

TCET/FRM/IP-02/09

Revision: A

Industry based Bridge Course (IBC) Plan Arduino Uno

Semester: VI

Class: TE-CMPN

S. No	Module No	Lesson No	Topics Planned (Technology to be used)	Teaching Aids Required	Planned / Completion Date	Resource Book Reference	Remarks
1	Module 1	L 1.1	Introduction to Arduino Uno: Introduction to Embedded system, Comparison between Microprocessor and Microcontroller.	LCD Projector / White Board	A1/A2: 17/01/2018	1.3	
					B1/B2: 18/01/2018		
2	Module 1	L 1.2	What is Arduino ? Types of Arduino, Comparative study of Arduino Uno with other controller boards.	LCD Projector / White Board	A1/A2: 18/01/2018	1.1	
					B1/B2: 19/01/2018		
3	Module 1	L 1.3	Features of Arduino Uno kit , Types of Arduino I/O Boards	LCD Projector / White Board	A1/A2: 24/01/2018	1.1	
					B1/B2: 25/01/2018		
4	Module 1	L 1.4	Hands on Session on 1.3: Arduino Uno IDE- Open Source, Downloading and Installation of IDE	LCD Projector / White Board	A1/A2: 25/01/2018	1.1	
					B1/B2: 01/02/2018		
5	Module 2	L 2.1	Introduction to Arduino Uno Programming, Coding Structure (Sketch)	LCD Projector / White Board	A1/A2: 31/01/2018	1.2	
					B1/B2: 02/02/2018		
6	Module 2	L 2.2	Hands on Session on 2.1: Blinking of Internal LED, External LED and fading of LED using Arduino Uno Board	LCD Projector / White Board	A1/A2: 01/02/2018	1.2	
					B1/B2: 08/02/2018		
7	Module 2	L 2.3	Data Types and Operator, Function, Common Functions etc	LCD Projector / White Board	A1/A2: 07/02/2018	1.2	
					B1/B2: 09/02/2018		
8	TEST, EVALUATION & FEEDBACK - I				A1/A2: 08/02/2018		
					B1/B2: 15/02/2018		

9	Module 3	L 3.1	Hands on Session on 2.3: The effect of LED as a Traffic Light using Arduino Uno Board	LCD Projector / White Board	A1/A2: 08/02/2018	1.3,1.2	
					B1/B2: 15/02/2018		
10	Module 3	L 3.2	Control Statements, Loop Statements etc.	LCD Projector / White Board	A1/A2: 15/02/2018	1.3,1.2	
					B1/B2: 16/02/2018		
11	Module 3	L 3.3	Hands on Session on 3.2: Interfacing of a 7-Segment LED with Arduino Uno Board and display down counter	LCD Projector / White Board	A1/A2: 28/02/2018	1.3,1.2	
					B1/B2: 01/03/2018		
12	Module 3	L 3.4	Hands on Session on 2.3 & 3.2: Serial Monitor: Interface of LCD with Arduino Uno Board in order to display Text Message	LCD Projector / White Board	A1/A2: 01/03/2018	1.3,1.2	
					B1/B2: 15/03/2018		
13	Module 3	L 3.5	Applications of Arduino Uno on various projects, Idea presentation and demonstration for Final year projects	LCD Projector / White Board	A1/A2: 14/03/2018	1.3,1.2	
					B1/B2: 15/03/2018		
14	Module 4	L 4.1	Hands on Session on 3.5: Arduino Uno for Networking	LCD Projector / White Board	A1/A2: 15/03/2018	2.2	
					B1/B2: 16/03/2018		
15	Module 4	L 4.2	Hands on Session on 3.5: Android Controlled Fire Fighting Robot using Arduino Uno	LCD Projector / White Board	A1/A2: 21/03/2018	2.3	
					B1/B2: 22/03/2018		
16	Module 5	L 4.3	Hands on Session on 3.5: IOT for Home Automation System using Arduino Uno	LCD Projector / White Board	A1/A2: 22/03/2018	2.4	
					B1/B2: 23/03/2018		
17	Module 5	L 5.1	Inputs from industry expert for project development based on Arduino.	LCD Projector / White Board	A1/A2: 28/03/2018		
					B1/B2: 05/04/2018		

18	Module 6	L 5.2	Introduction to Rasberry-Pi	LCD Projector / White Board	A1/A2: 04/04/2018	1.4	
					B1/B2: 06/04/2018		
19	Module 6	L 6.1	Hands on Session on 5.2	LCD Projector / White Board	A1/A2: 05/04/2018	2.2	
					B1/B2: 12/04/2018		
20	TEST, EVALUATION& FEEDBACK - II				A1/A2: 12/04/2018		
					B1/B2: 12 12/04/2018		

Remark:

Course:	Syllabus Coverage:	Practice Session:	Beyond Syllabus:
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No. of (Lectures Planned)/(Lectures Taken):20 /

Reference Books:

- 1.1 Massimo Banzi “Getting Started with Arduino Uno”
- 1.2 Simon Monk “Programming Arduino Uno Getting Started with Sketches”
- 1.3 David J. Russell and Mitchell A. Thornton, “Introduction to Embedded Systems: Using ANSI C and the Arduino Development Environment “
- 1.4 Programming Raspberry Pi 3: Getting Started With Python

Digital References:

- 1.1 <https://web.stanford.edu/class/me20n/week3/Arduino%20Programming%20Language.pdf>
- 1.2 <https://in.pinterest.com/explore/ethernet-shield-arduino/>
- 1.3 <https://www.slideshare.net/ArunKumar1709/embedded-system-programming-using-arduino-microcontroller>
- 1.4 <http://internetofthings-pune.blogspot.in/2013/07/this-is-open-source-home-automation.html>

Note:

1. Plan date and completion date should be in compliance
2. Courses are required to be taught with emphasis on resource book, course file, text books, reference books, digital references etc.

(sd/-) Name & Signature of Faculty Date:	(sd/-) Signature of HOD Date:	(sd/-) Signature of Principal / Dean Academic Date:
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