

APPLICATIONS AND USES OF COMPUTER

OVERVIEW OF USES OF COMPUTER:

- Computer technology is very necessary for every organization.
- Managers use computers for budgeting and forecasting activities.
- Computers are also used to perform audits, prepare financial reports and analyze investments.
- Organizations are moving towards paperless environment.
- In the field of education, teaching and learning are also influenced by the possibilities introduced by computer technology.
- Interactive technology of web cams also revolutionized the world. You can talk to a group of clients sitting in different parts of the world.

Q1. What are uses of Computer in Business?

BUSINESS:

- Computer is very important for today's business. Businesses heavily rely on fast processing of data that can only be done using computers. In business computers are used as given below:

Marketing

Stock exchange

Banks

Departmental stores

Office automation

MARKETING

- The aim of marketing is to acquire, retain, and satisfy customers.
- Marketing is the process by which goods are sold and purchased.

- Marketing applications help managers to develop strategies that combine the four major elements of marketing i.e. **Product, Promotion, Place and Price**.
- Modern marketing has evolved into a complex and diverse field.
- Marketing includes a wide variety of special functions such as advertising, mail-order business, public relations, retailing and merchandising, sales, market research, and pricing of goods.

STOCK EXCHANGE

- Brokers interconnected through a data communications network.
- They submit and receive their bids using their computers.
- On the computers brokers match buyers with sellers.
- In this way of trading neither trading floor not slips of paper are necessary.

BANKS

- A computerized system in a bank offers various advantages when compared to previously used systems.
- Specially designed software includes cheque processing, saving and time deposits, profit sharing, stock and bond management and trust accounting.
- The cheques are read by MICR (Magnetic Ink Character Reader).
- Banks use mainframe computer to maintain their accounts.
- A customer can perform transactions using ATM (Automated Teller Machine).
- A credit card having a unique PIN (Personal Identification Number) allows the bank customer to view his current account status, deposit cash or withdraw cash amongst other operations.

DEPARTMENTAL STORE

- People at the store level use bar code readers for their ease.
- Bar codes of products are read by bar code readers.
- The price of a particular item is set within the store's computer and appears on the sales-clerk's point of sale terminal and on our receipt.
- Record of sales are input to the store's computer and used for accounting, restocking store inventory, and weeding out products that sell well.
- Security VCR (Video Cassette Recorder) and camera are also used in stores to monitor different operations.
- Reason to use these things is that there is no other better way to monitor home or business operations and ensure safety.

OFFICE AUTOMATION

- Office automation refers to the movement towards automating office tasks.
- Advance computer technologies are used to perform various tasks in an office. Some of them are given below.

Document Management System (DMS)

- DMS includes word processing software. This software is used to create editable documents like proposals, reports, newsletters and brochures.
- Spreadsheet software is used to create tables. These tables are used for keeping record of expenses, profit and loss. These records are used for statistical, mathematical and logical processing.
- Reprographic is the process of reproducing multiple copies of a document.
- Image processing allow document to be scanned and stored in image oriented databases.

Message Handling System

- It enables to send messages or documents from one location to other through facsimile (fax), electronic mail (e-mail), Voice mail etc.

Office Support Systems

- It enables to coordinate and manage the activities of work group.
- Groupware and desktop organizers are some examples of office support systems.

Q2. What is E-Commerce? What are the benefits of E-Commerce?

E-COMMERCE

- Electronic commerce is known as e-commerce.
- It is a process of buying and selling of products or services over electronic systems such as the Internet and other computer networks.
- The amount of trade conducted electronically is growing dramatically since the wide introduction of the Internet.
- Modern electronic commerce typically uses the World Wide Web.
- A small percentage of electronic commerce is conducted entirely electronically for "virtual" items such as access to premium content on a website, but most electronic commerce eventually involves physical items and their transportation in at least some way.

M-commerce:

- Mobile Commerce (also known as M-Commerce) is the ability to conduct commerce, using a mobile device e.g. a mobile phone (or cell phone), a PDA, a smart-phone

while on the move, and other emerging mobile equipment, like desktop mobile devices.

Electronic Mail (E-Mail)

- Electronic mail (abbreviated "email" or, often, "e-mail")
- It is a method of composing, sending, storing, and receiving messages over electronic communication systems.
- The term "e-mail" applies both to the Internet e-mail system based on the Simple Mail Transfer Protocol (SMTP) and to intranet systems allowing users within one organization to e-mail each other.
- Often these workgroup collaboration organizations may use the Internet protocols for internal e-mail service.

Video Conferencing

- Video conferencing is a type of conferencing in which video cameras and microphones are used.
- It can speed up business process and procedures in the same way that the fax and the e-mail have revolutionize the way we share information.
- The most obvious quantifiable saving is the cost of travel and the cost of the time wasted during travel.

Electronic Shopping (E-Shopping)

- Many businesses now have website that allow internet users to buy their goods.
- Shopping can take place using a computer at home or from work 24 hours a day.

Electronic Banking (E-Banking)

- An electronic banking is also known as cyber banking or online banking includes various banking activities conducted from home or business.

Q3. What is the use of Computer in Industry? Discuss Robots, CAD and CAM and Simulations.

USES OF COMPUTER IN INDUSTRY

- Computers are used to control manufacturing system in industry.
- Computers also help in monitoring temperature, pressure, check the quality and accuracy and measurement needed in the manufacturing process.

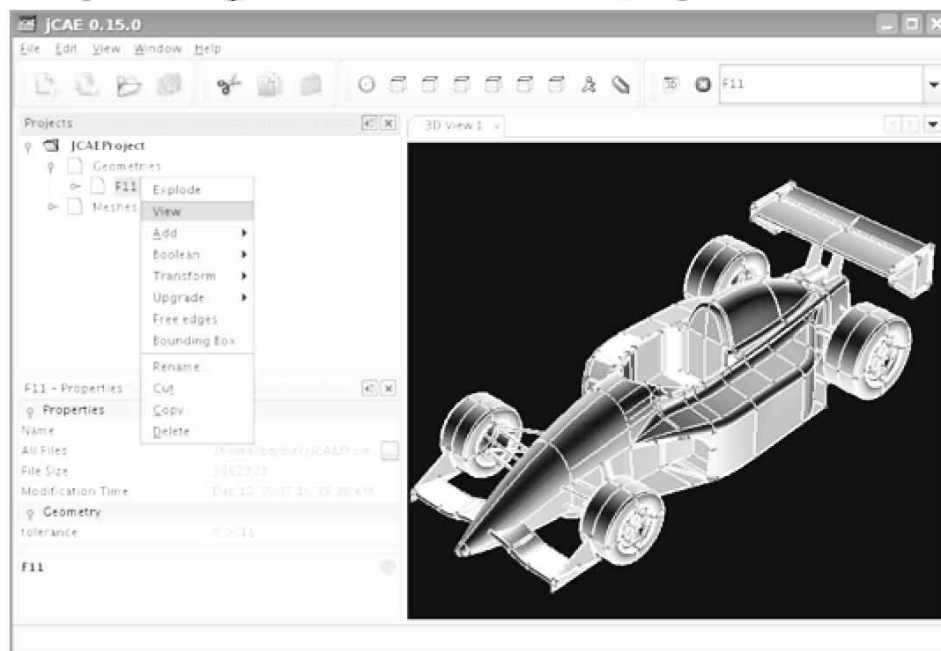
ROBOTS:

- A robot is an automatic programmable machine that moves and performs mechanical tasks.
- Robots can work in environment that is dangerous for humans. It can perform the same task again and again without any difference accurately.
- Remak Rx 32 Three axis Servo Robot which lifts machines up to 300 tons.

- M-16i/B20T, from FANUC Robotics can carry 20Kg and is suited to injection machines up to 800 tons.
- W625H side entry robot from Wittmann.

COMPUTER AIDED DESIGN (CAD)

- In Computer-Aided Design (CAD) different objects are designed using computer.
- Engineers and architects use it for their ease.
- It is the main geometry authoring tool that involves both software and sometimes special-purpose hardware.
- The designed product is tested against the following parameters.
 - Test parts and their quantity list.
 - Outline production and assembly procedures.
 - Transmit the final design directly to the machine.
- A CAD system requires high resolution monitors, input devices and output devices.



COMPUTER AIDED MANUFACTURE (CAM)

- Using CAD, Computer-Aided Manufacturing (CAM) system can give quicker and more efficient production.
- It is used to control all the part of a manufacturing process.
- This methodology is applied in different manufacturing areas. In most cases the CAM system will work with a CAD design made in a 3D environment.
- Using CAM systems.
 - Product can be made very accurately
 - Production is much cheaper.
 - Production is available around the clock.
 - Modification in design is easy.

SIMULATIONS

- It is a special type of computer model, which recreates a system that does not exist in real world.
- The process of imitating a real phenomenon with a set of mathematical formulas.

- Advanced computer programs can simulate weather conditions, chemical reactions, atomic reactions, even biological processes.
- In theory, any phenomena that can be reduced to mathematical data and equations can be simulated on a computer.
- A flight simulation, which is used to train pilots, how to deal with situation that would be expensive and dangerous to practice using a real aircraft.

Q4. What is the use of Computer in Medical?

MEDICAL

- Computers are commonly used in laboratories, researches, monitoring and scanning.
- All these are helpful for doctors in.

Patient Monitoring

Keeping Patient Records

Diagnosis

Patient Monitoring

- Computers are used in hospitals to monitor the patient critically.
- Sensors are attached to the patients, which detect changes in heart rate, pulse rate, blood pressure, breathing and brain activity. If any reading is out of range then alarming device will create a sound to alert the medical staff. This is also stored and used to analyze.

Patient Records

- Computerized Database systems are used to record the patient history.
- This history record includes the information about patient, doctors and medicines.
- It is easy to organize records using computers.
- If a patient is admitted in one ward of the hospital but getting treatment from another ward, his record can be updated on any terminal of the hospital system.
- Computerized database systems are also used to help in finding the match of patients who want to transplant their organ, such as kidney, liver or heart with suitable organs from donors.

Diagnosis

- Computers are also used to scan a patient body.
- The body scanner helps the doctors to trace any tumor or cancer.
- With the help of CAT (computerized axial topography) scanner doctors can look beneath the patient's skin.
- This scanner displays the image of bone and tissue structure on a computer screen.

Q5. What is the use of Computer in Airline System?

AIRLINE SYSTEM

- In airline system computers are used to control passenger aircrafts.
- Early aircrafts were controlled by mechanical systems.
- In modern aircrafts electronic signals from the cockpit are sent that adjust the flights.
- Computer in pilot's control is linked up among different cities and given full information about its flights and seat reservation.

Q6. What is the use of Computer in Education? Discuss CAL and CBT.

EDUCATION

- Education is a process of learning by following some rules.
- This learning process can be simplified and more effective with computers.
- There are number of methods in which educational institutions can use computer to educate the students.
- Many computer based educational software are available for students.
- These software's help them in learning to read, to count or to speak a foreign language.
- Organizations are also using software in their employee training programs.

COMPUTER AIDED LEARNING (CAL)

- Computer Aided Learning describes an educational environment where a computer program or an application is used to assist the user in learning a particular subject.
- Information technology may be able to aid us in reducing the time spent on creation and maintenance of teaching materials.

COMPUTER BASED TRAINING (CBT)

- CBT can be defined as **an interactive learning experience between the learner and computer in which the computer provides the majority of the stimulus, the learner must respond and the computer analyzes the response and provides feedback to the learner.**
- Computer-based training (CBT) services are where a student learns by executing special training programs on a computer relating to their occupation.
- CBT is especially effective for training people to use computer applications because the CBT program can be integrated with the applications so that students can practice using the application as they learn.
- There can be many other advantages of CBT e.g.
- Students can easily learn new skills.

- Training time can be reduced.
- Course material is retained in a better way.
- Create better understanding of complex concepts.
- Planning and timetable problem can be reduced.
- Essential skills can be taught whenever needed.
- Quality and consistency of the training material is maintained.
- It is cost effective to train a large number of people.
- Training can be given on time and on demand which leads to increase efficiency.

Q7. What is the use of Computer in Weather Forecasting?

WEATHER FORECASTING

- Weather forecasting depends on accurate collection of data. Data is collected from different areas of the world.
- Computer made a model on the basis of a lot of factors like, air, humidity and temperature.
- When data is given to the model it generates a forecast of how the weather will change.
- This forecast can't be 100% accurate.
- Some businesses are very dependent on the weather that they need constantly updated information.
- SUPARCO (Space and Upper Atmosphere Research Commission) weather forecasting department offer analysis of live weather data and provide help to make business decisions based on weather forecasting.

Q8. What is the use of Computer in our Homes?

HOME

- Computers are widely used in homes.
- Computers are used to play games, surf internet, watching movies and listen music.
- All these things can be done using a single computer.
- It is cheaper and easy solution. People also uses computer to keep their records and making home budgets.
- The use of microprocessor technology in manufacturing of electronic home appliances like microwave, air conditioning, washing machine, sewing machine etc. have completely changed our way of life.

Q9. How Computer assist our work in daily life?

COMPUTER ASSISTANCE SIMPLIFYING OUR WORK PRACTICES

- Computer is a dumb machine. It can't do anything by his own, but can do whatever we want him to do.
- Computers can work faster.

- Computers never tired of work.
- Computers can do dangerous jobs.
- Computers can store large amount of information.
- Computers can retrieve information very quickly.
- Computers never lose or misplace information.
- Computer can make copies of information quickly and accurately.
- Computers linked through communications system offer major personal and business benefit to users like speed, consistency, precision and reliability etc.

Speed

- Computer can perform millions of calculations in a second.
- It can perform calculation even in nano and pico second.
- Computer can perform complex calculation accurately.
- Computer can perform a task in seconds that a human can do in years.
- Computer can also recall information almost with in no time.

Consistency

- People feel difficulty in repeating a task.
- Computer can perform a task again and again without any difference.

Precision

- Computers are not only fast and consistent but they also perform operations very accurately and precisely.
- For example in manufacturing an automobile the precise placement of a part may make the difference.

Reliability

- When computer perform a procedure consistently, precisely we can expect reliable results. We can get the same result again and again without any difference.