFlow have their own data packet routing methods, they are dependent on core routing policies.

- A) True
- B) False

The answer is – (B) False

Question 02 of 15

B) Odin master

C) Either Odin agent or Odin master

D) Neither Odin agent nor Odin master

The answer is – (C) Either Odin agent or Odin master

INTRODUCTION TO INTERNET OF THINGS ASSIGNMENT 08 ANSWERS

Question 05 of 15

Which of the following terms refers to the network decomposition into relatively independent subnets for independent operations and optimization?

- A) Network partitioning
- B) Network matching
- C) Load balancing
- D) Fault tolerance

The answer is – (A) Network partitioning

Question 06 of 15

Compared to conventional methods, which of the following does the Mobi-Flow method help in reducing?

- A) Message overhead
- B) Energy consumption

C) Both message overhead and energy consumption

D) Neither message overhead nor energy consumption

The answer is – (C) Both message overhead and energy consumption

Question 07 of 15

In data center networking, when should the flows be classified for adequately forwarding them on the network?

A) Before inserting the flow rules

B) On inserting the flow rules

C) After inserting the flow rules

D) None of these

The answer is – (A) Before inserting the flow rules

Question 08 of 15

Which of the following consists of homogeneous computing nodes?

A) Cloud computing

B) Utility computing

C) Grid computing

D) Cluster computing

The answer is – (D) Cluster computing

In cloud computing, which of the following components contains SaaS?

A) Application

B) Platform

C) Storage

D) Infrastructure

The answer is – (A) Application

Question 12 of 15

Which of the following helps in executing consumer-created or acquired applications onto cloud infrastructure?

A) SaaS

B) PaaS

C) IaaS

D) None of these

The answer is – (B) PaaS

Question 13 of 15

The public cloud provides more security than the private cloud.

A) True

B) False

Question 09 of 15

According to NIST, how many essential characteristics exist in the cloud computing model?

A) 3

B) 4

C) 5

D) 6

The answer is – (C) 5

INTRODUCTION TO INTERNET OF THINGS ASSIGNMENT 08 ANSWERS

Question 10 of 15

Which of the following features in cloud computing refers to rapid and automatic resource allocation?

A) Resource pooling

B) Measured service

C) On-demand service

D) Rapid Elasticity

The answer is – (D) Rapid Elasticity

Question 11 of 15

The answer is – (B) False

Question 14 of 15

Which of the following cloud computing models does AWS EC2 belong to?

A) IaaS

B) PaaS

C) SaaS

D) None of these

The answer is – (A) IaaS

Question 15 of 15

Which of the following must include both private and public clouds?

A) Multicloud

B) Hybrid cloud

C) Public cloud

D) All of the above

The answer is – (B) Hybrid cloud

INTRODUCTION TO INTERNET OF THINGS ASSIGNMENT 09 ANSWERS

Question 01 of 15

How many components does the OpenStack Horizon dashboard consist of?

- A) 7
- B) 8
- C) 9
- D) 10

The answer is – (B) 8

Question 02 of 15

Which of the following components is responsible for providing Identity service in OpenStack?

- A) Nova
- B) Ceilometer
- C) Keystone
- D) Neutron

The answer is – (C) Keystone

Question 03 of 15

- B) ssh-key
- C) ssh-genkey
- D) ssh-keygen

The answer is – (B) ssh-key

Question 06 of 15

Which of the following methods are used for encrypting the communications in Secure Shell Protocol (SSH)?

- A) Symmetric
- B) Asymmetric
- C) Hashing
- D) All of the above

The answer is – (D) All of the above

Question 07 of 15

In a sensing environment, when do the sensor nodes consume unnecessary energy?

- A) Rapidly changing environment
- B) Slow changing environment
- C) Change in the environment does not matter
- D) None of the above

What is the function of Neutron in OpenStack?

- A) Identity service
- B) Object storage
- C) Networking service
- D) Billing

The answer is – (C) Networking service

Question 04 of 15

For uninstalling OpenStack, which file in the devstack directory should be executed?

- A) stack.sh
- B) unstack.sh
- C) uninstall_stack.sh
- D) detach.sh

The answer is – (B) unstack.sh

INTRODUCTION TO INTERNET OF THINGS ASSIGNMENT 09 ANSWERS

Question 05 of 15

What is the command (Linux) for generating a public/private authentication key pair?

- A) keygen

The answer is – (B) Slow changing environment

Question 08 of 15

Which of the following caches are responsible for handling requests from the application layer?

- A) Internal cache
- B) External cache
- C) Either internal or external cache
- D) Neither internal nor external cache

The answer is – (D) Neither internal nor external cache

Question 09 of 15

What is responsible for dealing with the usage of physical sensor nodes for pricing in the sensor cloud?

- A) pH
- B) pI
- C) pS
- D) pHI

The answer is – (A) pH

INTRODUCTION TO INTERNET OF THINGS ASSIGNMENT 09 ANSWERS

Question 10 of 15

In a group of fog nodes, if one is selected at random for task offloading, the probability that it accepts the task is 0.6, and the probability that it accepts and completes the task is 0.3. If a fog node that accepts the task is selected at random, what is the probability that it completes the execution?

- A) 0.2
- B) 0.3
- C) 0.4
- D) 0.5

The answer is – (B)

Question 11 of 15

The fog computing platform is not a replacement for the cloud. It is only used to enhance the performance of the cloud.

- A) True
- B) False

The answer is – (A) True

Question 12 of 15

Typically, what type of storage is generally offered by fog nodes?

- A) Transient
- B) Permanent
- C) Historical analysis

Which of the following is true for fog nodes?

- A) Mobile
- B) Static
- C) Maybe mobile or static
- D) None of the above

The answer is – (C) Maybe mobile or static

INTRODUCTION TO INTERNET OF THINGS ASSIGNMENT 11 ANSWERS

Question 01 of 15

What is a cyber-physical system equipped with sustainable models of energy production, distribution, and usage?

- A) Information and communication technology
- B) Grid
- C) Smart grid
- D) Traditional grid

The answer is – (C) Smart grid

Question 02 of 15

In traditional electrical grids, which of the following is done manually?

- D) All of the above

The answer is – (A) Transient

Question 13 of 15

In the fog computing architecture, which of the following devices sends a summary to the cloud for historical analysis and storage?

- A) End-user devices
- B) Fog node
- C) Aggregate fog node
- D) All of these

The answer is – (D) All of these

Question 14 of 15

Choose the correct option for geographical coverage.

- A) Fog node: Very local, Fog aggregator node: Global, Cloud: Wider
- B) Fog node: Wider, Fog aggregator node: Very local, Cloud: Global
- C) Fog node: Very local. Fog aggregator node: Wider, Cloud: Global
- D) Fog node: Global, Fog aggregator node: Very local, Cloud: Wider

The answer is – (C) Fog node: Very local. Fog aggregator node: Wider, Cloud: Global

Question 15 of 15

- A) Monitoring
- B) Restoration
- C) Both monitoring and restoration
- D) Neither monitoring nor restoration

The answer is – (C) Both monitoring and restoration

Question 03 of 15

Which of the following is true for communications in smart grids?

- A) One-way communication
- B) Two-way communication
- C) Three-way communication
- D) Four-way communication

The answer is – (B) Two-way communication

Question 04 of 15

True or False?

Smart grids help the customers in reducing their power/electricity costs.

- A) True
- B) False

The answer is – (A) True

INTRODUCTION TO INTERNET OF THINGS ASSIGNMENT 11 ANSWERS

Question 05 of 15

Typically, smart grid benefits which of the following participants?

- A) Consumers
- B) Service providers
- C) Stakeholders
- D) All of these

The answer is – (D) All of these

Question 06 of 15

What time is best suitable for running smart devices in order to reduce electricity bills?

- A) Peak hours
- B) On-peak hours
- C) Off-peak hours
- D) Does not matter

The answer is – (C) Off-peak hours

Question 07 of 15

True or False?

INTRODUCTION TO INTERNET OF THINGS ASSIGNMENT 11 ANSWERS

Question 10 of 15

Which of the following best represents Industrial Internet of Things?

- A) Consumer IoT
- B) Enterprise IoT
- C) Industry 4.0
- D) None of the above

The answer is – (C) Industry 4.0

Question 11 of 15

True or False?

IIoT includes Machine-to-Machine communications.

- A) True
- B) False

The answer is – (A) True

Question 12 of 15

Fill in the blank:

IIoT is based on _____ approach.

- A) Wrap and re-use

Smart grids offer homogeneous pricing options to the customers.

- A) True
- B) False

The answer is – (B) False

Question 08 of 15

Which of the following properties in smart grids covers load forecasting?

- A) Power system efficiency
- B) Distributed generation
- C) Power quality
- D) Consumer participation

The answer is – (C) Power quality

Question 09 of 15

Which of the following best represents the relation between IoT, IIoT, and Industry 4.0?

- A) $\text{IoT} = \text{IIoT} = \text{Industry 4.0}$
- B) $\text{IIoT} = \text{IoT} + \text{Industry 4.0}$
- C) $\text{IIoT} = \text{IoT and Industry 4.0}$
- D) $\text{IIoT} = \text{IoT} \cup \text{Industry 4.0}$

The answer is – (B) IIoT IoT and Industry 4.0

- B) Rip and replace
- C) Wrap and replace
- D) Rap and re-use

The answer is – (A) Wrap and re-use

Question 13 of 15

Which of the following may be used to describe IIoT?

- A) Mechanized production
- B) Mass production
- C) Internet evolution and automation
- D) None of these

The answer is – (C) Internet evolution and automation

Question 14 of 15

Typically, how many types of data exist?

- A) 1
- B) 2
- C) 3
- D) 4

The answer is – (B) 2

Question 15 of 15

Which of the following V's in big data refers to the quantity of data that is generated?

- A) Volume
- B) Velocity
- C) Veracity
- D) Value

The answer is – (A) Volume