



Training course outline

ITU and Advanced Level Telecom Training Centre

Title	IoT: Building Concepts and Application in Current Scenario
Modality	Online Instructor Led
Dates	28 November – 9 December 2022
Duration	2 Weeks
Registration deadline	28 November 2022
Training fees	100 USD
Description	<p>The Internet of things (IoT) is a term for the growing number of electronics that aren't traditional computing devices, but are connected to the internet to send data, receive instructions or both.</p> <p>The Internet of Things is transforming our physical world into a complex and dynamic system of connected devices on an unprecedented scale. The IoT brings the power of the internet, data processing and analytics to the real world of physical objects. For consumers, this means interacting with the global information network without the intermediary of a keyboard and screen; many of their everyday objects and appliances can take instructions from that network with minimal human intervention.</p> <p>Advances in technology are making possible a more widespread adoption of IoT, from pill-shaped micro-cameras that can pinpoint thousands of images within the body, to smart sensors that can assess crop conditions on a farm, to the smart home devices that are becoming increasingly popular.</p> <p>This online course seeks that interested people face the experience of a active learning to understand the scope of the Internet of Things today. It starts with the general concepts, the operating logic and various application examples in industries / sectors where it is causing disruptive innovations. Then the program progresses in specific technical and technological aspects, to culminate in an application work where the aim is to highlight the acquired learning.</p>
Code	22OI27821ASP-E



1.LEARNING OBJECTIVES

This online training course aims to equip participants with an understanding of:

- Describe the general aspects of IoT systems
- Construct and program an IoT device
- Communicate with an IoT device using wired and wireless connections
- Manage security, privacy, and safety risks on IoT projects
- Learn how to apply Machine Learning in IoT

2. LEARNING OUTCOMES

Upon completion of this training, participants will be able to understand:

- Describe the general aspects of IoT systems
- Construct and program an IoT device
- Communicate with an IoT device using wired and wireless connections
- Process sensor input and control an actuator on an IoT device
- Manage security, privacy, and safety risks on IoT
- Learn how to apply Machine Learning in IoT
- Manage an IoT prototyping and development project throughout the development lifecycle

3.TARGET POPULATION

The target audience for this course is government officials and experts in the public administration, digital government, ICT fields and anyone who has keen desire to accommodate IoT Skills.

4.ENTRY REQUIREMENTS

No prior knowledge or qualification is required for this course

5.TUTORS/INSTRUCTORS

S.No.	NAME OF TUTOR(S)/ INSTRUCTOR(S)	Position	CONTACT DETAILS
1.	Sh. Arun Kumar Sharma	Chief General Manager, ALTTC, BSNL, Ghaziabad, India	cgm_alttc@bsnl.co.in cgmalttc@gmail.com + 911202755121
2.	Sh. Mohan Singh	General Manager (Technical) ALTTC, BSNL, Ghaziabad, India	mohanbagrana2872@bsnl.co.in + 911202704638
3.	Mr A K Jha	DGM (EB), ALTTC, BSNL Ghaziabad, India	sdebd2010@gmail.com +919412739258
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5.	Mr. H K Dixit	DGM(Tx& Mobile), ALTTC, BSNL Ghaziabad, India	dikshithk@rediffmail.com +91 9412739065
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9.	Mr. Amit Garg	Sub Divisional Engineer (IT) ALTTC, Ghaziabad, India	amitgarg@bsnl.co.in
10	Mr K.K.S Yadav	Junior Telecom Officer ALTTC, Ghaziabad, India	krishnadev25@rediffmail.com +91 9411892744
11	Mr. Neeraj Gupta	Junior Telecom Officer ALTTC, Ghaziabad, India	neeraj_gupta@bsnl.co.in

6.TRAINING COURSE CONTENTS

- General concepts of Internet of Things
- Systems Interconnection - Description of system options interconnected
- Protocols and standardization in IoT System
- Manage security, privacy, and safety risks on IoT
- AI in IoT
- Smart Cities and Connectivity - Use of recent technologies for IoT

7.TRAINING COURSE SCHEDULE

Week / Session	Topic	Exercises and interactions
Week 1	<ul style="list-style-type: none">• General concepts of Internet of Things• Systems Interconnection - Description of system options interconnected• Protocols and standardization in IoT System	<ul style="list-style-type: none">• Online modules• Discussion / Forum• Chat Session• Quiz 1
Week 2	<ul style="list-style-type: none">• Manage security, privacy, and safety risks on IoT• AI in IoT	<ul style="list-style-type: none">• Online modules• Discussion / Forum• Chat Session• Quiz 2



	<ul style="list-style-type: none">• Smart Cities and Connectivity - Use of recent technologies for IoT.	
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8.METHODOLOGY (Didactic approach)

This course is online and predominantly asynchronous. The methodology that guides this course will be eminently participatory. The methodological strategy used for the development of the course proposes to the participant a diversity of activities. Each student is expected to participate by reading the material that will be available from the beginning of the course, written contributions to the debates, forums, activities, Reinforcement exercises and exams that will be defined and which will be carried out asynchronously. This technique will ensure the flexibility of time necessary for each participant to be able to organize the way that suits you best. Videoconferences (asynchronous) will be offered to present / expose topics by the teacher and to resolve doubts from the participants. The learning methodology divided into five major section which are as follows:

- ✓ **Course materials:** Each week one module will be discussed and the relevant course material will be made available on the website.
- ✓ **Online Discussion Forums:** Participants are expected to participate actively in discussion forums on selected topics throughout the week.
- ✓ **Chat sessions:** Chat sessions will be conducted in real time every week where discussions would be held with the instructor (s) on a particular topic. Participants are encouraged to join the discussion and exchange points of view.
- ✓ **Quizzes:** will be held during the course. Course evaluation and feedback would be done at the end of the course and is a part of the mandatory activity.
- ✓ **Learning Activity:** Participant will actively participate the activity throughout week based on the topics discussed.

9.EVALUATION AND GRADING

The assessment of the participants shall be based on the time spent on the training and the following parameters:

Quiz # 1	10%
Quiz # 2	10%
Final Exam	50%
2 Chat Sessions (10% per session)(each Thursday)	20%
2 Discussion Forum (5% per forum)	10%
Total Evaluation:	100%



10. TRAINING COURSE COORDINATION

<p>Institute Head: Sh. Arun Kumar Sharma Chief General Manager ALTTC, Raj Nagar, Ghaziabad, UP, INDIA -201002 cgm_alttc@bsnl.co.in (Email) +91-120-2755121 (Works) +91-120-2710494 (Works) +91-120-2756985 (Fax)</p> <p>Institute Coordinator: Sh. Mohan Singh General Manager (Technical) ALTTC, Raj Nagar, Ghaziabad, UP, INDIA -201002 mohanbagrana2872@bsnl.co.in (Email) +91-120-2704638 (Works) +91-120-2756985 (Fax)</p>	<p>Training coordinators: Mr. A K Sharma DGM (IT) Admin Building, ALTTC, Raj Nagar, Ghaziabad(UP), INDIA- 201002 +91 120 2755132 (Works) +91 9412220075 (Mobile)</p> <p>Mr. Amit Garg AGM (IT) Academic Bldg, ALTTC, Raj Nagar, Ghaziabad(UP), INDIA- 201002 +91 120 2704343 (Works) +91 9417100021 (Mobile)</p>	<p>ITU coordinator: Mr. Sean S. Doral Program Officer-ITU, ITU Regional Office for Asia- Pacific 5th Floor, Thailand Post Training Centre, 111 Moo3 Chaengwattana Road, Laksi Bangkok 10210, Thailand sean.doral@itu.int (Email) +66 806650213 (Works) +66 257 535 07 (Fax)</p>
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