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DEPARTMENT OF
ELECTRONICS AND COMMUNICATION



ADITYA
ENGINEERING COLLEGE (A)

APPROVED BY AICTE
NEW DELHI AND AFFILIATED TO
JNTU KAKINADA



ABOUT THE DEPARTMENT OF ECE

The department of Electronics and Communication Engineering at Aditya strives to produce highly competent engineers equipped with advanced professional knowledge, entrepreneurial thinking, professional and ethical attitude, critical problem solving and analytical skills through effective teaching learning process research and industrial collaboration and established as one of the major departments of the institute.

The faculty of the department, a rich blend with academic and industrial experience, have been constantly carrying out research on many cutting-edge technologies with regular publications in Springer, Elsevier and other top international journals. The academic quality of the department is reflected by the laurels won by the students and the distinguished positions in industry and academia occupied by alumni.

The department strives to upgrade the knowledge of faculty and students by organizing various Workshops Industry-Institute Interactions, Continuous Improvement Programs inviting eminent personalities from Industry and academic Institutions, Seminars and Research activities.

VISION OF THE DEPARTMENT

- To become a center of excellence in the field of Electronics and Communication Engineering with technological capability, professional commitment and social responsibility.

MISSION OF THE DEPARTMENT

- M1: Provide quality education, well-equipped laboratory facilities and industry collaboration.
- M2: Promote cutting edge technologies to serve the needs of the society and industry through innovative research.
- M3: Inculcate professional ethics and personality development skills

Let's Learn Morse Code

A ● ■
B ■ ● ● ●
C ■ ● ■ ●
D ■ ● ●
E ●
F ● ● ■ ●
G ■ ■ ●
H ● ● ● ●
I ● ●
J ● ■ ■ ■
K ■ ● ■
L ● ■ ● ●
M ■ ■
N ■ ●
O ■ ■ ■
P ● ■ ■ ●
Q ■ ■ ● ■
R ● ■ ●
S ● ● ●
T ■

U ● ● ■
V ● ● ● ■
W ● ■ ■
X ■ ● ● ■
Y ■ ● ■ ■
Z ■ ■ ● ●

1 ● ■ ■ ■ ■
2 ● ● ■ ■ ■
3 ● ● ● ■ ■
4 ● ● ● ● ■
5 ● ● ● ● ●
6 ■ ● ● ● ●
7 ■ ■ ● ● ●
8 ■ ■ ■ ● ●
9 ■ ■ ■ ■ ●
0 ■ ■ ■ ■ ■

Morse code is a character encoding scheme used in telecommunication that encodes text characters as standardized different signal durations called dots and dashes or dits and dahs. Morse code is named for Samuel F.B. Morse, an inventor of the telegraph.

Recent Technologies

21st century has seen a huge boom in Technological development.

-M.Seshu ECE II year 20A91A0433

5G TECHNOLOGY:

4G-the mobile network that's used around the world to make calls, send messages and surf the web.

Now there are plans for 4G to be replaced by 5G. 5G a new, faster network that has the potential to transform the internet.

5G is a software defined network it means that, while it won't replace cables entirely, it could replace the need for them by largely operating on the cloud instead. This means it will have a 100x better capacity than 4G which will dramatically improve internet speed.

For example, to download a two-hour film on 3G would take about 26 hours, on 4G you'd be waiting 6 minutes and on 5G you'll be ready to watch your film in just over three and a half seconds. But it's not just internet capacity that will be upgraded. Response times will also be much faster.

HYPERLOOP:

Billed as the fastest way to cross the surface of the earth, hyper loop represents the greatest leap in transport infrastructure for generations.



With Passengers sitting in pods that travel at air line speed through pressurized tubes using electric propulsion and magnetic levitation, the concept promises to slash journey times between major cities from several hours to a matter of minutes. While it may feel like science fiction, hyper loop is now on the cusp of becoming a reality. Hyper loop was first conceived in 2012 by Tesla and Space X-founder, Elon Musk.

StudentProject

ExoplanetExplore

An interactive research Document and Data analysis report on Extra-solar planets.

URL: exoplanetexplore.now.sh

-G.Jhansi.ECED II year 20A91A04K3

Why Exoplanets?

Earth is and has been our home since our existence. But not too far in the future! Don't you think we might migrate to a new home that is probably a new star system? They will help us answer one of the most fundamental questions in science and philosophy: are we alone? Current or next generation telescopes could very well identify terrestrial planets in the liquid water habitable zones of their planets that have atmospheric spectra indicating the presence of gases that would only exist in those combinations with the presence of life. Alternatively, we may find that life is much harder to find than we expect. This'll mean either that life is rare or that we don't understand its impacts on its surroundings well enough to detect it. Whatever happens, we will learn something profound about our place in the universe.

The Project:

Exo-planet Explore is a Data driven Visual Analysis of Exoplanets, meaning that the project aims at analyzing Exo-planet visually using various visualization frameworks.

"I was a space geek since birth, I've ever stopped gazing at the sky and thinking about the stars and planets. It blows my mind if we think how miraculously small and alone we are in this infinitely expanding cosmos. I had the Kepler Telescope findings and NASA's official analytic data at my disposal. I barely had any knowledge about data visualization and analysis using programming. But the raw interest that I had in space exploration drove me through the learning process of programmatic data visualization. I had a somewhat past experience in full stack software development with all these skills and my enthusiasm I solely finished this project in a month. It was a wonderful, memorable experience" says TK Vishal.

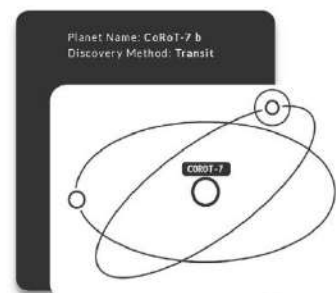


Exoplanet Explore

An Analysis report on Exoplanets

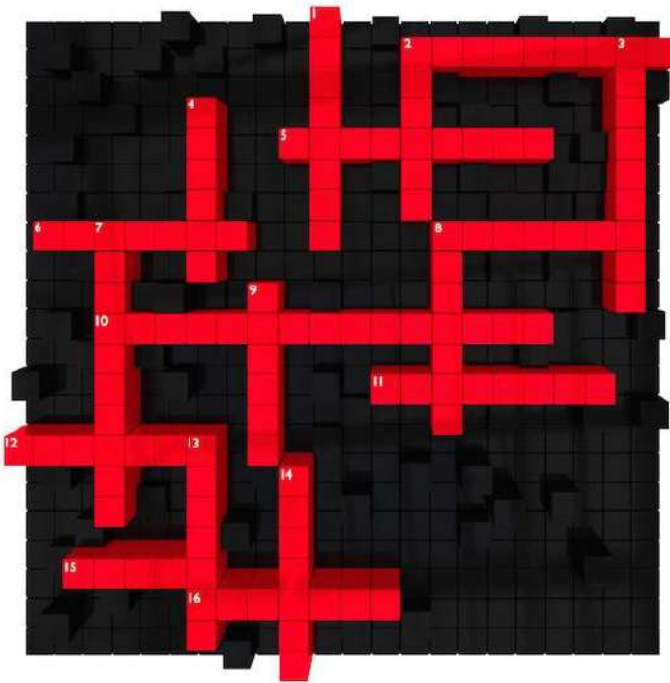
Made with and by TK Vishal

The Analysis



Crossword Puzzle

Test the level of your understanding in the basics of Electronics -P.SuneelECEllyear20A91A0439

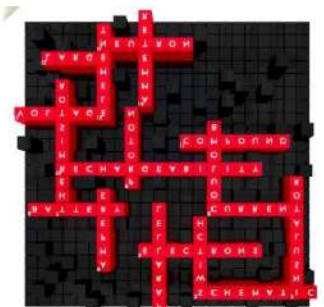


2. A diagram that shows the electrical connections of the electronic components
5. Current is considered to be the movement of _____.
6. A Voltage source that converts chemical energy to electrical energy
8. A flow of electric charge
10. A characteristic of a secondary cell
11. A material that is composed of a mixture of elements
12. The term used to design at electrical pressure

15. A short circuit will have a _____ current flow.
16. The part of an atom that has no electric charge

Down

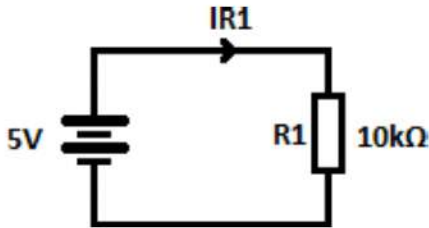
1. A Voltmeter is used in _____ with the circuit.
2. A device that opens or completes an Electrical path
3. A Material that opposes the movement of free electrons
4. One coulomb passing a point in one second.
7. A resistive component that is designed to be temperature sensitive
8. A unit of charge that contains 6.25×10^{18} electrons
9. An atom's atomic number is determined by its number of _____.
13. A substance that is found only in its Pure form
14. It is used to measure current.



Quiz

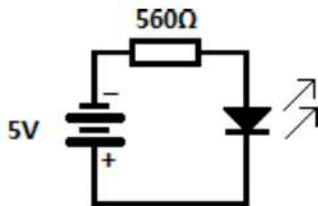
----- P.KailashECEIIyear(20A91A0443)

What is the value of I_{R1} (current through $R1$)?



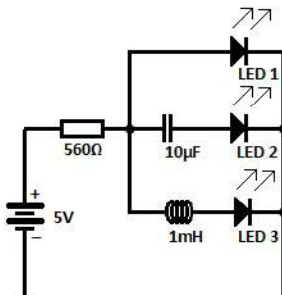
- 1) $I_{R1} = 0.1\text{mA}$
- 2) $I_{R1} = 5\text{mA}$
- 3) $I_{R1} = 0.5\text{mA}$
- 4) $I_{R1} = 1\text{mA}$

Will the LED turn on?



- 1) YES
- 2) NO

Which LED will turn ON?



- 1) only LED 1
- 2) only LED 2
- 3) LED 1 and LED 3
- 4) LED 1 and LED 2

What type of transistor is this one?



- 1) Triac
- 2) Thyristor
- 3) NPN
- 4) PNP

A bipolar transistor usually has:

- 1) 2 Terminals
- 2) 3 Terminals
- 3) 4 Terminals
- 4) 5 Terminals





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