15956

BRAINWARE UNIVERSITY

Term End Examination 2025-2026
Programme – Dip.RA-2023
Course Name – Introduction to IOT
Course Code - ECPE501B
(Semester V)

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) Identify the full form of IoT.
a) Internet of Technology b) Incorporate of Things
c) Internet of Things d) Incorporate of Technology

(ii) select, which of the following is not an application of IoT.
a) BMP280 b) Smart home
c) Smart city d) Self-driven cars

(iii) Explain the following that is used to capture data from the physical world in IoT devices.
a) Sensors b) Actuators
c) Microprocessors d) Microcontrollers

(iv) Choose the following that is used to reprogram a Bootloader in IoT devices
a) VHDL programming b) IDE
c) ICSP d) MANET

(v) Determine the library that is used to access I2C in Arduino IoT devices.
a) EEPROM b) Wire
c) DHT11 d) ArduinoJson

(vi) The security measure involves restricting communication to and from IoT devices based on predefined rules is
a) Firewall protection b) Encryption
c) Two-factor authentication d) Intrusion detection system

(vii) MQTT is mainly used for _____
a) M2M communication b) Device communication
c) Internet communication d) Wireless communication

(viii) The key components of a M2M system is
a) Vortex DDS b) Smart Homes
c) Sensors and Wi-Fi d) Protocols

(ix) _____ protocol is lightweight.

a) MQTT b) CoAP
c) HTTP d) SPI

(x) _____ specifies the function that will be called when there is a new message received from the channel

a) Error b) Reconnect
c) Callback d) Connect

(xi) Choose the level which is the network layer in the OSI model

a) Third level b) Fourth level
c) Second level d) Fifth layer

(xii) The network layer is considered as the _____ of the network layer.

a) packets b) Backbone
c) bits d) bytes

(xiii) Network layer protocol exits in _____

a) Switches b) Bridges
c) Host d) Packets

(xiv) The network layer responds to request from _____ layer.

a) Data layer b) Session layer
c) Transport layer d) Application layer

(xv) The design of the Internet protocol suites adhere to the _____ principle.

a) Data corruption b) End to End principle
c) Connection oriented d) Reliability

Group-B

(Short Answer Type Questions) 3 x 5=15

2. Define Global Value Chain. (3)

3. Describe the method IoT devices uses to communicate with each other. (3)
4. Name some of the latest trends in IoT technology. (3)
5. Distinguish between the Two Pillars of the Web in the context of WoT. (3)
6. Estimate the impact of standardization on the development of WoT architecture. (3)

OR

Evaluate the importance of using unified multitier architecture in WoT systems. (3)

Group-C

(Long Answer Type Questions) 5 x 6=30

7. Explain Advantages of IOT. (5)

8. Explain the applications of IoT. (5)
9. Analyze the role of MQTT in IoT communication compared to other protocols. (5)
10. Explain the role of RFID in IoT systems. (5)
11. Compare between tcp/ip and osi model. (5)
12. Decide whether Smart Applications are suitable for small-scale industries, and provide supporting arguments. (5)

OR

Evaluate the effectiveness of existing IoT middleware solutions in addressing the challenges of industrial IoT applications. (5)

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