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PRATHYUSHA ENGINEERING COLLEGE

CRITERIA-7

7.2 Best practices

7.2.1: Concept of the day

2021-2022



PRATHYUSHA ENGINEERING COLLEGE

NAAC CRITERIA – 7

7.2 - BEST PRACTICES

CONCEPT OF THE DAY

Objective of the practice

- The aim of the practice “Concept of the day” is to bring the academic success depends on solid communication skills.
- Students can pick out distinct topics every day.
- This practice assists them to uplift their knowledge.
- It is an indispensable method in recent time.
- Each student prefers disparate ideas.
- This practice helps them to improve their communication skills and to build selfconfident.
- Every day the topics delivered by students in each class posted in whatsapp group .
- This practice is followed from First year to Final year students.

Samples for concept of the day and Glimpses of the event

SLNO	DATE	NAME OF THE STUDENT	BRANCH	YEAR	TOPIC
1	14/6/21	Srisha	IT	I	Human Nature
2	14/6/21	Bhavya	CSE	I	Women Entrepreneurship
3	14/6/21	Deepa	AI	I	Sustainable marketing
4	14/6/21	Pavan kumar	MECH	I	Chernobyl Accident
5	14/6/21	Ramani	ECE	I	OLA
6	14/6/21	Danesh	AI	I	Bio metric
7	15/6/21	Prathiksha	CSE	I	Prathiksha
8	15/6/21	Karthick	CSE	I	future of engineering
9	15/6/21	Mohammad Abdullah	CIVIL	I	Different mode of moneytransfer in online
10	15/6/21	Yashwin prasad	IT	I	Humanity
11	15/6/21	Anbil Arasu	BIO TECH	I	Facts of Earth
12	16/6/21	sai Kumar	AI	I	Sniffers
13	16/6/21	Sathish. S	BIO TECH	I	Cell organelles and it's functions
14	16/6/21	Prabhu	EEE	I	A day without technology
15	16/6/21	RANJANI	ECE	I	Advantages of Technology
16	16/6/21	Naveen Issac	mechatronics	I	Nano technology
17	17/6/21	V Harika chowdry	IT	I	Disadvantages of deforestation
18	16/6/21	Gowtham	AI	I	Deep Learning
19	16/6/21	Nagaraj	mechatronics	I	Electronic manufacturing company
20	18/6/21	Jayapriya	AI&DS	I	BEAR OS
21	18/6/21	Sai Dinesh	CSE	I	Space Time

22	18/6/21	Vinothkumar	IT	I	Defence Research & Development Organisation- D.R.D.O*
23	18/6/21	Pranathi	ECE	I	Invisible eye
24	18/6/21	Jithin	IT	I	Network neutrality
25	3/8/2021	Abdul Samadh .H	BIO TECH	II	Facts about artificial intelligence
26	4/8/2021	Abishak	MECH	IV	Flying Car
27	4/8/2021	Flying Car	BIO TECH	II	Fermentation
28	4/8/2021	Ashwin sharath	MECH	III	Types of engine layout
29	4/8/2021	jerish	MECH	II	Scope of mechatronics in industrial sector
30	4/8/2021	Nandhita	CIVIL	II	Total Station and its Application
31	4/8/2021	Abdul Razack	CSE	IV	i-twin limitless pendrive technology
32	4/8/2021	AKASH.R	BIO TECH	IV	Hazard analysis and critical control point (HACCP)
33	4/9/2021	Ajay	AI	II	Data Mining
34	4/9/2021	Pavan	CIVIL	III	Advantages of RCC
35	4/9/2021	Ashika	ECE	II	Paper battery
36	6/9/2021	Mohanakumari	IT	II	Security Hackers
37	6/9/2021	Sai santhosh	BIOTECH	IV	Edible water bolbs
38	8/10/2021	Monisha	IT	II	Digital Marketing
39	8/10/2021	Swetha	BIOTECH	III	Food Additives
40	01/11/2021	Dhanush	CSE	II	Google maps
41	15/11/2021	Harish	MECH	I	Importance of studies
42	13/12/2021	Sasidhar	MECH	III	Flywheel
43	19/01/2022	Pavan kalian	CSE	I	Tesla cars
44	07/01/2021	Ajay	BIOTECH	I	Interesting fact about math.

45	23/02/2022	Sanjay S	AI &DS	I	Chernobyl disasters
46	21/03/2022	Venkatesh	MECH	II	Mechatronics Engineering
47	31/03/2022	Devendra Tilak	EEE	II	Energy meter
48	05/04/2022	Durga Mahesh	CSE	III	Face recognition
49	16/05/2022	Prem kumar	IT	II	Finance issue
50	19/05/2022	Divakaran	EEE	II	Electrical Braking

NAME : VUNGARALA SASIDHAR

YEAR: I

CONCEPT NAME : HEAT ENGINE

HEAT ENGINE

A heat engine is a device that converts heat to work. It takes heat from a reservoir then does some work like moving a piston, lifting weight etc and finally discharges some heat energy into the sink.

Heat engines, the fuel burns inside the cylinder. A car engine is an example of internal combustion engine.

The internal combustion engine is more efficient than external combustion engine as there is no energy wasted during heat transfer between the boiler and the cylinder.

NAME : SRI LAKSHMI

YEAR : IV(ECE)

CONCEPT NAME : NIGHT VISION TECHNOLOGY

NIGHT VISION TECHNOLOGY

Night vision technology can observe in low light situations. For humans, night vision capacity is very poor as compared with animals. So a night vision technology is implemented to overcome this problem. By using this technology, observing a person who is standing 183 meters way in a cloudy night or less light. This device is mainly designed for military people.

This technology is used mainly by state & central agencies for providing security, inspection, search & rescue. This equipment was developed from large optical equipment within low weight goggles using the image intensification based technology. There are two technologies are used for night vision like thermal imaging and image enhancement. Night visions are available in two types like biological type and technology type.

NAME : **ROHITH G.R**
YEAR : **I (MECH)**
CONCEPT NAME : **COOLING SYSTEM**

COOLING SYSTEM

There are two types of Air cooling system and Water-cooling system. Air cooling system In this type of cooling system, the heat, which is conducted to the outer parts of the engine, is radiated and conducted away by the stream of air, which is obtained from the atmosphere.

Air-cooling is mostly tractors of less horsepower, motorcycles, scooters, small cars and small aircraft engines where the forward motion of the machine gives good velocity to cool the engine.

The water from a storage tank is directly supplied to the engine cylinder. The hot water is not cooled for reuse but simply discharges. The low H.P. engine, coupled with the irrigation pump is an example. Thermo Siphon Water Cooling System This system works on the principle that hot water being lighter rises up and the cold water being heavier goes down.

NAME : **RAMIREDDY ANAND**
YEAR : **I (MECH)**
CONCEPT NAME : **INDIAN AIR FORCE**

INDIAN AIR FORCE

The Indian Air Force (IAF) is the air arm of the Indian Armed Forces. Its complement of personnel and aircraft assets ranks fourth amongst the air forces of the world. Its primary mission is to secure Indian airspace and to conduct aerial warfare during armed conflict.

The Indian Air Force (IAF) is the fourth largest air force in the world after the US, China, and Russia.

Indian Air Force Day is observed on October 8 and this year marks its 89th anniversary.

NAME : UMA MAHESHWARI

YEAR : IV(ECE)

CONCEPT NAME : BLOCKCHAIN

BLOCKCHAIN

Although most people think of blockchain technology in relation to cryptocurrencies such as Bitcoin, blockchain offers security that is useful in many other ways. In the simplest of terms, blockchain can be described as data you can only add to, not take away from or change. Hence the term “chain” because you’re making a chain of data.

Not being able to change the previous blocks is what makes it so secure., so no one entity can take control of the data. With blockchain, you don’t need a trusted third-party to oversee or validate transactions.

Several industries are involving and implementing blockchain, and as the use of blockchain technology increases, so too does the demand for skilled professionals. From a birds eye view, a blockchain developer specializes in developing and implementing architecture and solutions using blockchain technology

NAME : RAMANI

YEAR : I(ECE)(14/6/21)

CONCEPT NAME : OLA

OLA

The first Indian cab aggregator company, Ola has made availing cab services a smooth experience. Owned by ANI Technologies Pvt. Ola Cabs became the collective prodigy of Bhavish Aggarwal and Ankit Bhati, owned by ANI Technologies Pvt., Ltd. After a humble beginning in 2010.

Ola is an online transportation network company. It operates as an online cab aggregator that provides a mobile application for booking a cab connecting cab.Ola | 563796 followers on LinkedIn. Ola is India's largest mobility platform and one of the world's largest ride-hailing companies, serving 250+ cities

Ola is India's home grown ride-hailing application with about 60% market share (starting at 2014) in India with clients across 100 cities.

Name : **ASHWIN SHARATH**
Year : **III (MECH)(4.6.21)**
Concept Name : **TYPES OF ENGINE LAYOUT**

TYPES OF ENGINE LAYOUT

The topic for today is the types of engine layouts that are common in production cars. Let us get into the thick of it. The listening or reading the specifications list of any car, you must have heard the terms inline, V or VR, which are the most common engine configuration types for most automobiles around the world.

All these arrangements essentially represent the visual image they form when arranged in a certain way. A W-type arrangement represents 2 V-type setups that require a lot more components to operate. But for performance cars, more cylinders are needed and the cost is generally not an issue. Therefore, such kinds of arrangements are very much used in high-end luxury sports cars.

NAME : **DANESH**
YEAR : **I(AI & DS)**
CONCEPT NAME : **BIO METRIC**

BIO METRIC

Biometrics is the measurement and statistical analysis of people's unique physical and behavioral characteristics. The technology is mainly used for identification and access control or for identifying individuals who are under surveillance. The basic of biometric is that every person can be accurately identified by intrinsic physical or behavioral traits.

The biometric verification is becoming increasingly common in corporate and public security systems, consumer electronics and point-of-sale applications. In addition to security, the driving force behind biometric verification has been convenience, as there are no passwords to remember to carry. Biometric systems for criminal IDs, such as fingerprint or palm print authentication system.

NAME : PRATHIKSHA

YEAR : I (CSE)

CONCEPT NAME : SPEAKING SKILL

SPEAKING SKILL

Speaking skills are defined as the skills which allow us to communicate effectively. They give us the ability to convey information verbally and in a way that the listener can understand.

It's one of the most important parts of language learning as speaking is how we tend to communicate in everyday life. Listen first. Try not to think about what you are going to say as you're listening.

Make eye contact. Another aspect of speaking skills in communication that is often ignored is your voice. It includes pitch, tone, and strength Expand your vocabulary Gleaning new words day in, day out is a good way to widen your vocabulary.

NAME : RANJANI

YEAR : I(ECE)

CONCEPT NAME : ADVANTAGE OF TECHNOLOGY

ADVANTAGE OF TECHNOLOGY

Communication is thus enhanced, and companies can communicate more easily with foreign countries. Research is also simplified. For companies, progress in implementing strategic technology trends is helping them save time and therefore, money. Exchanges are faster especially with the internet.

Internet and Mobile Technology Has Improved Home- and Work-Life · Automation Has Improved Manufacturing Practices.

The advantage of technology is that it provides an effective and efficient way to accomplish as many tasks as possible in a short period of time. There is a lot of technological things which create a lot of sound pollutions. Includes heavy machines, factories, vehicles, airplanes, etc

NAME : SAI KUMAR

YEAR : I(AI)

CONCEPT NAME : SNIFFER

SNIFFER

A sniffer is a software or hardware tool that allows the user to “sniff” or monitor your internet traffic in real time, capturing all the data flowing to and from your computer. Read on to learn how sniffers work, what they're used for, and how you can protect your data against sniffers with a VPN.

A packet sniffer also known as a packet analyzer, protocol analyzer or network analyzer is a piece of hardware or software used to monitor network .

The Smart RF Packet Sniffer is a PC software application that can display and store radio packets captured by a listening RF device.

NAME : ABHINAV J

YEAR : III(MECH)

CONCEPT NAME : FERMENTATION

FERMENTATION

Fermentation is a metabolic process that produces chemical changes in organic substrates through the action of enzymes. In biochemistry, it is narrowly defined as the extraction of energy from carbohydrates in the absence of oxygen. The science of fermentation is known as zymology.

The process was named fermentation, from the Latin word fervere,, which means "to boil." The name came from the observation that mixtures of crushed grapes kept and Fermentation is the breaking down of sugar molecules into simpler compounds to produce substances that can be used in making chemical energy.

NAME : AJAY

YEAR : II(AI & DS)

CONCEPT NAME : DATA MINING

Data mining is a process of extracting and discovering patterns in large data sets involving methods at the intersection of machine learning, statistics, and database systems

Data mining is a process of extracting and discovering patterns in large data sets involving methods at the intersection of machine learning, statistics.

Data mining is the process of finding anomalies, patterns and correlations within large data sets to predict outcomes. Using a broad range of techniques.

NAME : REETHIKA

YEAR : IV(ECE)

CONCEPT NAME : EMBEDDEDWEBSERVERUSINGARM

Embedded Web Server using ARM

The www (World Wide Web) continuously develops through fundamental technologies for simply browsing the web. For different applications, web browsers are used as a standard interface like real-time applications of an embedded system like the Acquisition System of Remote Data. The web server can be developed with the help of HTML and it includes different web pages.

The embedded web server can be developed through embedded c language that is helpful for different applications like mission-critical, ATM, acquisition systems for remote data & controlling devices like DC motor, servo motor, stepper motor, control the stereo sets, use like dimmer stat for controlling intensities of light.

It is used in home automation, used to store programs within flash memory & works based on the requirement. An embedded web server using an ARM processor is helpful in the applications of the agricultural field for monitoring.

NAME : SRISHA

YEAR : I (IT)

CONCEPT NAME : HUMAN NATURE

HUMAN NATURE

Human nature relationship and its impact on human's health are then explored through a developing conceptual model. It is argued that using an interdisciplinary perspective can facilitate a deeper understanding of the complexities involved for attaining optimal health at the human environmental interface.

Social economics is a meta discipline in which economics is embedded in social, political, and cultural behaviours. It examines institutions, choice behaviour, rationality as well as values in relation to markets

Environmentalism can be broadly defined as an ideology or social movement. It focuses on fundamental environmental concerns as well as associated underlying social, political, and economic issues stemming from humanity's interactions affecting the natural environment.

NAME : NAWYA

YEAR : IV(ECE)

CONCEPT NAME : TARDIGRADES

Tardigrades , known colloquially as water bears or moss piglets, are a phylum of eight-legged segmented micro-animals. They were first described by the German zoologist Johann August Ephraim Goeze in 1773, who called them kleinerWasserbär ("little water bear"). In 1777, the Italian biologist Lazzaro Spallanzani named them Tardigrada , which means "slow steppers".

They have been found everywhere in Earth's biosphere, from mountaintops to the deep sea and mud volcanoes, and from tropical rainforests to the Antarctic. Tardigrades are among the most resilient animals known, with individual species able to survive extreme conditions—such as exposure to extreme temperatures, extreme pressures (both high and low), air deprivation, radiation, dehydration, and starvation—that would quickly kill most other known forms of life. Tardigrades have survived exposure to outer space. There are about 1,300 known species in the phylum Tardigrada, a part of the superphylum Ecdysozoa consisting of animals that grow by ecdysis such as arthropods and nematodes.

NAME : RAVI SWETHA

YEAR : IV

CONCEPT NAME : ADAPTIVE BLIND NOISE SUPPRESSION

Adaptive blind noise suppression

In many applications of speech processing the noise reveals some specific features. Although the noise could be quite broadband, there are a limited number of dominant frequencies, which carry the most of its energy. This fact implies the usage of narrow-band notch filters that must be adaptive in order to track the changes in noise characteristics. In present contribution, a method and a system for noise suppression are developed.

The method uses adaptive notch filters based on second-order Gray-Markel lattice structure. The main advantages of the proposed system are that it has very low computational complexity, is stable in the process of adaptation, and has a short time of adaptation.

NAME : POOJITHA

YEAR : IV

CONCEPT NAME : DARK MATTER

Dark matter

Dark matter is a hypothetical form of matter thought to account for approximately 85% of the matter in the universe. Its presence is implied in a variety of astrophysical observations, including gravitational effects that cannot be explained by accepted theories of gravity unless more matter is present than can be seen.

Most experts think that dark matter is abundant in the universe and that it has had a strong influence on its structure and evolution. Dark matter is called dark because it does not appear to interact with the electromagnetic field, which means it does not absorb, reflect or emit electromagnetic radiation, and is therefore difficult to detect.

NAME : VIJAY SRI

YEAR : IV

CONCEPT NAME : DEVOPS

DevOps

DevOps Tool is an application that helps automate the software development process. It mainly focuses on communication and collaboration between product management, software development, and operations professionals. DevOps tool also enables teams to automate most of the software development processes like build, conflict management, dependency management, deployment, etc. and helps reduce manual efforts.

Some of the tools are PagerDuty, Snort etc. PagerDuty is a DevOps tool that helps businesses to enhance their brand reputation. It is an incident management solution supporting continuous delivery strategy.

NAME : ROSHINI

YEAR : IV

CONCEPT NAME : OPTICAL ETHERNET

Optical Ethernet

In the LAN (local area network), the physical layer is known as optical Ethernet. This is used to transmit the data through fiber optic cable. It is used to connect switches as well as internet servers within data centers, equipment racks & among urban data centers.

At present, the data rate which is used most widely is 1 Gb/s. These are inadequate to hold up core networking necessities like routing, switching, routing & aggregation within huge data centers. To overcome this, optical Ethernet is implemented which is extended from LANS to MANs & WANs.

NAME : CHANDRA MOULI

YEAR : IV

CONCEPT YEAR : SECURITY OF WLAN

SECURITY OF WLAN

At present, the fastest-growing technology is Wireless local area networks (WLANs) which use wireless fidelity (Wi-Fi) standards to use in offices, schools, homes, and businesses. They give mobile access to the Internet for enterprising networks. So operators can stay connected away from their desktops. These networks run fast whenever there is no access to wired Ethernet infrastructure.

These are designed to work through less effort without depending on particular commercial installers. The advantages WLANs mainly include, mobile users can be constantly connected to their most useful applications as well as data. Mobile users can be more creative if they have nonstop access to e-mail, immediate messaging & other applications.

NAME : VISWAPRIYA

YEAR : IV

CONCEPT NAME : TRANSMISSION OF MICROWAVE POWER

TRANSMISSION OF MICROWAVE POWER

An SPS or solar power satellite is one kind of renewable energy system. This satellite is used to change the energy of solar into microwaves. These microwaves are transmitted to a beam and receive antenna on the globe so that it converts into normal Electricity.

The first concept of SPS was proposed in the USA, in 1968. At present, this concept was attracted by the people to enhance public attention because a promising energy system is used to determine the problems of energy & the global environment. This solar power satellite is a dirt-free, secure & large-scale electric power source.

NAME : JAYA PRIYA

YEAR : I (AI)

CONCEPT NAME : BEAR OS

Write in portable Markdown, encrypt your notes, sync notes, organize notes with nested tags, add sketches, pick a beautiful theme, export to a variety of formats.

Bear is a focused, flexible notes app used by writers, lawyers, chefs, teachers, engineers, students, parents and more! Bear has quick organisation, editing tools, and export options to help you write quickly and share anywhere and preserve your privacy with encryption.

NAME : PADMA SRI

YEAR : II (CSE) (13.8.2021)

CONCEPT NAME : CLOUD COMPUTING

CLOUD COMPUTING

Cloud computing is the on-demand availability of computer system resources, especially data storage and computing power, without direct active management by the user. Large clouds often have functions distributed over multiple locations, each location being a data centre.

Cloud computing is the delivery of computing services including servers, storage, databases, networking, software, analytics, cloud computing means storing and accessing data and programs over the internet instead of your computer's hard drive.

Cloud computing is the on-demand delivery of IT resources over the Internet with pay-as-you-go pricing. Instead of buying, owning, and maintaining physical aspects.

NAME : AKASH VIMAL

YEAR : III (IT) (13.8.2021)

CONCEPT NAME : MOTHER BOARD AND COMPONENTS

MOTHER BOARD AND COMPONENTS

A motherboard acts as a platform for establishing connections between various components that are required to run our computer smoothly. It's a printed circuit board (PCB) that houses

all the motherboard components, either soldered or connected discretely through expansion slots. In other words, a motherboard can also be defined as the basic building block of a computer.

As you might know, a standard laptop or a desktop computer is made up of different things such as the CPU, monitor, keyboard, mouse, and much more. All these components talk to each other via common hardware known as the motherboard or simply mobo. Most users don't have much idea about the green colored thing placed inside their machine

NAME : AMRITH A

YEAR : IV (ECE)

CONCEPT NAME : PRICE ACTION IN TRADING

PRICE ACTION IN TRADING

Price action describes the characteristics of a security's price movements. In simple terms, price action is a trading technique that allows a trader to read the market and make subjective trading decisions based on the recent and actual price movements, rather than relying solely on technical indicators.

Price action trading is a methodology for financial market speculation which consists of the analysis of basic price movement across time.

NAME : AGASH MURTHY

YEAR : IV (EEE)

CONCEPT NAME: LIFE CYCLE OF DATA SCIENCE

A data science life cycle is an iterative set of data science steps you take to deliver a project or analysis.

Data Science Lifecycle revolves around the use of machine learning and different analytical strategies to produce insights and predictions. Most Data Science projects have similar work-flow/ structure, that you can use to structure your projects.

The various types of data science is 1. Business understanding 2. Collecting data 3: Cleaning data . 4. Analyzing data 5. Data Modelling / Machine Learning.

Once we understand the business and its objectives. We need to understand the data and all the different needs. First, we go and collect the data. The latter can be already ordered or centralized or we may have to go to the individual source system and collect the data that is

required for our model. i.e generally done through an ETL pipeline, ETL stands for Extract, Transform and Load.

NAME : PRADEEP KUMAR

YEAR : II (CIVIL)

CONCEPT NAME : TANJORE TEMPLE

TANJORE TEMPLE

The Gopuras at Thanjavur are two huge monumental gateways which lead to the compound dominated by the Brihadishvara temple. They are the earliest mature examples of the form in southern India. Built on the eastern side of the complex, the outer gopuras has five stories and the inner one three.

Each gopuras has a centrally positioned entrance giving access to a single two-storied chamber on each side of it.

The gopuras at Thanjavur are unique because each façade (interior and exterior) is not identical as in later examples. The outer facades each have two large dvarapalas (door guardians) as well as figure sculpture in their many niches and large decorative fan shapes.

NAME : Y.PRATHYUSHA

YEAR:III (ECE)

CONCEPT NAME: BUILDING A LINE FOLLOWER ROBOT

Line follower is a machine that can follow a path. The path can be visible like a black line on a white surface (or vice-versa) or it can be invisible like a magnetic field.

Sensing a line and maneuvering the robot to stay on course, while constantly correcting wrong moves using feedback mechanism forms a simple yet effective closed loop system.

As a programmer you get an opportunity to ‘teach’ the robot how to follow the line thus giving it a human-like property of responding to stimuli.

Practical applications of a line follower : Automated cars running on roads with embedded magnets; guidance system for industrial robots moving on shop floor etc.

NAME : **V.VAMSI KIRAN**
YEAR : **III (ECE)**
CONCEPT NAME : **POWER GENERATION USING HYDRAULIC MECHANISM**

The extensive usage of energy has resulted in an energy crisis, and there is a need to develop methods of optimal utilization, which will not only ease the crisis but also preserve the environment.

The focus now is shifting more and more towards the conventional energy, which are essentially, non-polluting.

we approach a new mechanism to generate power from speed bumper, because the number of vehicles passing over the speed bumper in roads is increasing day by day. This proposed system is to extract the kinetic energy of vehicle flow in the streets entitled as generating power from speed bumper through hydraulic mechanism.

It is more efficient than other existing models, which enable to accommodate conventional, both in terms of balancing electricity supply and demand in energy across the global.

NAME : **V.SUSMITHA**
YEAR : **III(ECE)**
CONCEPT NAME : **GENERATION OF ELECTRICITY USING ROAD TRANSPORT PRESSURE**

Energy is the basic need for the development of the modern world. For meeting up the regular demand of energy we need to design a system that will produce electricity without destroying the nature.

This paper attempts to show how man has been utilizing and optimizing kinetic energy. Researches show that the world has already had its enough shares of its energy resources. Fossil fuels pollute the environment. Nuclear energy requires careful handling of both raw as well as waste material. The focus now is shifting more and more towards the renewable sources of energy, which are essentially, non-polluting.

This paper attempts to show how energy can be produced, stored and used using the road transport pressure or any kind of pressure. The number of vehicles passing over the speed breaker in roads is increasing day by day. There is possibility of tapping the energy and generating power by making the speed breaker as a power generation unit. The generated power can be used for the lamps near the speed breakers and this will be a great boon for the rural villages too.

NAME : SWEATHA V

YEAR : III

CONCEPT NAME : OPTIMIZATION OF POWER CONSUMPTION IN VLSI CIRCUIT

Space, power consumption and speed are major design issues in VLSI circuit. The design component has conflicting affect on overall performance of circuits. An optimization of power dissipation can be achieved by compromising various components.

Power consumption in VLSI circuit (like in multipliers) is also data dependent. In this paper attempt has been made to test different design methods and propose a modular approach for optimizing power consumption. It is found that algorithm based design reduce gate switching activity considerably and as result power consumption in multiplier is reduced.

NAME : SUKUMAR G

YEAR : III

CONCEPT NAME : THE MODE OF RFID TOWARDS IDEA TO PRACTICE

This paper comprehensively explain the overview of RFID technology aiming to explain the understandings from implementation to future work by concentrating on challenges, risks, advantages and disadvantages along with precautions correspondence to implication.

One the biggest challenge of RFID is the standardization, so a brief introduction of standardization is included in this paper to give clear view to the concerned people along with history of RFID. The possible solution of the problems is also part of the paper.

This paper discusses what RFID technology is and the history of the RFID technology and what kind of advantages and disadvantages it has over other technology such as bar code system.

RFID technology has given a vital space where the industries and organization from public sector to payment system can play and get lots of benefits by using RFID technology with a scope such as detection of products in supply chain, security increased for the theft of books in the library and anti-counterfeit of medicine.

NAME : **P TEJA**
YEAR : **III - EEE**
CONCEPT NAME : **TRANSMITTING DATA FROM A PC TO A MICROCONTROLLER**

The parallel port is a 25 pin connector on your computer that is commonly known as the printer port, LPT1 or LPT2. This port is nice because it is relatively easy to manipulate it with software and the data is transmitted using standard TTL 0 – 5V signals. Another pro to using this port is there is no need for additional hardware to put the signal back together so that it can be loaded into the microcontroller.

The one major drawback for our project is that the parallel port hogs up a lot of pins and that can be a problem when you're dealing with a 16 pin microcontroller. To utilize the parallel interface we would need 8 pins for the data transmission, 1 pin is an IRQ which signals that the data is ready and clocks it through, 1 pin to signal whether the data transmission was an address or actual data because we are employing multiple microcontrollers, and 1 pin to send a signal back to the PC telling it that the current task has been accomplished and it is ready for the next instruction.

NAME : **P THARUN**
YEAR : **III**
CONCEPT NAME : **DIGITAL VIDEO REGISTERING**

It is up to nine different video sources and a number of audio sources to be recorded and treated in such a manner which enables synchronized playback. The different video sources do not always follow a universal standard, and differ from format as well as resolution.

This study aims to compare a number of state of the art commercial of the shelf solutions with proprietary hardware. Great emphasis is placed on giving a functional view over the system features and to evaluate different compression methods.

The report also discusses different transmission, storage and playback options. The report culminates in a series of proposed solutions to sub problems which are solved and treated separately, leading to a final proposal from the author. The final draft set how well the system meets pre-set requirements to price.

NAME : P GOPI

YEAR : III

CONCEPT NAME : PARAMETERIZABLE WISHBONE BUS

In the industry of intellectual property products “IP-cores”, a communication link is almost always needed. A semiconductor intellectual property IP core is a reusable unit of logic in electronic design. IP cores are used as building blocks for ASIC chip design or FPGA logic designs. A bus creates a communication link between the IP cores in a system.

The company AnaCatum Design AB have many projects where a bus is needed. Creating a new bus structure for every project is time consuming. By having a generic bus structure of a known standard with changeable parameters, the user only has to set the desired parameters to fit the system. Also having interfaces for master and slave the user has only to make minor changes to have a fully functional bus for the system.

NAME : NITHYA P

YEAR : III

CONCEPT NAME : RF WIRELESS PWM DC MOTOR SPEED CONTROL

The transmitter circuit below consists of WZ-X01 RF module, Holtek HT-640 encoder and 8 bit A/D converter. U1 ADC0804 converts the analog voltage to digital data, U2 encodes that data (D0~D6) along with D6, D7 and transmitting through the RF transmitter module.

The potentiometer VR1 varies the voltage to the A/D U1 pin6, since only the lower 6 bits are used; the trim pot VR2 has to adjust so that the maximum input to the U1 will not exceed 1.25V. The S2 (D6) and S3 (D7) are used for controlling the rotation direction of the motors. S1 set the transmitter address; this address has to match with the address of the decoder circuit.

Name:M. CHAITHANYA

Year:III

Concept Name: **COMPUTER CONTROLLED AUTOMATED SMALL VEHICLE**

This kind of vehicle can move in a predefined path without human operator intervention and can collect data from the surrounding environment. This data has been processed by a well structured hardware and software. After processing the received data is sent to the vehicle to move it in its correct path. This type of vehicle can be used in variety of application such as military spying, fire fighting system etc.

A 6 volt motor operated small vehicle is developed which is fully computer controlled. The developed system has been interfaced with PC through standard parallel printer port of an

IBM compatible Pentium I processor. Micro-switch sensors /1/ has been attached with the body of the vehicle at different locations to collect data from the surrounding environment. Five sensors are used for this purpose and they are attached on front, back, lower front and two sides of the vehicle. Data from the vehicle is serially sent towards the PC through a transmission line using serial data transmission standard. A software has been developed using 'TURBO C' language to process this data and suitable command has been sent serially towards the vehicle to move it in its correct path.

NAME : M. HIMAJA

YEAR : III

CONCEPTNAME : ADAPTIVE WIENER FILTERS IN CONTROL AND SIGNAL PROCESSING

In this topic has been carried out on problems spanning in the field of Signal Processing, Communications, and Control. The idea is to develop general tools and methods useful for a large range of problems. A guiding principle is to formulate general problems, originating from relevant applications. Here equalization of fading mobile radio channels has been a main source of inspiration and also a useful application for testing of new ideas.

Very central in our work is the desire to obtain explicit solutions and to gain engineering insight. As a means to accomplish that, the Polynomial Systems framework has been used in conjunction with general IIR-filter structures, implicit adaptive schemes, probabilistic description of model errors, and utilization of a priori information.

Our long term goal is to provide a new and general concept for solving a variety of important problems in signal processing, communications and control. A step toward this goal is the completion of chapters 1 and 2. Next, we will focus on some of the most important main activities within the project.

NAME : KOTA KARTHIK

YEAR : III

CONCEPT NAME : VLSI DESIGN OF LOW POWER BOOTH MULTIPLIER

Continuous advances of microelectronic technologies make better use of energy, encode data more effectively, transmit information more reliable, etc. Particularly, many of these technologies address low-power consumption to meet the requirements of various portable applications.

In these application systems, a multiplier is a fundamental arithmetic unit and widely used in circuits. VHDL is one of the common techniques for the digital system emergent process. The technique is done by program using certain software which performs simulation and examination of the designed system. The designer only needs to describe his digital circuit design in textual form which can remove without the effort to alter the hardware.

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NAME : INDUJA H

YEAR : III

CONCEPT NAME : EMBEDDED INTERNET FOR PULSE OXIMETERS

In recent years there has been many investigations into sleeping disorders. Many studies are carried out in specially equipped units in which a patient is monitored whilst sleeping. Measurements that are taken are in the form of ECG, EMG, EEG, nasal airflow, and abdominal movement. Pulse oximetry data is also recorded during the night.

Pulse oximetry is the measurement of pulse rate and oxygen saturation of blood. Along with other measurements pulse oximetry data is used in the diagnosis of sleeping disorders. Recent studies have shown that diagnosis of sleeping disorders is better suited to a location of familiarity rather than a hospital situation. Amongst others, this is one of the many reasons that remote monitoring of medical equipment, such as the pulse oximeter, is a forward step in sleep medicine.

In building an “embedded internet for pulse oximeters” a door is opened on the possibility of remote monitoring via the Internet. This solution needs to be inexpensive relative to the cost of a pulse oximeter and the system needs to be robust as it will be portable. Ease of use is yet another major factor when designing such a system. Simplifying the operation of the device allows for less technical operators to adequately use the equipment to full potential.

NAME : DIVI NANDHU

YEAR : III ECE

CONCEPT NAME : LOW POWER SHIFT AND ADD MULTIPLIER DESIGN

Today every circuit has to face the power consumption issue for both portable device aiming at large battery life and high end circuits avoiding cooling packages and reliability issues that are too complex. It is generally accepted that during logic synthesis power tracks well with area. This means that a larger design will generally consume more power.

The multiplier is an important kernel of digital signal processors. Because of the circuit complexity, the power consumption and area are the two important design considerations of the multiplier. In this paper a low power low area architecture for the shift and add multiplier is proposed. For getting the low power low area architecture, the modifications made to the conventional architecture consist of the reduction in switching activities of the major blocks of the multiplier, which includes the reduction in switching activity of the adder and counter.

This architecture avoids the shifting of the multiplier register. The simulation result for 8 bit multipliers shows that the proposed low power architecture lowers the total power consumption by 35.25% and area by 52.72 % when compared to the conventional architecture. Also the reduction in power consumption increases with the increase in bit width.

NAME : DINESH R

YEAR : III ECE

CONCEPT NAME : QUALITY FM TRANSMITTER

This FM transmitter for your stereo or any other amplifier gives you a pretty good signal strength up to a range of 500 meters having a power output of about 200 mW. This circuit can be operated with a 9V battery.

The audio-frequency modulation stage is constructed close to transistor BF494 (T1), that is wired as a VHF oscillator and modulates the audio signal present at the base. Working with preset VR1, you'll be able to alter the audio signal level. The VHF frequency is decided by coil L1 and variable capacitor VC1. Decrease the value of VR2 to obtain a higher power output.

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NAME : DEEPAK G

YEAR : III – ECE

CONCEPT NAME : BRAKE FAILURE INDICATOR

When the brake is applied, the green LED blinks and the piezobuzzer beeps for around one second if the brake system is intact. If the brake fails, the red LED glows and the buzzer stops beeping.

The circuit will work only in vehicles with negative grounding. It also gives an indication of brake switch failure. In hydraulic brake systems of vehicles, a brake switch is mounted on the brake cylinder to operate the rear brake lamps. The brake switch is fluid operated and doesn't function if the fluid pressure drops due to leakage.

The fluid leakage cannot be detected easily unless there is a severe pressure drop in the brake pedal. This circuit senses the chance of a brake failure by monitoring the brake switch and reminds you of the condition of the brake every time the brake is applied.

NAME : BALAJI R

YEAR : III

**CONCEPT NAME : A HIGH-SPEED CLOCKLESS SERIAL LINK
TRANSCIEVER**

Serial link transceivers achieve high off chip data rates by using multiplexing transmitters and demultiplexing receivers that interface parallel on-chip data paths with high-speed, serial off-chip buses. While synchronous transceivers commonly use multi-phase clocks to control the data multiplexing and demultiplexing, our clockless transceiver uses a token-ring architecture that eliminates complex clock generation and synchronization circuitry.

Furthermore, our clockless receiver dynamically self-adjusts its sampling rate to match the bit rate of the transmitter. Our SPICE simulations report that in a 0.18- um CMOS technology this transceiver design operates at up to 3-Gb/s and dissipates 77 mW of power with a 1.8-V supply voltage.

We describe the design of a high-speed, clockless, serial link transceiver. As the demand for off-chip bandwidth grows with on-chip operating frequency, high bit-rate I/O pins become increasingly necessary for inter-chip signaling interfaces in VLSI systems. While it is always possible to increase off-chip bandwidth by making buses wider with more I/O pins, it is often impractical due to cost and limits in packaging technology.

This suggests a chip design should efficiently utilize its existing I/O pins by driving them at high bit rates. An attractive high bit-rate I/O communication scheme, utilized in high-speed synchronous links, multiplexes and demultiplexes on-chip data onto a high-speed, off-chip serial bus. In this paper we propose an analogous scheme for asynchronous links.

NAME : ARUN K

YEAR : III

CONCEPT NAME : ELECTRICITY GENERATION FROM SPEED BREAKERS

Surrounding is the expression of flow of energy in one of the forms. But in this fast moving world, population is increasing day by day and the conventional energy sources are lessening. The extensive usage of energy has resulted in an energy crisis over the few years.

Therefore to overcome this problem we need to implement the techniques of optimal utilization of conventional sources for conservation of energy. My paper includes how to utilize the energy which is wasted when the vehicles passes over a speed breaker. Lots of energy is generated when vehicle passes over it.

We can tap the energy generated and produce power by using the speed breaker as power generating unit. The kinetic energy of the moving vehicles can be converted into mechanical energy of the shaft through rack and pinion mechanism.

Then, this mechanical energy will be converted to electrical energy using generator which will be saved with the use of a battery. The energy we save during the day light can be used in the night time for lighting street lights. Therefore, by using this arrangement we can save lot of energy which can be used for the fulfilment of future demands.

NAME : SUKUMAR

YEAR : III - ECE

CONCEPT NAME : MULTIPLE PLATFORM BIAS ERROR ESTIMATION

Sensor fusion has long been recognized as a mean to improve target tracking. Sensor fusion deals with the merging of several signals into one to get a better and more reliable result. To get an improved and more reliable result you have to trust the incoming data to be correct and not contain unknown systematic errors.

This thesis tries to find and estimate the size of the systematic errors that appear when we have a multi platform environment and data is shared among the units. To be more precise, the error estimated within the scope of this thesis appears when platforms cannot determine their positions correctly and share target tracking data with their own corrupted position as a basis for determining the target's position.

The algorithms developed in this thesis use the Kalman filter theory, including the extended Kalman filter and the information filter, to estimate the platform location bias error. Three

algorithms are developed with satisfying result. Depending on time constraints and computational demands either one of the algorithms could be preferred.

NAME : **A BHAVANA**

YEAR : **III**

CONCEPT NAME : **SINGLE PHASE INDUCTION MOTOR DRIVES**

This topic deals with literature survey of various existing converter topologies, which have been proposed for adjustable speed single phase induction motor drives (SPIMD). Included in the paper are several newly proposed converter topologies.

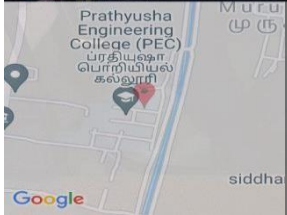
A study of the merit and demerit of different converter topologies have been carried out. Various converter topologies have been compared in this paper. Among these converter topologies, the adjustable frequency PWM inverter is the best choice for single-phase induction motor drives.

However, adjustable-frequency drives have not been widely used with single-phase induction motors. The open-loop constant V/f control law cannot be used with the single-phase induction motor drives as it is used with three phase motors. The variation of the operating frequency at lower speed range with constant load torque causes variation in the motor's slip. A constant V/f control is suitable only over the upper speed range.

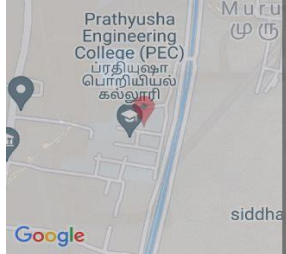
However, improvements in the low frequency performance require the use of constant power dissipation in the motor. Simulation studies for some of the existing topologies as well as for the proposed ones have been carried out.

SAMPLE PHOTOS



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