



Department of Computer Engineering

Government Polytechnic for Girls, Surat

October-2019 : Vol.-1

E-Newsletter

TechTrends



Vision :

To empower girls of diploma computer engineering to excel in IT Industries and serve the society.

Mission:

- To strive for academic excellence and professional competence among students and staff.
- To encourage innovative ideas among students to enhance their entrepreneurship skills.
- To provide high tech educational resources and supportive infrastructure.

Message from Head of Department

My department feels immense pleasure to publish its first newsletter in October 2019. It is a pride for our department and our institute that we have taken a step forward to publish monthly newsletter which will convey latest technological news to students. We are also giving equal opportunities to all semester students to publish their articles in it. It highlights events, seminars / workshops industry visits of the department. Any student or staff can share their personal achievements also. We have kept one quiz at the end of newsletter to help students to enhance their aptitude abilities. I hope this newsletter will encourage all staff and students to think in a direction out of their routine work. I wish all the very best to my dear fellows and students.



Mrs. Rekha M. Shah
Head of
Department,
Department of
Computer
Engineering

How IoT Works ?



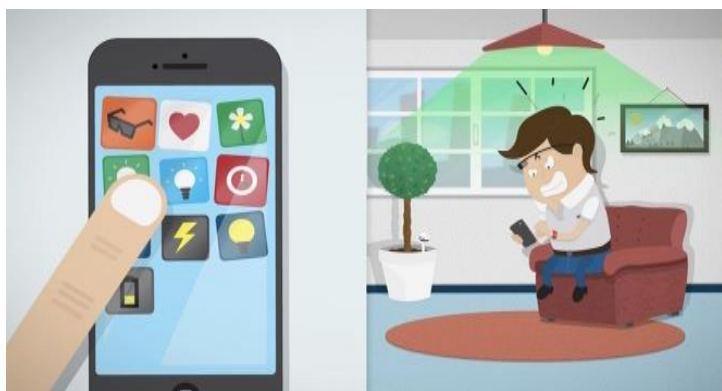
Kum. Pratiksha D. Chaudhari
Lecturer,
Department of
Computer
Engineering



Have you imagine that when you get into your house the lights gets switched on and off when you leave, your air conditioner turned on or off by sensing room temperature, your refrigerator reminds that milk is finished ??????

This is possible by using IoT.

In daily life, many people wish to have smart automatic appliance which will do the work for them according to their needs. We can monitor our home remotely. By using such smart devices their life become easier.



Some smart devices respond to your voice command and act according to your instructions such as to turn on the TV news or read your schedule and remind you. Your car drives you to your workplace via least congested route. All such new technologies form a basis for the Internet of Things.

What is an IoT?

IoT is the network of physical objects or “things” that contain embedded technology to communicate and sense or interact with their internal states or the external environment without requiring human to human or human to computer interaction.

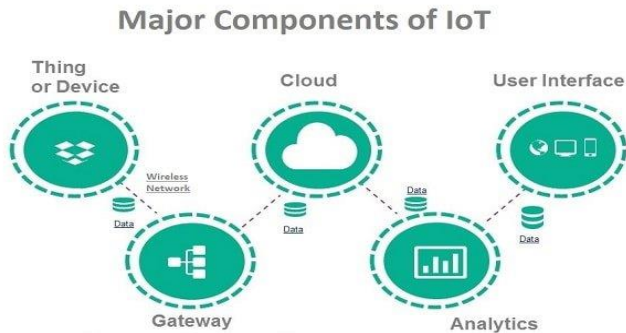
Each physical object are provided with unique identifiers and connected over network.

The Internet of Things (IoT) consists of all the web-enabled devices that collect, send and act on data they acquire from their surrounding environments using embedded sensors, processors. These devices often called smart devices.

How IoT works?

Major components of IoT are:

- Sensors/Devices
- Gateway
- Cloud
- Analytics
- User Interface



1. **Sensors/Device:** Devices and sensors are continuously collecting data from their environment and transmit the information to the next layer. Information such as temperature/Humidity reading. These sensors can be connected to the cloud through various mediums of communication such as cellular networks, satellite networks, Wi-Fi, Bluetooth, WAN, low power wide area network.
2. **IoT Gateway:** It manages the bidirectional data traffic between different networks and protocols. Gateways can perform pre-processing of the data collected from sensors locally before transmitting it to the next layer.
3. **Cloud:** cloud is a high performance network of servers to perform high speed data processing of billions of devices.
4. **Analytics:** Analytics is the process of converting analog data from different smart devices and sensors into useful insights which can be interpreted for detailed analysis. For example, identify objects from

video or checking that temperature reading is within an acceptable range or not.

5. **User Interface:** The information is available to end users via some alert or notification.

IoT system contains sensors/Devices which communicate with cloud via some communication medium. Sensors/Devices collect data from their environment and send to cloud, the data is processed and then action is decided such as sending alert message or automatically adjust device without the need of user. But if the user input is needed, it can be done by user interface.

Application

IoT applications are deployed extensively, in various domains such as:

- Wearable Devices
- Smart Home Application
- Health Care
- Smart Cities
- Agriculture
- Industrial Automation

1. Wearable Devices :



Wearable devices collect data about the users using sensors. This data is later pre-processed to extract essential insights about user.

- These devices are Fit Bits, heart rate monitors and smart watches, glucose monitoring device etc.

2. Smart Home Application :



The most common applications are lighting control, outdoor lawn irrigation, kitchen appliances, and security systems etc.

3. Health Care :



IoT in healthcare is aimed at empowering people to live a healthier life by wearing connected devices. The collected data will help in personalized analysis of an individual's health and provide guidance to battle against illness.

4. Smart Cities :



Smart city is another powerful application of IoT. Smart surveillance, water distribution, urban security and environmental monitoring, automated transportation, smarter energy management systems, all are examples of internet of things applications for smart cities.

5. Agriculture :



Smart farming is one of the fastest growing fields in IoT. Farmers are using meaningful insights from the data to yield better return on investment. Sensing for soil moisture and nutrients, controlling water usage for plant growth and determining fertilizer can be possible using IoT.

6. Industrial Automation :

IoT empowering industrial engineering with sensors, software and big data analytics to create smart machines. IoT can be used in the following domains:

- Factory Digitalization
- Product flow Monitoring
- Inventory Management

References

1. "A review paper on "IOT" & It's Smart Applications", V. Sharma, R. Tiwari, International Journal of Science, Engineering and Technology Research (IJSETR), Volume 5, Issue 2, February 2016.
2. <https://data-flair.training/blogs/iot-applications/>
3. <https://computer.howstuffworks.com/internet-of-things.htm>



Mid Semester Exam: August-2019 (Top 2 Students)

Sr. No.	Enrollment No.	Name Of Student	Semester	Rank
1	176150307544	PATIL DIVYA K	5	1
2	176150307048	MEHTA MOXI H	5	2
3	186150307026	HETVI HITESH PATEL	3	1
4	186150307503	ATRE PRERNA B	3	2

Events of the Month : September-2019

Sr. No.	Date	Name Of Event	Venue
1	07/09/2019	Industrial Visit	94.3 MY FM, Surat
2	13/09/2019	Sur Sikandar : 94.3 MY FM	Campus of GPG, Surat
3	17/09/2019	Seminar : " Ethical Hacking and Forensic " Speaker : Mr. Priyank R. Mistry, Infrastructure Consultant/ Security Analyst, Infosys, Pune.	Sardar Patel Hall, GPG, Surat
4	21/09/2019	Industrial Visit	Surat City Police CCTV Project, Office of Police commissioner, Athwalines, Surat

QUIZ

Number Puzzles

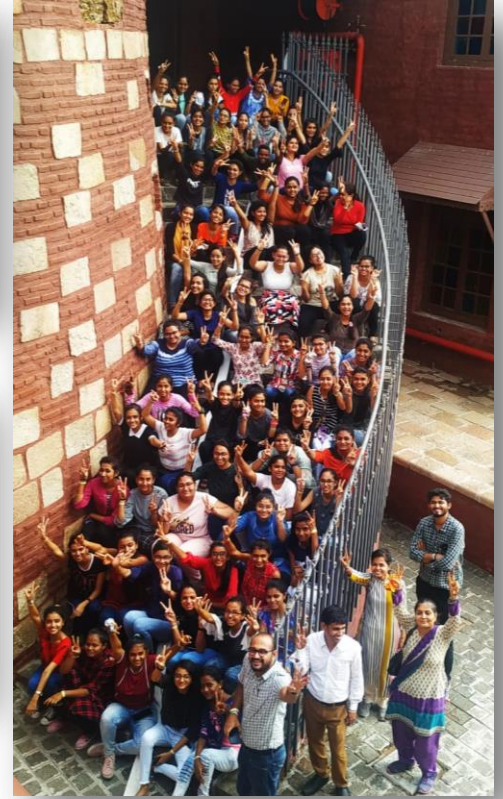
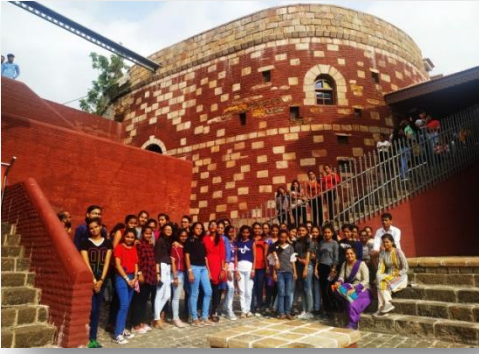
1. Which number replaces the question mark ?

2	3
6	4
8	12
24	?

2. Which letter replaces the question mark?

3	5	2	8	7
2	9	1	4	3
1	4	3	9	1
4	6	3	5	2
J	X	I	Z	?

Photo Gallery



Student Corner :

Ek anjan Mushafir Jise manzil ka pata nahi bus chal raha tha jese
barish ki bund suru hoke kaha giree pata nahi!
jese adhura khwab kab.! nind ud jaye pata nahi!
na to parvah kisi ki!
Na to kuch pane ka jasba..!
or na to kuch khone ka gam!
Pata nahi manjil kya!
Pana kya!
khona kya!
gam ko bhulana kya!
waqt pe apna kya!
Dard me begana kya!
bhari mehfil me tanha kya!
Tanhai me sath kya!
Jeet ka gam kya!
Harr ki khushi kya!
Raat ko sapna kya!
Subah ko apna kya!
Dopher ko dekha kya!
Sham ko sikha kya!
sapno ka tutna kya!
Dost ka ruthna kya!
Adhure sabd kya!
Bekkar ki bate kya!
Zindgi se muh mod kar jina kya..
sab se pare reh kar fir bhi hasna kya....

-: dharmi barot



Dharmi Barot
Student
Enrollment No. :
176150307005
Semester : 5 - A
Department of
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RANGOLI



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