QUESTION
BANK
INTERNET OF THINGS
(IOT)

	UNIT-I
	CHAPTER-1
	The Internet of Things: An Overview
1.	Define Internet Of Things (IOT). Explain any 5 Flavor of IOT.
2.	Explain the advantages & disadvantages of an IOT.
3.	What is Internet Of Things? Explain the application of IOT.
4.	What is IOT Components? Explain each in details.
5.	Explain the features of IOT.
6.	Explain The Technology of Internet of Things.
7.	What do you mean by Enchanted Objects? Explain.
8.	Who is Making Internet of Things? Justify it.
	CHAPTER-2
	Design Principles for Connected Devices
9.	Explain calm and ambient technology.
10.	What do you mean by magic as metaphor?
11.	Who invent the Wheredial? Explain the working of Wheredial.
12.	How to keep or maintain privacy of IOT devices?
13.	Explain Hashes in detail.
14.	Whose Data Is It Anyway? Justify it.
13.	Define the following:- A. SmallPieces. B. LooselyJoined. C. First-Class Citizens On TheInternet. D. gracefuldegradation.
14.	What do you mean by affordances? Explain.
	CHAPTER-3
	Internet Principles
15.	Explain internet Communication and list its different kinds of protocols.
16.	Give the brief introduction about Internet Protocol (IP), TCP.
17.	Define the following term with respect to IOT: A. IPaddresses. B. DNS. C. Static IP addressassignment. D. Dynamic IP address assignment.
18.	Explain TCP/IP protocol suite with diagram.
19.	Explain the role of UDP and MAC Address in IOT.
20.	What is the use of IPv6 in IOT? Explain its Power and Conclusion also.
21.	What do you mean by HTTP ports? List out other common ports.
22.	List and Explain Protocol presented at application layer.

UNIT-II

CHAPTER 4
THINKING ABOUT PROTOTYPING

1. Explain the basic guidelines of prototyping.
2. What is Sketching? Explain its benefits.
3. Describe the term Familiarity.
4. Describe the relationship between the cost of prototyping and mass producing.
5. Define the following set of challenges regarding prototype and production
   a. Changing embedded platform
   b. Physical prototypes and mass personalisation
   c. Climbing into the cloud
6. Define the following case study
   a. Bubblino
   b. DoES Liverpool
7. Explain open source vs closed source.
8. What is Open Source Hardware Association? Explain.
9. Explain the reason behind to choose why open and why closed source?
10. Explain advantages and disadvantages of open source project.
11. What is the benefits to mixing open and closed source together?
12. Why to choose closed source for mass market projects?
13. Explain the concept of tapping into the community.

CHAPTER 5
PROTOTYPING EMBEDDED DEVICES

1. Define Electronics, Sensors and Actuators in detail.
2. Explain the Journey to a Circuit Board.
3. Define the following:
   - Microcontrollers
   - System-on-chips
4. Explain the several factors that need to be considered while choosing your platform.
5. Define the term wiring: Sketching in Hardware.
6. Explain Arduino. What are the things need to be considered for developing on the Arduino?

7. Explain Raspberry Pi Model B. What are the things need to be considered for developing on the Raspberry Pi?
8. Why the python is the first choice for the Raspberry Pi language than C or C++?
9. Give the difference between Arduino Due & Raspberry Pi Model B.
10. Explain BeagleBone Black. What are the things need to be considered for developing on the BeagleBone Black?
11. Give the difference between BeagleBone Black & Raspberry Pi Model B.
12. Explain Electric Imp. What are the things need to be considered for developing on the Electric Imp?
13. Define Other Notable platforms.
14. Write Case study on following:
    - The Good Night Lamp
    - Botanicalls
    - BakerTweet
    - DoES Liverpool's DoorBot
    - Ninja Blocks
    - Lockitron

UNIT-III

CHAPTER6
PROTOTYPING THE PHYSICAL DESIGN

1. Explain the Preparation method for design work in detail.
2. Write a short note on tools.
3. Define the Sketch, Iterate & Explore with an example.
4. What is Non-Digital methods? List and explain the common options of non-digital methods.
5. Define and explain the Laser cutting.
6. Why you choose a Laser Cutter or what are two main feature to choose Laser Cutter?
7. What are the Laser Cutting's software? Explain.
8. Define and explain Hinges & Joints.
9. What is 3D printing? Classify and explain the types of 3D printing.
10. Define 3D Printing's Software in details.
11. Define and explain the concept of CNC milling.
12. Explain the axes of movement of CNC Mills and its software too.
13. Explain the concept of Repurposing/Recycling.

14. Define the following case study:
   a. Nick O'Leary's Ambient Orb.
   b. The Ackers Bell

CHAPTER 7
PROTOTYPING ONLINE COMPONENTS

1. What do you mean by an API? Explain its benefits.
2. Define the following:
   a. Scraping with an example.
   b. Legalities
3. How to write a new API? Explain the use the Pomodoro Time Management Technique.
4. What is Clockodillo? Explain how to solve the security issues of an API by Clockodillo?
5. What are the standards are used to implementing the API.
6. Define JSON and Remote Procedure Calls.
7. What is Dancer framework? Explain
8. How to use the curl to test?
9. Define:
   a. Polling
   b. COMET
   c. MXHR
10. HTML5 WebSockets
11. Explain the designing a web application for Humans.
12. Explain the concept of MQTT Protocol in detail.
13. Explain the concept of XAMPP and CoAP Protocol in detail.

UNIT-IV

CHAPTER 8
TECHNIQUES FOR WRITING EMBEDDED CODE

1. Define Memory Management. List and explain the types of Memory.
2. Give the difference between Stack and Heap.
3. Explain the performance and battery life.
4. List and Explain the Libraries.
5. Define and explain the concept of debugging in detail.

CHAPTER 9
BUSINESS MODELS

1. Define Business model. What are the factors to make business model.
2. Define the Space and Time.
3. Explain the concept of "From craft to mass production".
4. Define:
   a. The Long Tail of the Internet.
   b. Learning from History.
5. Write a short note on Business Model Canvas.
6. Who is the business model for? Describe it.
7. List and explain the parameters of model in detail.
8. Define the funding on the Internet of Things startup.
9. Describe the hobby project and open source.
10. What do you mean by Venture Capital? Explain.
11. What is Government Funding and Crowd Funding? Explain both.
12. Define Lean Startups. Give its advantages.

UNIT-V

CHAPTER-10
MOVING TO MANUFACTURE

1. What we should considered to before producing a product? Explain the concept of designing kits.
2. How to design a PCB (Printed Circuit Board)? List and explain the software choices for designing a PCB.
3. What is the design process of PCB? Explain.
4. List and explain the manufacturing PCB.
5. How to go for Mass-producing the case and other fixtures? Explain each term.
6. Discuss the various certification issue for the IOT product.
7. Which things affect the cost of PCB? Explain in detail.
8. How to Scale-Up Software? List and explain various factors that require to focus while scaling up the software.

CHAPTER-11
ETHICS

1. How to be characterizingthe internet of things? Explain.
2. Explain the following section regarding the ethical issues specific to IOT:
   a. PRIVACY
   b. CONTROL
   c. ENVIRONMENT
3. What do you mean by CROWDSOURCING?
4. What is Fisher's original definition observed five critical requirements for a sensor commons project?
5. Describe the Human cost.
6. Define and explain the solutions of problem solve by IOT.
7. Define the term "THE OPEN INTERNET OF THINGS DEFINITION".