



MINISTÉRIO DA EDUCAÇÃO
Universidade Federal de Ouro Preto
Escola de Minas - Departamento de Engenharia
Mecânica
Programa de Pós-graduação em Engenharia Mecânica



PROCESSO SELETIVO PROPEM 02/2023

GABARITO DA PROVA DE LÍNGUA INGLESA

Applications of Information Technology

Information Technology is the use of computer systems, storage devices, and any other type of physical device to manage exercise, store, and retrieve all types of data transmitted over electronic lines or electronic data. We can clearly see the growth of information technology in today's world, and the main reason for this growth is the increased use of technology. Today, information technology is a part of almost every organisation, and the reason for this is obvious: the rapid increase in technology use.

Evolution of IT :

1. Pre-Mechanical Age: The earliest forms of information technology date back to the pre-mechanical age, where people used symbols and signs to communicate and record information. Examples of this include cave paintings, hieroglyphics, and the abacus.
2. Mechanical Age: The mechanical age of IT began in the 1800s with the invention of the mechanical calculator, which could perform basic arithmetic operations. This was followed by the development of the punched card, which was used to store and process information in the first digital computers.
3. Electromechanical Age: The electromechanical age of IT began in the mid-20th century with the development of the first electronic computers. These computers used vacuum tubes and relays to process information and were large and expensive.
4. Transistor Age: The transistor age of IT began in the late 1940s with the development of the transistor, which replaced vacuum tubes in electronic devices. Transistors were smaller, faster, and more reliable than vacuum tubes and enabled the development of smaller, more powerful computers.
5. Integrated Circuit Age: The integrated circuit age of IT began in the late 1950s with the development of the first integrated circuits, which allowed multiple transistors to be integrated onto a single chip. This enabled the development of smaller, faster, and more efficient computers, as well as other electronic devices such as smartphones, tablets, and digital cameras.

6. **Personal Computer Age:** The personal computer age of IT began in the 1970s with the development of the first personal computers, such as the Apple II and the IBM PC. These computers were smaller, more affordable, and easier to use than previous generations of computers, and enabled widespread adoption of computing in homes and businesses.
7. **Internet Age:** The internet age of IT began in the 1990s with the widespread adoption of the World Wide Web and the development of the first web browsers. The internet enabled people to communicate, share information, and conduct business on a global scale, and has had a significant impact on virtually every aspect of modern life.
8. **Mobile Age:** The mobile age of IT began in the 2000s with the widespread adoption of smartphones and other mobile devices. These devices enabled people to access information and communicate on the go, and have transformed the way we live, work, and socialize.
9. **Cloud Age:** The cloud age of IT began in the late 2000s with the widespread adoption of cloud computing. Cloud computing enables users to access computing resources and services over the internet, without the need for local infrastructure or hardware.

Why is information technology required in business and various fields all over the globe?

Information technology enables people in businesses to improve their use of technology, increasing productivity and, as a result, assisting in the growth of the business. As we all know, technology is present everywhere in the world, and its applications are not limited to business. So, let's take a look at all the applications of Information technology in various aspects and industries around the world.

With a simple definition, healthcare is a massive and complex industry. Healthcare can be defined as the provision of services or treatment to people who are ill, either mentally or physically. Information technology has already made significant contributions to the field of healthcare, and advancements are still being made.

- Doctors can now send patients' live health conditions to different specialists via the cloud and get suggestions
- With the use of virtual charts, health professionals can now easily compare health data (X-rays, test results)
- Hospitals can keep a disease registry and publish reports to the government.
- Doctors can send patients E-Prescriptions via email, Whatsapp, or text message.
- Many medical facilities offer Telehealth services, in which patients can communicate with doctors via the internet.

The education industry has undergone significant change as a result of advances in information technology. More students are now eager to enroll in schools, owing to the administration's use of cutting-edge technology in the classrooms. Online e-libraries where students can download ebooks and resources:

The advancement of information technology has made the world a smaller place, and the entire world is now connected. Data can now be shared anywhere in the world, regardless of geographical location. Many organisations have been able to transfer terabytes of data in seconds, increasing not only productivity but also saving a significant amount of time and manpower.

Every day, we could see hundreds of job openings from all over the world. Software engineers, data scientists, cloud analysts, designers, and developers are all involved in data management in some way. We would never see the above positions if it weren't for information technology.

Because the entire data is stored on the cloud, and physical devices, and there is a lot of data transferring involved, it is critical to safeguard all of the data. IT aids in the secure reading and transfer of data via risk-free network channels. IT also aids in data security through the use of passwords, facial recognition, and fingerprint recognition.

The concept of E-Governance is currently transforming the lives of millions of people all over the world. The digitalisation of government activities has made the administration more accountable and responsive to societal issues. Even remote areas with no internet access are being recognised by the government, and authorities are providing the necessary resources to the people.

Information Technology has brought about significant changes in all of our lifestyles. IT has introduced a plethora of new entertainment options into our lives. People can now watch their favourite shows and movies and listen to music via cable or wirelessly. People can now watch 3D and even 7D movies, special audio systems, and even access global radio channels thanks to technological advancements.

IT has transformed the way we manage our finances, making it easier to access banking services and invest in the stock market. Online banking has made it possible to check account balances, transfer funds, and pay bills from anywhere in the world. Investment platforms like Robinhood, Acorns, and Betterment have made it easier for people to invest their money and manage their portfolios.

IT has also had a significant impact on transportation, making it easier to navigate and plan travel. GPS technology has made it easier to navigate unfamiliar roads and find the fastest route to our destination. Ride-sharing services like Uber and Lyft have made it easier to hail a ride and avoid the hassles of public transportation. Autonomous vehicles are also on the horizon, promising to make transportation safer and more efficient.

Virtual reality technology can create a simulated environment, while augmented reality technology can enhance the real-world environment with digital information. These technologies have enabled immersive learning experiences, improved the accuracy of medical procedures, and created new forms of entertainment, such as virtual concerts and

games.

These are only a few of the applications of information technology; however, if we look closely, the applications of IT are limitless. The use of information technology is growing at a rapid pace, and the main reason for this is an increase in the use of technology. Based on these, we can all agree that information technology has changed the world for the better.

1) Information technology has changed the way we interact with the world, and mostly for the better. Choose the correct alternative.

(a) we have a large number of entertainment options such as 3D cinemas and virtual worlds, different forms of shared transport, transferring funds and making investments.

(b) Information technology is growing rapidly, but there is no correction with the use of available technologies.

(c) you can pay your bills and watch concerts in virtual reality, but this has made new forms of transport less safe and inefficient.

(d) none of the alternatives

2) According to the authors, information technology has brought people countless options for entertainment and financial support. Some of those options are:

(a) ability to watch TV shows via cable or wireless and make bank transactions from anywhere in the world.

(b) access the bank account, but we still cannot access global radio channels.

(c) we can watch 3D and even 7D movies, but it is still not easy to make investments or manage the portfolio.

(d) Agencies such as Robinhood, Acorns, and Bettermen can not allow you to make investments and monitor your portfolio easily and have radio channels from all over the world.

3) Shared transport and augmented reality are already realities developed by information technology, some of the benefits are:

(a) Rideshare services make finding rides easier but don't avoid the hassles of public transportation.

(b) augmented reality allows the interaction between the real and virtual worlds and, in this way, has allowed the improvement of medical procedures.

(c) GPS made it easier to navigate known regions and find the fastest and safest paths, in addition to planning trips.

(d) Virtual reality and autonomous cars are already a reality that can produce new forms of entertainment and make traffic safer and less efficient.

4) Sign the correct alternative.

(a) Personal computers emerged in the 1970s and were smaller and more affordable than used in previous generations.

(b) Vacuum tubes were smaller, faster and more reliable than transistors and allowed the development of smaller computers.

(c) Transistors allowed the development of electronic devices such as smartphones, tablets, and digital cameras.

(d) The mechanical age of Information Technology developed the punched card, replacing the abacus of earlier computers.

5) IT is widely used today because:

(a) this technology is cheaper than others.

(b) greater use of technology.

(c) rapid growth of electronic data in banks.

(d) organizations that exclusively use electronic data to generate products.

6) How has information technology evolved?

(a) solely due to cave paintings.

(b) due to electronic computers, integrated circuits, personal computers and cloud computing.

(c) solely due to mechanical calculator and punched card.

(d) due to the development of human interaction activities from the early days (cave paintings, hieroglyphics, and the abacus) for communication/recording of information to the current days with the cloud computing.

7) Information technology (IT) is important and necessary in various aspects and sectors around the world. According to the text:

(a) Information technology enables people in companies to improve their use of technology, but without an increase in productivity.

(b) Information technology, through the use of technology, can help people and companies increase productivity and grow their businesses.

(c) Information technology has its application in various aspects and industries, but is currently more limited to business.)

(d) None of the alternatives above.

8) According to the text sign the correct alternative:

I) Information technology has made several contributions in the health field: allowing doctors to send patient`s health conditions to different specialists via the cloud and receive feedback with suggestions, and enabling hospitals to keep a record of diseases but without publishing reports to the government.

II) With regard to communications, information technology enables the connectivity of people and services, allowing the sharing and transfer of data regardless of geographical location.

III) Still regarding the health field, with the use of virtual charts, health professionals can now easily compare health data, and doctors can send electronic prescriptions to patients.

(a) I, II and III are corrects.

(b) I and II are corrects.

(c) II and III are corrects.

(d) I and III are corrects.

9) According to the text sign the correct alternative:

I) The personal computer age of IT began in the late of 1960.

II) The internet age of IT began in the 1990s.

III) The cloud age of IT began at the beginning of 2000s.

(a) I is correct.

(b) II is correct.

(c) III is correct.

(d) I, II and III are corrects.

10) Advances in information technology have led to significant changes in the education and data security sector. Sign the incorrect alternative:

(a) To use online electronic libraries and other resources that allow students to learn any subject at any time.

(b) Students can take exams online and send documents to their mentors.

(c) IT helps with data security through the use of passwords, fingerprint recognition but without the use of facial recognition.

(d) IT assists in the secure reading and transfer of data through risk-free network channels.

Ouro Preto, 20 de julho de 2023.

Comissão de Seleção

Prof. Luís Antônio Bortolaia
Presidente

Prof^a. Ana Maura Araújo Rocha

Prof. Vinícius Carvalho Teles