G. S. Mandal's
Maharashtra Institute of Technology, Aurangabad
Department of Electronics & Telecommunication Engineering

E-Rêves

Smart City

Vol:4 Issue:1

Editorial Message:

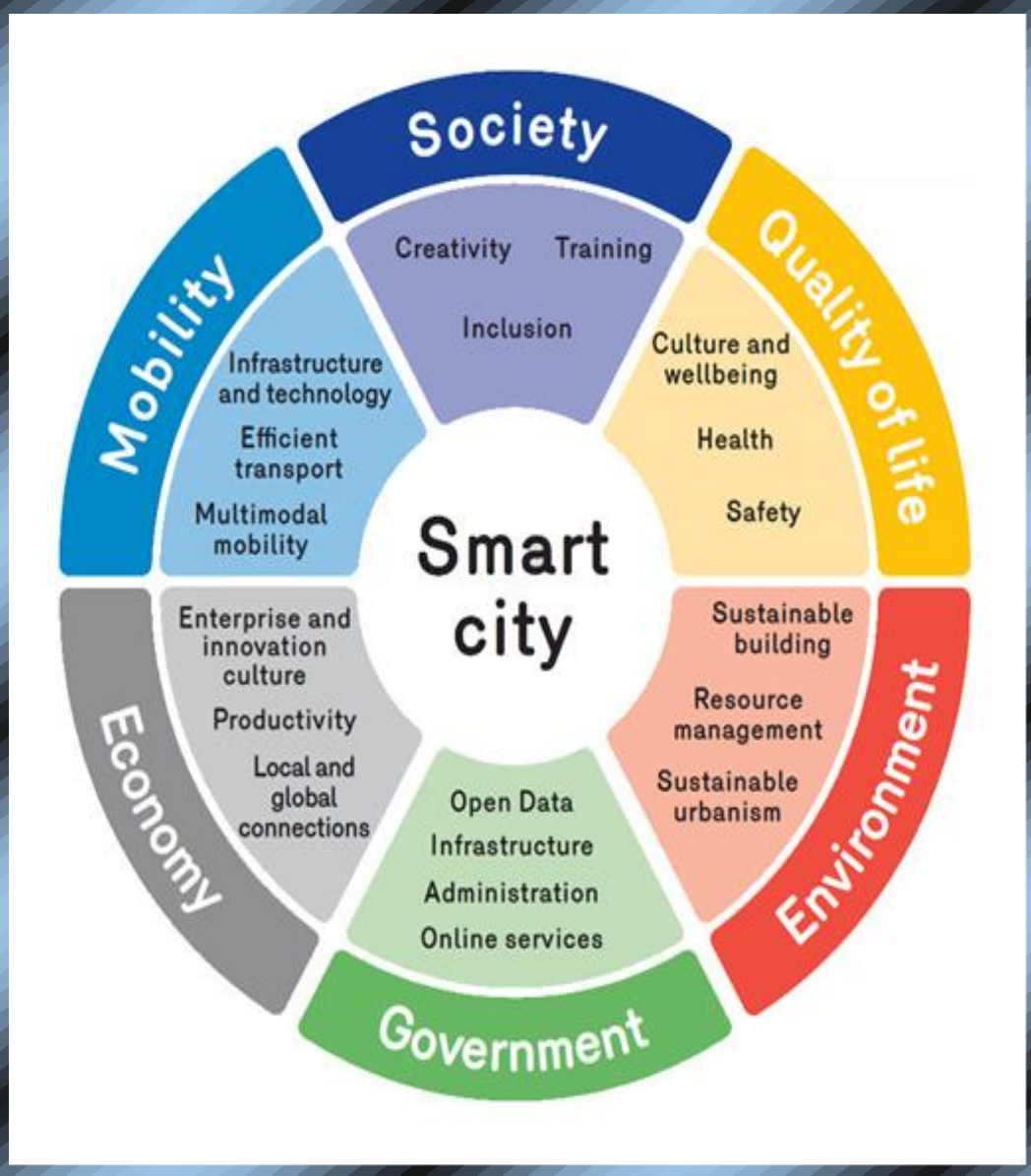
Welcome to this new edition of E-Rêves Magazine and Thank you for the response of previous issue!! ☺

A smart city is an urban area that uses different types of electronics, IOT, sensors to collect data and then use this data to manage assets and resources efficiently. This includes data collected from citizens, devices, and assets that is processed and analysed to monitor and manage traffic and transportation systems, power plants, water supply networks, waste management, crime detection, information systems, schools, libraries, hospitals, and other community services. Prime Minister Narendra Modi has launched Smart Cities Mission(100 cities) in 2015 under the Ministry of urban development & the fund provide to this project is ₹98,000 crore (US$14 billion)

Solar Power

Solar power is the conversion of energy from sunlight into electricity, either directly using photovoltaic (PV), indirectly using concentrated solar power, or a combination. Concentrated solar power systems use lenses or mirrors and tracking systems to focus a large area of sunlight into a small beam. Photovoltaic cells convert light into an electric current using the photovoltaic effect.[1]

Photovoltaics were initially solely used as a source of electricity for small and medium-sized applications, from the calculator powered by a single solar cell to remote homes powered by an off-grid rooftop PV system. Commercial concentrated solar power plants were first developed in the 1980s. The 392 MW Ivanpah installation is the largest concentrating solar power plant in the world, located in the Mojave Desert of California.



Vision of Institute

MIT aspires to be leader in techno-managerial education at national level by making students technologically superior and ethically strong having an enterprising spirit with a global mindset.

Mission Of Institute

We are committed to provide wholesome education in Technology and Management to enable aspiring students to utilize their fullest potential and become professionally competent by providing: Well qualified, experienced and professionally trained faculty, State-of-the-art infrastructural facilities and learning environment, conducive environment for research and development, delight to all stakeholders.

Waste management:-

Waste management (or waste disposal) are the activities and actions required to manage waste from its inception to its final disposal. This includes the collection, transport, treatment and disposal of waste, together with monitoring and regulation of the waste management process.

Waste can be solid, liquid, or gaseous and each type has different methods of disposal and management. Waste management deals with all types of waste, including industrial, biological and household. In some cases waste can pose a threat to human health.] Waste is produced by human activity, for example the extraction and processing of raw materials. Waste management is intended to reduce adverse effects of waste on human health, the environment or aesthetics.

Top 20 Smart Cities in India:-

1. Bhubaneswar, Odisha
2. Pune, Maharashtra
3. Jaipur, Rajasthan
4. Surat, Gujarat
5. Kochi, Kerala
6. Ahmedabad, Gujarat
7. Jabalpur, MP
8. Visakhapatnam, Andhra Pradesh
9. Sholapur, Maharashtra
10. Davangere Karnataka
11. Indore, Madhya Pradesh
12. New Delhi Municipal Corporation
13. Coimbatore, Tamil Nadu
14. Kakinada, Andhra Pradesh
15. Belagavi, Karnataka
16. Udaipur, Rajasthan
17. Guwahati, Assam
18. Chennai, Tamil Nadu
19. Ludhiana, Punjab
20. Bhopal, MP

Three way to demonstrate the intelligence in smart city:-

1. **Orchestration intelligence**: Where cities establish institutions and community-based problem solving and collaborations, such as in Bletchley_Park, where the Nazi Enigma cypher was decoded by a team led by Alan_Turing. This has been referred to as the first example of a smart city or an intelligent community.
2. **Empowerment intelligence**: Cities provide open_platforms, experimental facilities and smart city infrastructure in order to cluster innovation in certain districts. These are seen in the Kista Science City in Stockholm and the Cyberport Zone in Hong Kong. Similar facilities have also been established in Melbourne.
3. **Instrumentation intelligence**: Where city infrastructure is made smart through real-time data collection, with analysis and predictive modelling across city districts. There is much controversy surrounding this, particularly with regards to surveillance issues in smart cities. Examples of Instrumentation intelligence have been implemented in Amsterdam. This is implemented through:

1.A common IP infrastructure that is open to researchers to develop applications.

2.Wireless meters and devices transmit information at the point in time.

3.A number of homes being provided with smart energy meters to become aware of energy consumption and reduce energy usage

4.Solar power garbage compactors, car recharging stations and energy saving lamps.

VISION OF DEPARTMENT

To develop the department into full fledged centre of learning in the various fields of Electronics and Telecommunication keeping in views the latest development and making students

MISSION OF DEPARTMENT

To impart education and training in the field of electronics and telecommunication engineering and its allied areas by developing competencies of students to meet social and industrial need.

Hybrid Drone cum Car Surveillance system using Lab VIEW:-

The aim of this project is to develop an effective system to analyse real time images of places which are abandoned and cannot be reached by humans. For example a building destroyed due to fire/natural disaster or wildlife sanctuaries or dense forest or valleys inaccessible to humans. This project will make use of a drone which will be magnetically attached to robotic car which will be deployed with cameras to provide real time images of the scenario and images can be analysed by using lab view necessary solutions could be provided to rectify the problems at that place. This would be helpful in taking quick necessary actions with cost effective solutions. The robotic car attached with belt drives so that it could run even on rough terrains.

–Vishal Chib ,Avinash Mishra ,Vridhi Parmar

Smart City Based Project

Automatic Street light

We are living in the world where everything goes to be automatic from your washing machine to your ceiling fan. Street lights are one of those examples of the automatic world. Automatic street light are those which needs no manual operation to gets turn ON and turn OFF. Automatic street light is designed using Timer IC 555 and LDR. When darkness rises to a certain level then sensor circuit gets activated and switches ON and when there is other source of light i.e. daytime, the street light gets OFF. It is useful to conserve electricity at day time

-Bhagyashree Pardesi (SYA)

Image Processing Based Project

Development of Face recognition system using Feature Extraction

The project is designed to help the blind persons to identify the person in front of them. High Definition camera is interfaced to the control unit of the system for sensing the images for processing and validation. This data is conveyed to the control unit which checks the all present images of the Database. Remote operation is achieved by systems itself. The processor will compare all the images present at the database and shows the result. If any of them is matches with the image, it will identifies by controller. And controller will give the command to the text to speech module, which will generate a voice result of the person. So blind person can listen it.

- **Nilesh Wahule ,Dnyaneshwar Dhore ,Uma Kulkarni**

Students Achievement:-Backed 2nd prize in Avishkar

- ADVANCE AGRICULTURE ROBOTICS SYSTEM

In conventional seed sowing method required labour team, sometimes they are busy in farming work due to this they aren't available for work. Cause unable to fulfil more demand of labours and delay in seeding process also they suffers from health issues and while seeding operation some seeds are waste

This problems are overcome by using modern farming technology designed an agri-bot, which works with artificial intelligence and automation which has helps to design autonomous robot for completing demands through mechatronics . This Robot deals with modern farming technology and computed integrated circuitry which acquires data from sensors to complete seeding operation in straight and forward direction. And from fighter tank inspired, designed an robotic assembly to run robot at any rough surfaces of farm smoothly and to maintain working efficiency with the help of specially designed wheels and caterpillar track with motors.

- Shreyash G. Lankepillewar

" Reves-Evento" Smart 4 Issue: City

Departmental Activities


Two days Workshop on **"Mobile Making and IOT"** was conducted on 16th &17th Feb 2019.Students made mobile using Arduino , GSM, etc. and tested mobile Successfully .They also learn to control different electronics appliances remotely.


MITRA organized three days hands on training program on **"arduino and it's applications robotics using simulation and hardware"** on 8th,9th and 10th of March. Student enjoyed playing with sensors, arduino boards . Students made robots based on different concepts such as obstacle avoider, Bluetooth controlled robot, voice controlled robot, line follower

MIT Group of Institutions has organized Six days National level workshop/STTP on**" Virtual Lab Development & Certification Programme"** in association with IIT Bombay**, 6-11 Feb 2019**. The BootCamp targets 25 teams for participation


Electronics and telecommunication Engineering Department organized parent meeting on 16th March 2019 to disseminats of outcome based education , information about laboratories of department and information about previous and current activities of department to parent


Two days Workshop on **"Arduino"** was conducted under T&P Cell. Students learnt the basic programming of Arduino & Interfacing of many components like LCD display, motor ,LED display etc with Arduino.

Students Achievements

SY Toppers :-

1) Apoorva Kunde
2) Samiksha Chavan
3) Bhagyashree Pardeshi

TY Toppers :-

1) Ruchita Chaduke
2) Nishigandha Dhole
3) Mayuri Dale

B.Tech Toppers :-

1) Nikita Bhagwat
2) Pooja Thote
3) Vinita Sable

E-Rêves "Rêves-Talento" Smart City Vol:4 Issue: 1

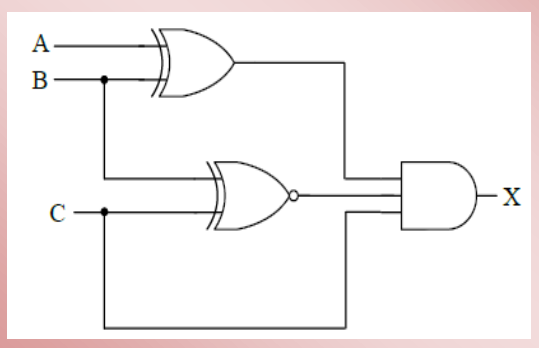
Did You Know

- Each time you see a full moon you always see the same side
- The longest possible eclipse of the sun is 7.31 minutes
- There is no sound in space
- If your DNA was stretched out it would reach to the moon 6,000 times

Logical Question

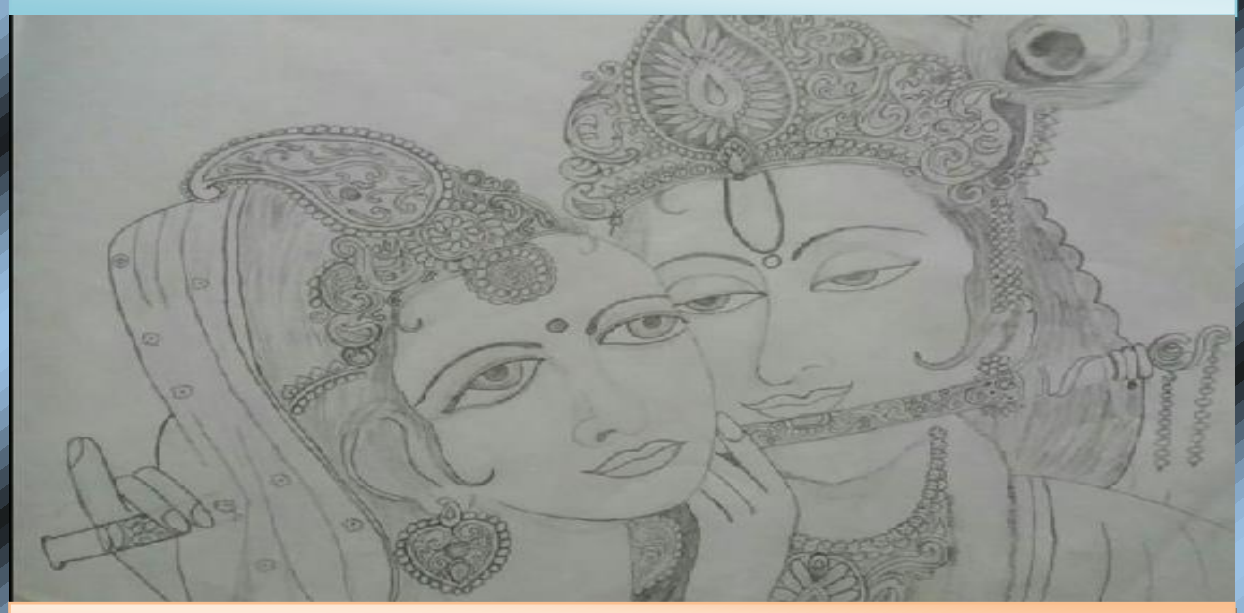
For the logic circuit shown in the figure, the required input condition (A,B,C) to make the o

2output X =1 is



Sketches

Swarda Deshmukh (TY (A))



Kirti Chelmelwar (TY(A))

Poem

गुरू

पहिला गुरु आहे ,ती माझी आई

ती शिकवते मला अ, आ,ई

त्याच अ, आ, ई चा अर्थ सांगताना।

ती सांगत होती, अंतर कुठे आहे

आत्मा आणि ईश्वरामध्ये

सांग माझे बाई।

दुसरे गुरू आहेत, ते माझे बाबा

जेव्हा विचारांच्या बाराखडी मध्ये,

माझे वाजत होते बारा।

तेव्हा ते म्हणत विचार असावेत वाऱ्यासारखे,

नको त्याला थांबा।

तिसरे गुरू आहे,ते माझे सोबती

एवढी आहे आमची प्रिती,

आणि याच प्रितीमुळे या किर्तीला नाही कोणत्याही दुःखाची भीती,

कारण ते म्हणत आम्ही आहोत सुख दुःखाचे सोबती

म्हणून का वाटावी परिणामाची भीती

चौथे गुरू आहे,ते आपले शिक्षकवृंद

यांच्याच संकरामुळे निर्माण होतो माझ्यामध्ये

ज्ञान प्राप्तीचा छंद

आणि याच छंदातून निर्माण होतात स्वप्न नव नवे

आणि याच स्वप्नपूर्ती करीता

हे चार गुरु मला हवे

Kirti Chelmelwar(TYA)