NAAC Re-Accredited 'A' Grade
विद्यया अमृतं अश्नुते
ESTD. 1963
RJC
ISO 9001:2015
Best College
UNIVERSITY OF MUMBAI

Hindi Vidya Prachar Samiti's
RAMNIRANJAN JHUNJHUNWALA COLLEGE (AUTONOMOUS)

(Also known as R. J. College of Arts, Science & Commerce as per UGC Notification)

Affiliated to UNIVERSITY OF MUMBAI II Recognized by UGC under 2f & 12B
NAAC Accredited 'A GRADE' with CGPA 3.50

Knowledge is all Ambrosia

A T S M C

CERTIFICATE COURSE IN

IOT APPLICATION DEVELOPMENT

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Opposite Railway Station, Ghatkopar (W),
Mumbai 400 086, Maharashtra, INDIA.

CERTIFICATE COURSE IN **IOT APPLICATION DEVELOPMENT**

ABOUT US

Hindi Vidya Prachar Samiti was incepted on the auspicious day of Shri Krishna Janmashtami, 15th August 1938. A brain child of a visionary Late Shri Nandkishore Singh Jairamji, samiti was established with the objectives of catering to the educational needs of the Hindi speaking community. Ramniranjan Jhunjhunwala College came into existence in 1963, enabling a larger section of the society to take advantage of the facilities provided for higher education.

From 1999-2000 the College has added a number of self-financing courses like B.M.S., B.B.I., B.Sc. in Computer Science, Information Technology, Biotechnology, M.Sc. in Computer Science, Biotechnology and Information Technology as well as add on courses, which further hone the special skills of the students.

The college has been reaccredited with 'A' Grade by NAAC in 2014 with a CGPA 3.50 and received the Best College Award (2007-2008) of the University of Mumbai.

The College has been bestowed with IMC "Ramkrishna Bajaj Performance Excellence Trophy", 2010.

The Principal of the college was awarded "Best Teacher" by Government of Maharashtra in 2011.

Government of Maharashtra conferred the college with "JAAGAR JAANIVANCHA" (First in Mumbai Suburban- in 2013 and Second in Mumbai Suburban- in 2014) for safety of girls.

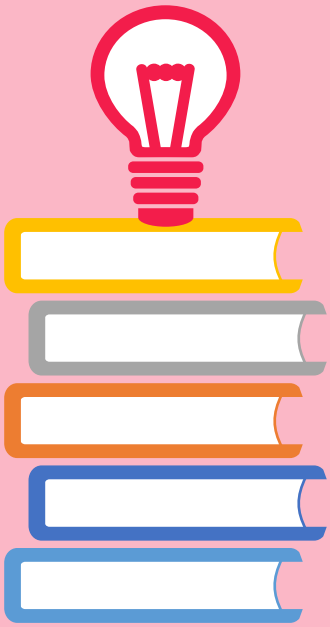
Course Code: RJITC08

Duration: 30 hours

Credits : 02

ABOUT COURSE

The course aims to give project based learning experience in building IOT projects.



COURSE OBJECTIVE

The course will provide knowledge on basic building blocks of IOT applications like sensors, actuators, SOCs like RPi, Arduino, NodeMCU etc. The course will enable the student to develop their own IOT applications from conceptualization to implementation.

COURSE OUTCOME

After completion of the course students will be able to -

- Understand basic concepts of IOT technology.
- Understanding of four core components required to build IOT applications
  - Sensor/ Devices
  - Connectivity / Networking
  - Data Processing
  - UI
- Develop one complete IOT solution from design to implementation using Real Time data and RTOS.

COURSE CONTENT

Module	Topics	Hours
Module 1	**Introduction to Hardware Components :** Basic concept of IOT, Stakeholders, components, hardware used SOC –Arduino, NodeMCU, Rpi Sensors – PIR, temperature, LDR , Camera, Fingerprint reader, RFID reader, moisture & humidity sensor etc Actuators – display devices – LCD, Buzzers, Motors, Relay etc Networking / Connectivity – Ethernet, Bluetooth, WiFi etc. Concept of cloud based data connectivity	4 Hrs
Module 2	**Introduction to software Components :** Mobile App development using latest trending technologies like android studio, MIT app inventor, python programming with opencv library etc. Embedded C- Programming Arduino IDE, Raspberry Pi OS	4 Hrs

COURSE CONTENT

Module 3	Introduction to Project Lifecycle – Prototype to Implementation. Demonstration to two different working projects with important concepts. Different project ideas based on similar concepts.	4 Hrs
Module 4	Hands on project development. Select one of the following project themes or create your own project theme. Project 1: Smart Soil irrigation system: IOT application using Project 2: App based remote control car Project 3: Finger print based locks	18 Hrs

English

MEDIUM OF INSTRUCTION

EVALUATION

Mode of Assessment	Maximum Marks (50)	Minimum Marks (20)
Project Evaluation	20	8
MCQ Exam	30	12

Passing Marks: 40%

WHO SHOULD DO IT?

The learner should have knowledge of Basic Programming concepts