FAQ

Que: How many units are coming in CT-2

Ans: Unit 2, 3 & 5

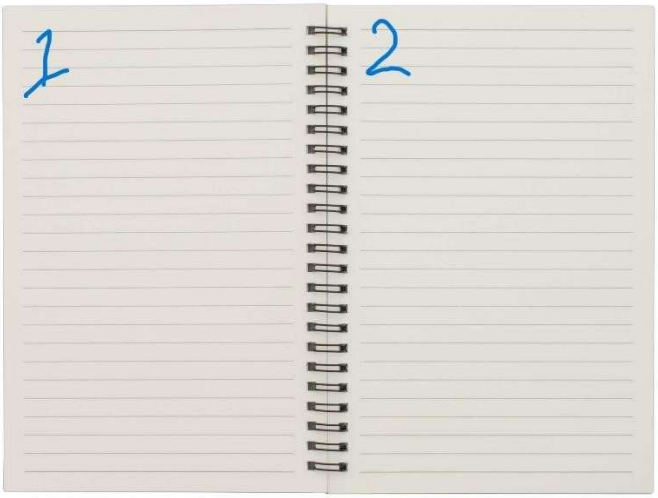
Que: Where we can get the notes for writing answers

Ans: Refer Book that I have already provided or you can refer my notes

Que: How long should be the answer written

Ans: For 8 marks you should fill 3 pages, and for 4 marks 1 and a half page. Include diagram where it's necessarily.

Que: What is meant by 3 pages for answer writing Ans:



NOTE:

- **These questions are for reference purpose**
- **The questions which are highlighted must be your top priority for preparing**
- **Don't be dependent on question bank, prepare for exam apart from given question provided in question bank, always refer syllabus**

Syllabus

Unit 1: Introduction to Internet of Things: Origin of Terminology IoT, Applications of IoT, Characteristics, Implementation Issues, IoT Architecture, IoT Levels, Connectivity Layers, Interoperability in IoT, associated technologies with IoT (M2M, Telemedicine, Big Data, Cloud,
Smart Grid, IoV, MANET, VANET, CPS, SDN, 3G/4G/5G), Challenges in IoT, IoT vs WoT, IoT vs M2M, IoT Network Configurations

Unit 2: Connectivity: IoT Network Configurations, Gateway Prefix Allotment, Gateways , Multi-homing , IPv4, IPv6, IPv4 versus IPv6, RPL Data Protocol: MQTT, CoAP, AMQP, DDS, XMPP.

Communication Protocols: IEEE Standards 802.3, 802.11 and 802.15 and their versions, Z Wave, Bluetooth, ZigBee, 6LowPAN, HART and Wireless HART, NFC, RFID, Software Defined Networking

Unit 3: Sensors: Definition, Property of Sensors, Types of sensors:- Transducers, Temperature Sensors, Humidity Sensors. Pressure Sensors. Proximity Sensors. Level Sensors. Accelerometers. Gyroscope. Gas Sensors. etc., Sensors Classes

Actuation: Actuator, Actuator Types :- Hydraulic Pneumatic, Electrical, Thermal/ Magnetic, Mechanical, Soft Actuators, Shape memory polymer (SMP) Types of Motor Actuators and their working- Servo motor, Stepper motor, Hydraulic motor, Solenoid Relay, AC motor

Unit 4: Introduction to Arduino Programming: Operators in Arduino, Control Statement, Loops, Arrays, String, Math Library, Random Number, Interrupts, Integration and calibration of Sensors and Actuators with Arduino:
Implementation of IoT: Introduction to Arduino and NodeMCU (ESP8266) board, Programming
NodeMCU using Arduino, Connectivity of Sensors and Actuators with NodeMCU, Introduction to
Python programming, Introduction to Raspberry PI

Unit 5: Cloud Computing Fundamentals: Recent Trends in Computing, Evolution of Cloud Computing, Evolution of Cloud Computing, Business Advantages, Components
Service Models: Software-as-a-Service(SaaS), Platform-as-a-Service (PaaS), Infrastructureas-aService (IaaS), Multi-cloud, Inter-cloud, Cloud Computing Service Management and Security,
Case studies: Open stack, Microsoft Azure, Amazon Elastic Compute Cloud (EC2)

UNIT 1

1 Describe IOT architectural view in details?

2. What are the differences between machines in M2M and things in IOT?

3. Why do IOT system have to be self-adapting and self-configuring?

4. Write application of IOT?

5.Discuss are of development and standardizations in IOT?

6. What do you understand by IOT? Explain any five areas of IOT.

7. Explain characteristics of IOT also write advantage and disadvantages of IoT

8. What component required to design IOT device and which device we called IoT devices? Explain with example

9.Describe IoT reference to architecture and information model

10. Draw and explain IoT level 3 and level 4 systems. Give example for them

11. What is IoT? Describe in detail about IoT ecosystem

12. Discuss 5'V of Big data

13 What are advantage and disadvantage of IoT

14. What is Web of Things, Difference between Web of Things(WoT) and IOT

13. Short note on

M2M

IOV

Big Data

WoT

14. Write an introductory note on Internet of things

15. Describe history of IOT

16. Why do IoT system have to be self-adopting and self-configuring

17. Discuss the conceptual and logical framework of IoT

19. Explain in detail about physical design of IoT

20. Discuss area of development and standardization in internet of things

21. What do you understand by Internet of Things? Explain any five area of IoT

22. What is M2M, explain M2M system architecture

23. Write down the difference between M2M and IoT

24. Explain software defined networking. Is SDN is a matured technology

25. How WoT is related with IoT

26. Discuss about the Web of things architecture, also write its benefits

UNIT 2

1. Define Internet protocol, also write short note on IPv4 and IPv6
2. What are the limitation of IPv4 also explain in brief about Internet protocol version 4
3. List out various advanced features of IPv6 as compare to IPv4
4. Difference IPv4 vs IPv6
5. What is general format of an IPv6 datagram
6. Write short note on DNS with respect to IoT
7. Discuss about the IoT service-oriented architecture with diagram
8. Explain in brief about 6LoWPAN, also write its feature
9. Write a brief description of IEEE standard with principle
10. Explain IEEE 802 standards for LAN
11. What is IEEE 802.15 with its different version
12. What is ZigBee and its type, also write ZigBee characteristic
13. Describe Zigbee architecture in detail
14. Explain the term media access control
15. Write short note on RFID, provide an example to define radio frequency identification
16. How does RFID work? Explain
17. Define NFC and its application Or
    Explain Near Field Communication
18. Explain architecture of Bluetooth network, Discuss various application of Bluetooth network
19. Discuss the protocol architecture of Bluetooth
20. What is MQTT and give its advantage
21. Explain in detail about the architecture of MQTT
22. Write short note on CoAP, also describe its architecture of CoAP protocol
23. Write short note on XMPP with its feature, advantage and disadvantages
24. Write short note of
    1. HART and wireless HART
    2. AMQP
    3. Gateway

UNIT 3

1. What are sensors
   Or
   What is sensor technology
2. Explain the concept of sensor node architecture
3. What are the features of sensor
4. What do you mean by sensor resolution
5. Name different sensor classes
6. How an analog sensor works also write how a digital sensor work
7. Discuss the working of capacitive sensor
8. Discuss the use of sensor for measurement of various parameter
9. Explain the working of accelerometer, gyroscope
10. Write short note on

    1. Scalar sensor
    2. Vector sensor
11. Discuss the role of sensor in IoT. Explain various type of sensor
12. What is an actuator? Discuss some examples involving application of actuator Or Write short note on actuator
13. Define electronic sensors and actuator in detail
14. Explain various type of actuator
15. Discuss the building blocks of IoT. What are the most used sensors types in IoT
16. Write short note on
    1. Shape memory polymer (SMP)
    2. Solenoid relay
    3. AC motor
    4. Transducer

UNIT 4

1. Mention the versions of linux OS supported by Raspberry pi
2. Explain different operators used in Arduino
3. Explain features of ESP8266 (Node mcu) with suitable pin diagram
4. Explain Raspberry pi in detail with components parts and architecture diagram
5. Explain characteristics of python programming language
6. Write down an Arduino program to blink inbuilt LED of Arduino board. Use this program to explain the basic structure and functions used in Arduino programming
7. What do you mean by interoperability in IOT? What can be the problem due to lack in interoperability
8. Explain Arduino architecture with pin diagram
9. Explain in brief Arduino with IOT application
10. Write short notes on

    Interrupts
    Calibration of senor in embedded systems (arduino)

UNIT 5

1. Define cloud computing, write its advantages, disadvantages and challenges
2. What is IaaS, PaaS, SaaS explain with diagram
3. Discuss the historical development of technologies for distributed computing that have influenced cloud computing

   Or

   Discuss the key enabling technologies in cloud computing systems
4. Describe the characteristics of cloud computing environment
5. Write short note on clod federation or inter-cloud
6. Write short note on
   1. Microsoft Azure
   2. Amazon Elastic Compute cloud (EC2)
   3. Open Stack
7. Explain Business process on cloud with its advantages