BRAINWARE UNIVERSITY

Term End Examination 2023-2024
Programme – B.Tech.(RA)-2021
Course Name – IoT Application Development on Cloud
Course Code - PCC-ECR601
(Semester VI)

Full Marks : 60   **Time : 2:30 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)   1 x 15=15

1. *Choose the correct alternative from the following :*

(i) Bluetooth is the wireless technology for _____
   a) Local Area Network   b) Metropolitan Area Network
   c) Personal Area Network   d) Wide Area Network

(ii) Video surveillance as a service comes under
   a) Smart logistics   b) Smart agriculture
   c) Smart surveillance system   d) None of these

(iii) Name the protocol is being used in IoT?
   a) MQMT   b) CoAP
   c) HTTP   d) All of these

(iv) Identify, what does HTTP do?
   a) Enables network resources and reduces perception of latency
   b) Reduces perception of latency and allows multiple concurrency exchange
   c) Allows multiple concurrent exchange and enables network resources.
   d) Enables network resources and reduces perception of latency and Allows multiple concurrent exchange

(v) OSI Model has how many layers?
   a) 2   b) 3
   c) 5   d) 7

(vi) Discover the another name of Smart Home?
   a) Future Home   b) Home automation
   c) Green Home   d) New Home

(vii) Choose, who will use their own IoT business models?
   a) PaaS   b) SaaS
   c) IoT Service Provider   d) IaaS

(viii) Select, which of the following is false about IoT devices?

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a) IoT devices use the internet for collecting and sharing data
b) IoT devices need microcontrollers
c) IoT devices use wireless technology
d) IoT devices are completely safe

(ix) Write, Which of the following is not a fundamental component of an IoT system?

a) Sensors
b) Connectivity and data processing
c) User interface
d) Transformer

(x) Write, which of the following is used to capture data from the physical world in IoT devices?

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

(xi) Write, What IoT collects?

a) Device data
b) Machine generated data
c) Sensor data
d) Human generated data

(xii) Predict which second programming language did Google add for App Engine development?

a) C++
b) Java
c) Flash
d) Visual Basic

(xiii) Relate, Wwhich architectural component manages device authentication in IoT applications?

a) Edge node
b) Gateway
c) Cloud server
d) Protocol stack

(xiv) Identify, Which of the following is NOT a typical IoT application in healthcare?

a) Remote patient monitoring
b) Smart pill dispensers
c) Autonomous vehicles
d) Wearable health trackers

(xv) Identify the term Data Residency refer to in Cloud Computing.

a) The practice of storing data in multiple locations for redundancy
b) The legal or regulatory requirement for data to be stored in a specific geographic location or jurisdiction
c) The speed at which data can be accessed and processed in the cloud
d) The encryption of data during transmission

Group-B
(Short Answer Type Questions)

3 x 5=15

2. State the main purpose of using cloud computing. (3)
3. Apply sensor devices in IoT. (3)
4. Apply the advantages of using Python for developing IoT project. (3)
5. Express the meaning of "Things" in IoT. (3)
6. Analyze the security benefits of cloud computing. (3)

OR

Appraise the technologies for Data Security in Cloud Computing. (3)

Group-C
(Long Answer Type Questions)

5 x 6=30

7. Describe the evolution of IOT. (5)
8. Conclude the major challenges associated with the use of operating systems in IoT applications, and how can developers overcome these challenges to build robust and scalable IoT solutions? (5)
9. Explain physical and cyber security protection requirements needed at cloud data centers. (5)

10. Examine the features of Grid computing. (5)

11. Analyze the following cloud SLA provided by a CSP : The cloud guarantees service (5)
availability for 98% of time. Let a third party application runs in the cloud for 12 hrs/day. At
the end of 1 month, it was found that total outage time is 10.50 hrs. Find out whether the
provider has violated the initial availability guarantee.

12. Compare among different security attacks found in cloud computing environments. (5)

OR

Analyze the mechanisms used for secure data transmission in cloud ? (5)

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