

Lokmanya Tilak Jankalyan Shikshan Sanstha's PRIYADARSHINI COLLEGE OF ENGINEERING (Recognised by A.I.C.T.E., New Delhi & Govt. of Maharashtra, Affiliated to R.T.M.Nagpur University) Near CRPF Campus, Hingna Road, Nagpur-440 019, Maharashtra (India) Phone : 07104 – 236381, 237307, Fax : 07104 – 237681, email : principal.pce.ngp@gmail.com, www.pcenagpur.edu.in



# **1.3.2** Average percentage of courses that include experiential learning through project work/field work/internship during last five years

#### B.E – ELECTRONICS AND TELECOMMUNICATION ENGINEERING (2016-17)

Sr. No	Name of the course that include experiential learning through Project work/ Internship	Subject Code	Domain
1	Electronic Devices and Circuits	BEETE302T/P	
2	Analog Circuits & Design	BEETE503T/P	
3	Electronics Workshop Practice	BEETE606P	
4	Electromagnetic Fields	BEETE401T	Analog & Digital
5	Digital Circuits and Fundamental of Microprocessor	BEETE404T/P	Circuits
6	Microprocessor & Microcontroller	BEETE502T/P	
7	Electronics Measurement and Instrumentation	BEETE303T/P	
8	Network Analysis And Synthesis	BEETE406T	
9	Software Workshop	BEETE407P	
10	Control System Engineering	BEETE603T	
11	Signals & Systems	BEETE403T	Signal Processing
12	DSP Processor & Architecture	BEETE701T/P	
13	Digital Signal Processing	BEETE602T/P	
14	Elective 2- Digital Image Processing	BEETE804T	
15	Advanced Digital System Design	BEETE701T/P	
16	Elective 2- Embedded System	BEETE804T	
17	Elective 1 - VLSI Signal Processing	BEETE705T	VLSI/Embedded System
18	Elective 3- Robotics and Automation	BEETE805T	
19	Elective 3- CMOS VLSI Design	BEETE805T	
20	Antenna & Wave Propagation	BEETE501T	
21	Communication Electronics	BEETE504T	
22	Telecommunication Switching Systems	BEETE601T	-
23	Digital Communication	BEETE604T/P	]
24	Elective-1 Data Compression & Encryption	BEETE705T	Communication
25	Optical Communication	BEETE703T/	
26	Television And Video Engineerin	BEETE702T/P	
27	Wireless & Mobile Communication	BEETE803T	
28	Computer Communication Network	BEETE802T/P	
29	Microwave & Radar Engineering	BEETE801T/P	]
30	Elective-2 Artificial Intelligence	BEETE804T	



# Lokmanya Tilak Jankalyan Shikshan Sanstha's PRIYADARSHINI COLLEGE OF ENGINEERING

(Recognised by A.I.C.T.E., New Delhi & Govt. of Maharashtra, Affiliated to R.T.M.Nagpur University) Near CRPF Campus, Hingna Road, Nagpur-440 019, Maharashtra (India) Phone : 07104 – 236381, 237307, Fax : 07104 – 237681, email : principal.pce.ngp@gmail.com, www.pcenagpur.edu.in



31	Elective 3- Satellite Communication	BEETE805T	
32	Object Oriented Programming & Data Structure	BEENE304T/P	Others
33	Applied Mathematics- III	BEETE301T	
34	Applied Mathematics- IV	BEETE401T	
35	Power Devices & Machines	BEETE402T/P	
36	Environmental Studies	BEETE406T	
37	Industrial Economics & Entrepreneurship Development	BEENE505T	
38	Functional English	BEETE605T	
39	Industrial Visit	BEETE607P	



PRIYADARSHINI COLLEGE **OF ENGG. NAGPUR CERTIFIED DOCUMENT** Page .3..... to 25 BAID Principal

#### B. E. Seventh Semester

#### (Electronics / Electronics & Communication / Electronics &

#### Telecommunication Engg) OPTICAL

#### COMMUNICATION

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[

uration: 3 Hrs. College Assessment: 20 Marks University Assessment: 80 Marks

#### Subject Code: BEECE703T/ BEETE703T/ BEENE703T

4-0-0-4]

#### **Objectives:**

- 1. To understand optical fiber technology to sophisticated modern telecommunication systems.
- **2.** To understand the fundamental behavior of the individual optical components, describes their interactions with other devices in an optical fiber.
- **3.** To measure & analyze different measurements, parameters & properties of optical fiber.

#### Outcome: By the end of the course, the students shall be able to

- 2. understand the different kinds of losses, signal distortion in optical wave guides & other signal degradation factors.
- 3. classify various optical source materials, LED structures, LASER diodes.
- 4. learn the fiber optic receivers such as PIN, APD diodes, receiver operation & performance.
- **5.** understand the operational principal of WDM, SONET, measurement of attenuation, dispersion, refractive index profile in optical fibers.

Introduction, advantages, disadvantages	and applications of optical fiber	(
communication,	Ray theory, classification of Optical	
Fibers		
UNIT II: TRANSMISSION CHARACTERISTICS OF OPTI	CALFIBERS	(10
UNIT II: TRANSMISSION CHARACTERISTICS OF OPTI Fiber manufacturing & Fiber materials, manufa	<b>CALFIBERS</b> acturing methods, <i>Attenuation</i> , <i>Absorption</i> ,	(10
UNIT II: TRANSMISSION CHARACTERISTICS OF OPTI Fiber manufacturing & Fiber materials, manufa scattering losses, bending loss, dispersion, Intra mod	<b>CALFIBERS</b> Icturing methods, <i>Attenuation</i> , <i>Absorption</i> , al dispersion, Inter modal dispersion.	(10
UNIT II: TRANSMISSION CHARACTERISTICS OF OPTI Fiber manufacturing & Fiber materials, manufa scattering losses, bending loss, dispersion, Intra mod	<b>CALFIBERS</b> acturing methods, <i>Attenuation</i> , <i>Absorption</i> , al dispersion, Inter modal dispersion.	(10

Introduction, fiber alignment and joint loss, single mode fiber joints, fiber splices, fiber connectors and fiber couplers.

Optical sources: LED's, LASER diodes.	
UNIT IV: OPTICAL DETECTORSAND RECEIVER Photo detectors, Photo detector noise, Response time, comparison of photo detectors	(06
Optical Receiver Operation, receiver sensitivity, quantum limit, coherent detection, burst mode receiver operation, Analogreceivers	(08
Analog links – overview of analog links, CNR, multichannel transmission techniques, Digital links – point–to–point links, System considerations, link power budget, rise time budget, transmission distance for single mode links.	(08
<b>UNIT VI: WDM CONCEPTS AND COMPONENTS</b> Operational Principles of WDM, basic applications and types of optical amplifiers, semiconductor optical amplifiers, EDFA. Measurement of Attenuation and dispersion. Study of various application of optical fiber communication.	(08
<ol> <li>TEXT BOOKS:</li> <li>"Optical Fiber Communication", Gerd Keiser, 3rd Ed., McGraw Hill,</li> <li>"Optical Fiber Communications", John M. Senior, Pearson Education. 3rd Impression, 2007.</li> </ol>	
REFERENCE BOOK:       1.       Fiber Optic Communication - Joseph C Palais: 4th Edition, Pearson Education.	
2. "TextBook on Optical Fiber Communication & its Application", S.C. Gupta, PHI Publications	

3. "Optical Communication & Networks", M.N. Bandopadhyay, PHI Publications

# PROJECT REPORT

On

# "BORDER SECURITY SYSTEM USING ENCRYPTED LASER FENCE"

Submitted in partial fulfillment of requirement for the degree of Bachelor of Engineering in

**Electronics and Telecommunication Engineering** 

Submitted By

NIKHIL SINGH CHAUHAN

VAIBHAV CHOUDHARI

POOJA SHIVARKAR

SANGHPAL GHAGARGUNDE

ADITYA KHOKALE

DHANASHREE KHELKAR

Under the guidance of Prof. Mrs. A. H. CHARKHAWALA



Department of Electronics and Telecommunication Engineering Priyadarshini College of Engineering, Nagpur - 440019 2016-17

hedule

This is to certify that the project entitled "BORDER SECURITY SYSTEM USING ENCRYPTED LASER FENCE" has been carried out by

NIKHIL SINGH CHAUHAN

VAIBHAV CHOUDHARI

POOJA SHIVARKAR

# SANGHPAL GHAGARGUNDE ADITYA KHOKALE DHANASHREE KHELKAR

under my guidance and submitted the partial fulfillment for the degree of Bachelor of Engineering (B.E.) in Electronics and Telecommunication Engineering, during the academic year 2016-17 is a bonafide work prepared by them.

This work fulfills the requirements relating the standard of work for the award of Bachelor of Engineering in Electronics and Telecommunication to be awarded by Rashtrasant Tukdoji Maharaj Nagpur University, Nagpur.

Place: Nagpur Date:

1

Prof.Mrs.A.H.Charkhawala Guide

Dr. (Mrs.) S.W. Varade Head of Department Deptt. of Eat Priyadarshini College of Engineering Nagpur-19

Dr. M.P.Singh Principal

his type of system can be used in places where continues monitoring is needed as it provides an etter alternative and less faulty security system. These project suggest to use Laser as a fence ind some encrypted data are transmitted through Laser to make it stronger security system. main im of this project is to provide a security in border areas, to make the job of soldiers patrolling in border easier. Using such type of system can also save life of number of soldiers. This type of system encourages use of technology in defense purposes.

#### B. E. Eighth Semester

(Electronics & Communication/ Electronics & Telecommunication Engg)

# Elective 2- EMBEDDED SYSTEMS

Duration: 3 Hrs. College Assessment: 20 Marks University Assessment: 80 Marks

# Subject Code: BEECE804T/ BEETE804T [3-0-1-4] Objectives: 1. 1. To give sufficient background for understanding embedded systems design. 2. To give knowledge of RISC processor. 3. To understand connections of various peripherals with microcontroller based system

- 3. To understand connections of various peripherals with microcontroller based system
- 4. To study of embedded system design aspects.

Outcome: By the end of the course, the students shall be able to

1. design embedded based system .

2. design embedded system based on RTOS and communication protocols.

#### UNIT I: EMBEDDED SYSTEM INTRODUCTION

History, Design challenges, Optimizing design metrics, Time to market, NRE and UNIT cost design metrics, Application of embedded systems and recent trends in embedded systems.

#### UNIT II: EMBEDDED SYSTEMARCHITECTURE

Hardware and software architecture, Processor selection for Embedded System, Memory Architecture and IO devices , Interrupt Service Mechanism ,Context switching, Device Drivers.

#### UNITIII: ARM PROCESSOR

Architecture and Programming: RISC and CISC, ARM organization, ARM Programmers model, operating modes, Exception Handling, Nomenclature, Core Extensions, ARM Assembly Language Programming, Introduction to ARM instruction set

#### UNIT IV: PROTOCOLS

Bluetooth, IEEE 802.11 and IEEE 802.16, GPRS, MODBUS CAN, I2C and USB

#### UNIT V: REAL TIME OPERATING SYSTEM CONCEPTS

Architecture of the kernel , Task scheduler , ISR , Semaphores , Mailbox , Message queues , Pipes, Events , Timers , Memory Management.

#### UNIT VI: CASE STUDY OF EMBEDDED SYSTEM:

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Based on Communication, Automation, Security, Automobile FieldsText Books:

- 1) Raj Kamal, "Embedded Systems ", TMH Publications.
- 2) Frank Vahid, "Embedded System Design", Wiley Publications, New edition 2001.
- 3) Sloss endrew & Dominic Symes, "ARM system Developers Guide", Morgan Kaufmann, 2004.

#### Reference Books :

- 1) Dr. K.V.K.K. Prasad, "Embedded / Real Time Systems", Dreamtech Publications
- 2) Iyer, Gupta, "Embedded Real systems programming", TMH Publications.
- 3) Steve Heath, "Embedded System Design", Neuwans Publications
- 4) Jonathan, W. Valvano, "Embedded Microcomputer System Realtime Interfacing", Cenage Publications, 3<sup>rd</sup> Edition.

This is to certify that the project entitled "PORTABLE WIRELESS NOTICE DISPLAY USING RASPBERRY PI" has been carried out by

PRASHANTKUMAR KATRE VISHAL RAHANGDALE

MRUNALI GAWNADE

PAYAL LOTHE

#### PRAVIN WARHADKAR

Under my guidance and submitted in the partial fulfillment for the degree of Bachelor of Engineering (B.E.) in Electronics and Telecommunication, during the academic year 2016-17 is a bonafide work prepared by them.

This work fulfills the requirements relating the standard of work for the award of Bachelor of Engineering in Electronics and Telecommunication to be awarded by Rastrasant Tukdoji Maharaj Nagpur University, Nagpur.

Place: Nagpur

Date:

Prof. P.U. Tembhare Co-Guide

Dr. (Mrs.) S.W. Varade Head of Department H.O.D. Deptt. of E&T Priyadarshini College of Engineering Nagpur-19

JEtat

Prof. (Mrs.) J.M. Bhattad Guide

Dr. M.P. Singh

Principal

Notice Board is commonly used in variety of institution which we come across in a daily basis. Also it is best place to put on any kinds of information but sticking or pinning various notices day to day is difficult process. A separate person is required to take care of this noticeboard this waste a lot of things like paper, printer-ink and loss of time. This project idea is about advanced wireless noticeboard. The project is built with the help of ARM-controller raspberry-pi 3 model B, which is heart of system and it is act as a transmitter which send notices. It has onboard Wi Fi which provides Wi Fi range up to 30-50 m. At a receiving end any smartphone can receive notices this whole process is done without internet.

#### **B. E. Fifth Semester**

#### (Electronics / Electronics & Communication/ Electronics & Telecommunication Engg)

#### MICROPROCESSOR AND MICROCONTROLLERS

**Duration: 3** Hrs. College Assessment: 20 Marks University Assessment: 80 Marks

#### Subject Code: BEENE502T/ BEECE502T/ BEETE502T [4 - 0 - 1 - 5]**Objectives:**

The course objectives are:

To study fundamentals of microprocessor and microcontroller systems. 1.

2. To study architecture of microprocessor & to understand the concept of memory organization, stack

memory, Assembly language programming.

- 3. To study different interrupt techniques.
- 4. To study interfacing of microprocessor & microcontroller with different peripheral devices.

#### Outcome:

After completing this course students shall be able to:

- Describe internal organization of 8086/8088 microprocessors & 8051 microcontrollers. 1.
- Describe the concept of addressing modes and timing diagram of Microprocessor. 2.
- Interface 8086 & 8051 with Keyboard/ Display, ADC/DAC, Stepper motor etc. 3.
- Demonstrate the concept of interrupts and its use. 4.
- 5. Demonstrate the concept of Serial & parallel data communication
- Describe Handshaking concept and interfacing with peripheral devices. 6.
- 7. Describe the concept of DMA & Pentium.
- Describe 8087 Numeric coprocessor & its use in practical application. 8.
- Interface various hardware with microprocessor. 9.

#### Unit I: Intel 8086/8088 microprocessor & Programming:

8086/8088 microprocessor, Pin diagram, Architecture, features and operating modes, Clock generator 8284, memory organization & interfacing, Addressing modes, complete instruction set.

#### Unit II: 8086 & Peripheral Interfacing I:

Assembly language programming of 8086, Interrupt structure, I/O interfacing, Interfacing of peripherals like 8255 PPI, multiplexed 7-seg display & matrix keyboard interface using 8255. Programmable Keyboard/Display controller 8279, Organization, Working modes, command words & interfacing.

#### Unit III: 8086 & Peripheral Interfacing II:

Programmable interval timer/counter 8254; PIC,

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8086 maximum mode pin diagram, Closely coupled & loosely coupled multiprocessor system, 8087 Numeric coprocessor, architecture, interfacing with 8086, instruction set.DMAC 8237, Architecture, interfacing & programming, Introduction to Pentium.

# Unit – V: 8051 microcontroller & programming:

Introduction to 8051 microcontroller; Pin diagram, architecture, features & operation, Ports, memory organization, SFR's, Flags, Counters/Timers, Serial ports. Interfacing of external RAM & ROM with 8051. 8051 Interrupt structure, Interrupt vector table with priorities, enabling & disabling of interrupts

# Unit – VI: 8051 microcontroller interfacing:

Instruction set of 8051; data transfer, logical, arithmetic & branching instructions, Addressing modes, Assembly language programming examples, counter/timer programming in various modes. Serial communication, Operating modes, serial port control register, Baud rates. I/O expansion using 8255, Interfacing keyboard, LED display, ADC & DAC interface, stepper motor interface

#### Books:

#### **Text Books:**

- 1. Programming & Interfacing of 8086/8088, D.V. Hall, TMH.
- 2. Microprocessor 8086/8088 Family Programme Interfacing: Liu & Gibson
- 3. M.A. Mazidi & J.G. Mazidi, the 8051 Microcontroller and Embedded system, 3<sup>rd</sup> Indian reprint, Pearson Eduction
- 4. The Intel Microprocessor 8086 & 80486 Pentium and Pentium Pro. Architecture Programming and Interfacing Brey.

#### **Reference Books:**

- 1. Intel Reference Manuals, Microprocessors & Microcontrollers: Intel
- 2. Microcontrollers Peatman, Mc Graw Hill.
- 3. Microprocessors & Microcomputers based system design by Md. Rafiquzzaman.
- 4. 8086/8088 Microprocessors, Walter Triebel & Avtar Singh
- 5. Introduction to Microprocessors for Engineers and Scientists, P. K. Ghosh, P. R. Sridhar, PHI Publication. 6. The 8051 Microcontroller & Embedded Systems, Kenneth J. Ayala, Dhanvijay V. Gadre, CENGAGE Learning.

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# PROJECT REPORT

011

# "MEDICINE ASSIST ROBOT"

Submitted in partial fulfillment of requirement for the degree of Bachelor of Engineering in

**Electronics and Telecommunication Engineering** 

Submitted By

PAYAL TAKBHOWARE

POONAM BANDHEKAR

AKANKSHA KAMBLE

ASHU MENDHE

ABHILASHA DADURE

Under the guidance of **Prof. Mr. M.K.DEMDE** 



Department of Electronics and Telecommunication Engineering Priyadarshini College of Engineering, Nagpur - 440019 2016-17

This is to certify that the project entitled "MEDICINE ASSIST ROBOT" has been carried out by

#### PAYAL TAKBHOWARE

#### POONAM BANDHEKAR

AKANKSHA KAMBLE

#### ASHU MENDHE

#### ABHILASHA DADURE

under my guidance and submitted the partial fulfillment for the degree of Bachelor of Engineering (B.E.) in Electronics and Telecommunication Engineering, during the academic year 2016-17 is a bonafide work prepared by them.

This work fulfills the requirements relating the standard of work for the award of Bachelor of Engineering in Electronics and Telecommunication to be awarded by Rashtrasant Tukdoji Maharaj Nagpur University, Nagpur.

Place: Nagpur Date:

Mall 21/03/17

Mr. M.K.DEMDE Guide

Dr. (Mrs.) S.W. Varade Head of Department H.O.D. Deptt. of E&T Priyadarshini College of Engineering Nagpur-19

Dr. M.P.Singh Principal

Most often people whether they are old or young tendency to forget their medicines. Timely scheduled medication is very necessary for the health of any patient. A medicine assist robot with the ability to provide multiple medicine for a particular patient or a private individual patient to be given to patients and elderly to remember when and what dosage of their medication taken. This need to the patient is useful for the patient and increase the use day by day.

The heart of our project the "Medicine Assist Robot" is the model of a four compartments to place the medicine during scheduled times of day. The particular compartment care taker put the medicine. Our project uses AT89C2051as our main microcontroller along with PIC6f886. The patient SIDE also has a LCD display to display the temperature level and the PH level. The box contains multiple small compartments in which only one particular medicine will be kept in each box at bot side. The box has an LCD to interact with the user and has LED's, buzzers for notifications.

#### B. E. Eighth Semester

# (Electronics & Communication/ Electronics & Telecommunication Engg)

# WIRELESS & MOBILE COMMUNICATION

Duration: 3 Hr. College Assessment: 20 Marks University Assessment: 80 Marks

#### Subject Code: BEECE803T/BEETE803T

[4 - 0 - 0 - 4]

#### **Objectives:**

6.	To impart the fundamental concept of mobile communication system.
7.	To give the student the idea about cellular communication theory & technology
8.	To introduce various technology and protocol involved in mobile communication
9.	To provide the student with an understanding the cellular concept.

**Outcome:** By the end of the course, the students shall be able to:

Design a model of cellular system communication and analyze their operation and performance.
 Quantify the causes and effects of path loss and signal fading on

- received signal characteristics.
- 3. to construct and analyze the GSM system

#### Unit1:Thecellularconcept

Evolution of mobile radio communication. Cellular telephone system, frequency reuse, channel assignment and handoff strategies, interference and system capacity, trunking and grade of service, improving capacity in cellular system.

#### Unit 2:- The mobile radio environment

Causes of propagation path loss, causes of fading-long and short term, definition of sample average, statistical average, probability distribution, level crossing rate and average duration of fade, delay spread, coherence bandwidth, inter-symbol interference.

#### Unit 3:- Equalization, diversity and channel coding

Fundamentals of equalization, space polarization, frequency and time diversity techniques, space diversity, polarization diversity, frequency and time diversity, fundamentals of channel coding.

#### Unit 4:- GSM

Global system for mobile: services and features, GSM system architecture, GSM radio subsystem, GSM channel type, GSM frame structure, signal processing in GSM, introduction to CDMA digital cellular standard, Third generation wireless networks, 3G technology.

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#### Unit 5:-Introduction towireless networking

Difference between wireless and fixed telephone networks, development of wireless network, traffic routing in wireless networks.

**Mobile IP and wireless access protocol,** mobile IP, operation of mobile IP, collocated address, Registration, Tunneling, WAP Architecture, overview, WML scripts, WAP service, WAP session protocol.

#### Unit 6: Wireless LAN Technology

Infrared LANs, Spread spectrum LANs, Narrow bank microwave LANs, IEEE 802 protocol, Architecture, IEEE802 architecture and services, 892.11 medium access control, 802.11 physical layer.

Wireless Application Protocol: architecture, WDP,WTLS, WTP, WSP, WAE,WML scripts.

#### **TEXT BOOKS:**

- 1. Wireless Communications, Principles, Practice Theodore, S. Rappaport, PHI, 2nd Edn.
- 2. Wireless Communication and Networking William Stallings, PHI, 2003.
- 3. Mobile Communications- Jochen Schiller, Pearson Education, 2004.

#### **REFERENCES:**

- 1. Wireless Digital Communications KamiloFeher, PHI, 1999.
- 2. Principles of Wireless Networks KavehPahLaven and P. Krishna Murthy, Pearson Education, 2002.
- 3. Fourozan, Data communications and Networking, third edition, Tata McGraw-Hill Publication, 2004.
- 4. Mobile Cellular Telecommunications-William CYLee, 2 edition, Mc. Graw Hill Publication.

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# PROJECT REPORT

ON

# "REMOTE MONITORING AND CONTROLLING OF DC MOTOR USING ZIGBEE"

Submitted in partial fulfilment of requirement for the degree of

Bachelor of Engineering in

Electronics and Telecommunication Engineering

Submitted By

HARSHA REBHANKAR POOJA WALLALWAR KOMAL JOHARE

PAYAL GOWARKAR SUSHAMA MESHRAM YAMINI BARAPATRE

Under the guidance of

Mr. Prof. D.G.GAHANE



Department of Electronics and Telecommunication Engineering

Priyadarshini College of Engineering

Nagpur - 440019

2016-17

This is to certify that the project entitled "REMOTE MONITORING AND CONTROLLING OF DC MOTOR USING ZIGBEE" has been carried out by HARSHA REBHANKAR PAYAL GOWARKAR POOJA WALLALWAR SUSHAMA MESHRAM KOMAL JOHARE YAMINI BARAPATRE

Under my guidance and submitted in the partial fulfilment for the degree of Bachelor of Engineering (B.E) in Electronics and Telecommunication, during the academic year 2016-17 is a bonafide work prepared by them.

This work fulfils the requirements relating the standard of work for the award of Bachelor of Engineering in Electronics and Telecommunication to be awarded by Rashtrasant Tukdoji Maharaj Nagpur University, Nagpur.

Place: Nagpur Date: 18/03/2017

> 24 03/2617 Mr. D.G. Gahane

> > Guide

24103/17

Dr. (Mrs.) S.W. Varade

Head of Department Depti. of E&T Privadarshini College of Engineering Nagpur-19

Dr. M.P. Singh

Principal

Wireless based industrial automation is a prime concern in our day-to-day life. The approach to Zigbee Based Wireless Network for Industrial Applications has been standardized nowadays. In this project, a wireless control and monitoring system for a D.C motor is realized using the Zigbee communication protocol for safe and economic data communication in industrial fields where the wired communication is either more expensive or impossible due to physical conditions .The project involves the design of remotely starting ,stopping ,increamenting ,decreamenting , rotating clockwise and anticlockwise.

# PROJECT REPORT

On

#### AUTO-AGRI SYSTEM

Submitted in partial fulfillment of requirement for the degree of

Bachelor of Engineering in

**Electronics and Telecommunication Engineering** 

Submitted by

SHRADDHA ANANDRAO URKUDE

PRIYANKA ARVIND BADOLE

MINAL BHAGTKAR

HITESH LOPCHAND KOLHE

Under guidance of

# **Prof. P.P.ASHTANKAR**



Department of Electronics and Telecommunication Engineering

Priyadarshini College of Engineering

Nagpur - 440019

2016-17

This is to certify that the project report entitled "AUTO-AGRI SYSTEM"

Submitted by,

# SHRADDHA ANANDRAO URKUDE

#### PRIYANKA ARVIND BADOLE

HITESH LOPCHAND KOLHE

MINAL BHAGTKAR

Is in partial fulfillment of the requirement for the award of degree of Bachelor of Engineering in Electronics and Telecommunication Engineering by Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur and is a bonafide work carried out and completed under my guidance and super vision during session 2016-17.



(Project Guide)

Dr. (Mrs.) S.W. Varade

(Head of the Department) Deptt. of E&T Priyedarshini College of Engineering Nagpur-19

Dr. M.P. Singh

(Principal)

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In India, agriculture plays an important role for development in food production. In our country, agriculture are depends on the monsoons which is not sufficient source of water. So the irrigation is used in agriculture field. In Irrigation system, depending upon the soil type, water is provided to plant. The greenhouse based modern agriculture industries are the recent requirement in every part of agriculture in India. In this technology, the humidity and temperature of plants are precisely controlled. Due to the variable atmospheric circumstances these conditions sometimes may vary from place to place in large farmhouse, which makes very difficult to maintain the uniformity at all the places in the farmhouse manually. In Irrigation system, depending upon the soil type, water is provided to plant. An automatic irrigation system based on RF module. The most important factor of this system is RF module which is used to send and receiving the message to the controller. An automated irrigation system was developed to optimize water use for agricultural crops. The system has a distributed wireless network of soil-moisture and temperature sensors placed in the root zone of the plants. A system was developed with threshold values of temperature and soil moisture that was programmed into a microcontroller-based gateway to control water quantity. The main objective of the project is to develop a smart wireless sensor network (WSN) for an agricultural environment which monitoring agricultural environment for various factors such as soil moisture, temperature and humidity along with other factors can be of significance. A traditional approach to measure these factors in an agricultural environment meant individuals manually taking measurements and checking them at various times. This project investigate using RF module. These nodes send data wirelessly to a central server, which collects the data, stores it and will allow it to be analyzed then displayed as needed and can also be sent to the microcontroller and then microcontroller monitor the proper water supply to the specific crops.

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