



## **Syllabus**

### **Introduction of IoT**

**Duration: 30 hours**

#### **MODULE-1: INTRODUCTION TO IoT :**

Introduction to IoT, Characteristics of IoT, History of IoT, Applications of IoT, Challenges in IoT, advantages & disadvantages.

#### **MODULE-2: DESIGNING**

Architecture of IoT, Physical design of IoT, Logical design of IoT, Functional blocks of IoT.

#### **MODULE-3: MODELS**

Communication models & APIs, M2M Machine to Machine, Difference between IoT and M2M, Software defines Network.

#### **MODULE-4: NETWORK AND COMMUNICATION ASPECTS**

Wireless medium access issues, MAC protocol survey, Survey routing protocols, Sensor deployment & Node discovery, Data aggregation & dissemination.

#### **MODULE-5: IoT ENABLING TECHNOLOGIES**

Web of Things vs. Internet of things, Wireless Sensor Network, Cloud of things: Cloud Computing, Big Data Analytics.



## Schedule

### BCA-IV-A

**Duration: 30 hours**

Session	Content	Time	Date
1	Introduction	03:00-4:30	7-Mar-22
2	Characteristics of IoT	03:00-4:30	9-Mar-22
3	History of IoT	03:00-4:30	14-Mar-22
4	Applications of IoT	03:00-4:30	16-Mar-22
5	Challenges of IoT	03:00-4:30	21-Mar-22
6	Advantages & Disadvantages of IoT	03:00-4:30	23-Mar-22
7	Revision	03:00-4:30	28-Mar-22
8	Architecture of IoT	03:00-4:30	30-Mar-22
9	Physical design of IoT	03:00-4:30	4-Apr-22
10	Logical design of IoT	03:00-4:30	6-Apr-22
11	Functional blocks of IoT	03:00-4:30	11-Apr-22
12	Communication models & APIs	03:00-4:30	13-Apr-22
13	M2M Machine to Machine	03:00-4:30	18-Apr-22
14	Difference between IoT and M2M	03:00-4:30	20-Apr-22
15	Software define Network	03:00-4:30	25-Apr-22
16	Wireless medium access issues	03:00-4:30	27- Apr -22
17	MAC protocol survey	03:00-4:30	2-May-22
18	Survey routing protocols, Sensor deployment &Node discovery	03:00-4:30	18-May-22
19	Data aggregation &dissemination, Web of Things vs. Internet of things	03:00-4:30	25-May-22
20	Wireless Sensor Network, Cloud of things: Cloud Computing, Big Data Analytics	03:00-4:30	1-Jun-22
21	Continue...	03:00-4:00	20-May-22



22	Sensor deployment &Node discovery	03:00-4:00	23-May-22
23	Data aggregation &dissemination.	03:00-4:00	27-May-22
24	Revision	03:00-4:00	30-May-22
25	Web of Things vs. Internet of things	03:00-4:00	1-Jun-22
26	Wireless Sensor Network	03:00-4:00	3-Jun-22
27	Cloud of things: Cloud Computing	03:00-4:00	6-Jun-22
28	Big Data Analytics	03:00-4:00	10-Jun-22
29	Revision	03:00-4:00	13-Jun-22
30	Doubt Session	03:00-4:00	14-Jun-22



	<b>Report</b>
<b>Name of Activity</b>	Introduction of IoT
<b>Date</b>	7 <sup>th</sup> March 2022 to 1 <sup>st</sup> June 2022
<b>Venue</b>	BCA Classroom
<b>Organized by</b>	Computer Application Department
<b>Resource Person</b>	Ms. Anshul , Assistant Professor, MIET
<b>Beneficiaries</b>	BCA 4th Semester Sec- A ( 20 Students)
<b>Coordinator</b>	Mr. Himanshu Rastogi , Assistant Professor, MIMT
<b>Objective</b>	<p>The aim of this certification course is to make :</p> <ul style="list-style-type: none"><li>• Students learn about the trend of future networking, and leads the third wave of the IT industry revolution.</li><li>• To adapt the live in a smart and speed way, through enabling things to communicate with other objects, such as machines and as a whole everything altogether with people.</li></ul>
<b>Content</b>	<p>With the initiative of IQAC, Mangalmai Institute of Management and Technology organized a add on certification course on “Internet of Things”.</p> <p>Day1: The session started with the introduction</p> <p>Day 2: In this session, The characteristics of IoT was introduced.</p> <p>Day 3: In this interactive session, the resource person introduce the history of IoT</p> <p>Day 4: The resource persons started the session with Application of IoT</p> <p>Day 5: In this session, the student came to know the challenges of IoT</p> <p>Day 6: In this session the resource person taught the advantages and disadvantages of IoT.</p> <p>Day 7: This session was focused on the revision.</p> <p>Day 8: In this session, the resource persons discussed the architecture of IoT</p> <p>Day 9:Physical design of IoT was introduced.</p> <p>Day 10: The session was interesting as students came to know about the Logical design of IoT.</p>



	<p>Day 11: The function block of IoT was taught.</p> <p>Day 12: The student came to know about the communication models and APIs.</p> <p>Day 13: In this session, M2M i.e. Machine to Machine was introduced.</p> <p>Day 14: Resource person discussed the difference between IoT and M2M.</p> <p>Day 15: Software define network was taught in the classroom</p> <p>Day16: In this session, the resource person discusses the wireless medium access issues</p> <p>Day 17: MAC protocol survey taught in the classroom.</p> <p>Day 18: In this session, Survey routing protocol was taught, Sensor deployment and Node discovery.</p> <p>Day 19: In this session, data aggregation and dissemination was taught. This session was about web of things.</p> <p>Day 20: The discussion was on the wireless sensor network. The session was about the cloud of things. i.e Cloud Computing, Big Data Analytics.</p>
<b>Outcome of Activity</b>	<ul style="list-style-type: none"><li>• Understanding the basic designing of an electronic device that can be connected to the internet to make it as an IoT device</li><li>• It can also program it to notify the user whenever a harmful activity happens in the home so it can be used as a security device also.</li></ul>



**List of Beneficiary**  
**BCA-IV-A**

<b>Sl. No.</b>	<b>Roll No.</b>	<b>Student Name</b>
1	R200992106003	ABHISHEK KUMAR
2	R200992106004	ABHISHEK KUMAR THAKUR
3	R200992106005	ABHISHEK SHUKLA
4	R200992106010	AMAN RAJ
5	R200992106011	AMAN TRIPATHY
6	R200992106020	ANKITA DUTTA
7	R200992106022	ANSHIKA SINGH
8	R200992106028	DEEPAK KUMAR
9	R200992106029	DEEPAK KUMAR
10	R200992106035	GAGAN KUMAR
11	R200992106041	HARSH RAJ BHARDWAJ
12	R200992106046	KUBER SINGH
13	R200992106050	MANISH
14	R200992106073	PRIYA MISHRA
15	R200992106092	SANJAY
16	R200992106093	SANJEEV KUMAR
17	R200992106094	SANJEEV KUMAR
18	R200992106119	VARUN KUMAR YADAV
19	R200992106122	VINIT KUMAR
20	R200992106132	YOGITA KAUSHIK



### **Resource Person Profile**

Name: Ms. Anshul, Assistant Professor

Organization: MIET, Greater Noida





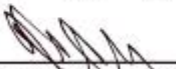

Qualification: B.Tech, M.Tech (CSE)

Experience: 5 years

Research Area: Networking, database



## Certificate Template

	<b>MANGALMAY</b> INSTITUTE OF MANAGEMENT TECHNOLOGY Gr. NOIDA	 												
Certificate No: <u>BCA44SP 40/02</u>		Date:- <u>23<sup>rd</sup> June 2022</u>												
<b>CERTIFICATE OF COURSE COMPELITION</b>														
This is to certify that <u>Abhishek kumar</u>														
Student of BCA, Batch (20 <u>21-22</u> ) has successfully completed 30 Hours														
Specialization Course on <u>IOT</u>														
from <u>Jan, 22</u> to <u>June, 22</u> with Grade <u>A+</u>														
<table border="0"><tr><td>Grading</td><td>A+</td><td>A</td><td>B+</td><td>B</td><td>Fail</td></tr><tr><td>System</td><td>13-15</td><td>10-12</td><td>7-9</td><td>4-6</td><td>0-3</td></tr></table>			Grading	A+	A	B+	B	Fail	System	13-15	10-12	7-9	4-6	0-3
Grading	A+	A	B+	B	Fail									
System	13-15	10-12	7-9	4-6	0-3									
 Course Coordinator	 Head of the Department	 Chairman/Vice Chairman												