

PPLE

* Professional practice: It refers to conduct and work of someone from a particular profession.

Professional practice consists

- (i) Standard ethics ← principles of professional practice
- (ii) Performance
- (iii) Competence
- (iv) Assurance / Integrity
- (v) Training

Professional practice is also known as professional training.

* What constitutes a profession?

A profession is something a little more than a job, it's a carrier for someone who wants to be a part of society, who becomes competent in their chosen sector to training and maintain their skills through (CPD) continuing professional development and commit to behave ethically to protect the interest of public.

* Nature of professionalism and its place in the field of information technology.

Some of the key aspects of IT professionalism are:

- (i) Competence in IT.
 - (ii) Knowledge
 - (iii) various skills such as soft skills, ethical behaviour & certification.
 - (iv) dedication
 - (v) discipline
- soft skills: communication skills

Professionalism has very important place in IT so as to bring reputation, ethical behaviour and adding value to any organization.

i in order to enhance the growth and value to organization.

ii it increases ~~trust interest~~ trust between employers & employees in organization.

iii Create company companies own brand value.

iv It professionalism form the pillars for company own vision & mission.

v It improves ~~customer~~ customer satisfaction

MST → Imp

(Imp) MST & final

* diff b/w professional & non-professional.

Professional

non-professional

i self respect and treat others with respect.

i doesn't respect others.

ii Responsible and dedicated towards work.

ii ~~are~~ Not responsible and dedicated.

iii Skilled knowledge & experience.

iii lack of knowledge, skills & experience.

iv Team player and has good management skills.

iv Not a team player & lacks management skills.

v good communicator

v Not a good communicator

vi Right attitude and sound character

vi doesn't have right attitude and ~~has~~ bad character.

addms
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* IT professionalism is not just about acquiring skills, knowledge, experience, certification but also giving equal importance to core moral values, principles and ethical behaviours.

* IT professional should be combination of ~~excellent~~ ^{excellent} knowledge and skills with fine character and virtues.

* Government organizations must promote IT professionalism and penalise the employees or the workers who don't follow the rule.

(*) Industry Code of practice/^{Imp}conduct and ^{How to write code of}conduct.

The purpose of industry code is to insure industry compliance to agreed upon set of ~~best~~ objective that benefit workers, employee and consumers.

These objectives usually concerned promotion of best industry practice improving safety standard and .

If you work in industry than you heard about industry code of practice. These are fundamental rules that regulate industry code. This applies to workers & their relationship with consumers.

Industry Code of practice have two types.

- (i) Mandatory (ii) voluntarily

(i) Mandatory: This kind of code mean that industry ~~is~~ must applied.

Eg → horticulture code, franchising, oil code, unit price code, wheat price code.

Voluntarily: These code are more flexible and popular than mandatory code, with only members of industry or profession that have agreed to code bound by it.

~~benefits~~ benefits of industry code of practice

(i) The flexibility of industry code allows business to respond to reappearing market issues and adapt to changing consumer needs.

(ii) A business friendly alternative to ^{company} legislative that can result in reduced cost of industry and government.

(iii) providing safeguard and protection for consumer

(iv) the creation and enforcement of appropriate industry practices formulated by industry experts.

(v) An industry code provide ~~avoid range~~ a wide range of benefits both industry & consumers.

(vi) The main purpose of code of conduct is to act as detailed description of what is most legal and ethical.

behaviours aspected out of Bismuff.

- (vii) 1st inhance the companies core value, benefits & set the right culture.
- ~~(viii) inhances the core values~~

(*) Writing a code of conduct. 4th page # 8/1

- (i) Think in ~~in~~ term of values, believes and expectations rather than facts.
- (ii) Keep it simple, it ^{could} should be read by employee at all levels.
- (iii) choose to be ~~concise~~ concise.
 - (a) avoid long sentences with linked phrases.
 - (b) sentences should be short and medium length.
 - (c) ~~is~~
- (iv) Use active voice rather than passive voice.
 - (a) active voice ~~stands~~ ^{with} to convey ideas more clearly and fewer words
 - (b) ~~passive~~ passive voice: it makes ~~an~~ uninteresting and tends to be awkward.
- (v) give examples when it is appropriate to do so.
- (vi) Remember to write for your reader.
- (vii) don't attempt to write ~~polished~~ ^{polished} ~~policed~~ ^{policed} proce while Note: DREP → draft review edit polished.
- (viii) Read your work ~~at~~ aloud to your self to find errors ~~even~~ and points of confusion.
- (ix) Make your writing easy to read
- (x) obtained the Opemianions to others.

* Implementing and review of code of conduct.

ans: Implementing a code of conduct in the workplace

involves communicating the policies and guidelines to all staff and providing and necessary training to insure they understand the code. The code should be ~~paralised~~ practised and promoted by management to lead the way for staff.

Before you implement your code of conduct these questions should be asked.

1) Which method will you use to implement the code?

2) How and when will you publicise the code, both inside & outside of your business?

3) What do you need to do so the values in your code are reflected in all relevant business policies and practices?

Review of code of conduct

~~* Review of code of conduct.~~

• To keep your code of conduct up to code you should review ~~at~~ it regularly once or twice or years should be enough.

• once you have ~~and~~ amended ~~the~~ code of conduct, provide all staff with updated code and any training

~~that~~ required. it should represent the value for ~~business~~.

Reviewing the code:
→ Must review current standards and guidelines and any ~~guidelines and any~~ new policies of business.

→ Consider any area that should be added to code.

eg: → if started selling products online then new section covering online selling behaviour.

Lesson-2

↓ Skills required for functioning of ~~effici~~ effectively in a team environment.

• Time management: leadership, ~~being~~ listening

(i) Getting involved in a group is a great way to build your teamwork skills.

(ii) Communication: A good communication skill builds a strong & ~~strong~~ ^{effective} teamwork skill.

(iii) Planning: A good planning decides the success of the project on you are working. How to execute your project work in a good way these planning skill works and leads teamwork skill.

(iv) Problem solving and negotiating: As a team member you need to solve problem that ^{is} creating challenge for you teamwork, problem solving skill requires some experience & hardwork and lot of time after that you will be able to solve problems, you should know depth knowledge on which you are working then you can be problem solver, as well as negotiating with team members ^{so} that all team members ~~share~~ have one goal and one direction of for that purpose. you will have to negotiate with your team member in order to build teamwork skill.

• work on these skills and your ~~to~~ teamwork skills will improve too!

(*) Teamwork skill is essential for your academic and professional success.

• Communication • Time management • Problem solving
• Listening • Critical thinking • Leadership.

* Methods how industry approaches towards a common goal.

and → Communications: The SDGs provide a framework to communicate on how financial services companies contribute to economic development and the creation of jobs.

Engagement: Banks can use the global goal of a platform to engage stakeholders - including staff, clients & NGOs. For example, Standard Chartered launched a campaign to raise awareness among employees.

Goal setting: Some investors and banks are using the SDGs to set new goals. The Dutch pension funds PGGM and ABP have set ambitious targets to invest €58 billion in investments that support the SDGs by 2020.

Impact measurement: Additionally, the goals provide a proxy for measuring impact. Investors should have clear common guidelines on what constitutes an SDG investment and should measure the impacts of their investment.

Partnership building: Partnerships are key to the success of the SDGs. The goals can help galvanize a broader community and bring new partners to the table such as governments, multilateral institutions, and clients.

For example: a Mastercard partnership with UN Women, aims to drive financial inclusion of women.

Methods for Conflict management, in building stronger teams.

and (i) Key issue in dealing with team conflict is for team to realize that the focus is not on conflict itself, but now it is managed.

(a) Open Communication: Encourage team members to express their concerns and ideas openly.

(b) Active listening: Ensure team members actively listen to each other.

(c) Mediation: When conflicts arise, consider using a neutral third party to mediate and facilitate resolution.

(d) Conflict Resolution Training: Provide training to enhance conflict resolution skills among team members.

(e) Collaborative Problem Solving: Encourage the team to work together to find solutions that benefit everyone.

(f) Conflict Prevention: Identify potential sources of conflict early and take proactive measures to prevent them.

(g) Conflict Resolution Policies: Establish clear policies for resolving conflicts within the team.

unit →
* Describe Teamwork and Conflict management & Conflict management and Team management difference.

Teamwork management

(i) Teamwork involves individuals working together collaboratively to achieve a common goal.

(ii) It focus on collaboration, team members and a common goal.

(iii) Communication skill, collaboration skill requires.

(iv) It increase productivity, creativity and satisfaction among team members.

Corporate blogging

(i) It focus primarily on content creation and sharing.

(ii) Content format is long-form articles, posts, and updates.

(iii) Full control over content and web site.

(iv) Examples: Company news, industry insights, tutorials.

(v) Limited social interaction directly on the blog.

Conflict management

Conflict management is the process of identifying, addressing, and resolving conflicts that may arise within a team.

It focus on resolution, prevention of conflicts.

Communication, active listening, negotiation problem. skill requires.

It increase improved relationships, reduced tension, and environment.

Social Networking

It focus on networking and connecting with others.

Content format short-form posts, photos, videos, and status updates.

Limited control on platform. Subject to terms of use.

Ex → facebook, Twitter, LinkedIn, Instagram, Tik Tok.

Extensive networking and ~~direct~~ direct interaction.

① Illustrate about risk identification and evaluation analysis the role of risk to - organisation ② Intellectual property and its type.

⇒ Risk identification: Risk identification is the process of identifying all potential risks that could impact an organization's ability to achieve its goals. Risk identification can be done through a variety of methods, such as brainstorming, interviews and surveys.

Risk evaluation: Risk evaluation is the process of assessing the likelihood and impact of each identified risk. This helps organizations to focus their risk management. Risk evaluation can be done using a variety of methods, such as qualitative analysis and quantitative analysis.

Role of risk to organizations,

Risk can have a significant impact on organization, both positive and negative for example: A risk that is not identified or properly managed could lead to financial losses, damage to reputation or business failure. On the other hand, A risk that is identified and managed effectively could lead to new opportunities for growth and innovation.

② Intellectual property and its type: Intellectual property refers to creations of the mind, such as inventions, literary and artistic works, and symbols, names and images used in commerce. There are several types of intellectual properties.

1. Copyright: This protects original works of authorship like: books, music and software.
2. Patents: ~~This protects~~ These grant inventors exclusive rights to their inventions for a set period.
3. Trademarks: Trademark protect symbols, names, and slogans used to identify and distinguish goods and services.
4. Trade secrets: These are valuable business information such as formulas, processes or customer lists that give a company a competitive advantage.

(*) Workplace monitoring is significant for risk identification
Comment.

ans: Workplace monitoring is significant for risk identification because it can help to their business before they occur. This can be done by monitoring employee actively - such as email, internet usage, and physical location.

(pyq) Is there any benefit of using industry code of practice? Explain.

ans \Rightarrow Yes, there are several benefits to using industry code of practice. Some benefits are:

(1) Quality assurance: Industry codes enforce a certain level of quality in products or services.

(2) Fair competition: Industry code promote fair competition this helps to prevent unfair competition and protect smaller businesses.

(3) Efficiency: Industry code improve efficiency and reduce costs.

(4) Consumers protection: Industry codes protect consumers from unfair or misleading practices.

Distinguish between (a) Business Ethics and Corporate Ethics (b) Engineering and Personal Ethics (c) Cyber Bullying and cyber Stalking (d) self and global plagiarism.

(a)

Business ethics

- (i) It focouges on ethical conduct within individual ~~business~~ business.
- (ii) It concerns ethical decision making by individuals.
- (iii) It Applicable to businesses of all sizes, including small enterprises.
- (iv) Compliance with relevant laws, regulations.
- (v) It is important for maintaining a positive reputation, building trust.

Corporate Ethics

- It focouges on ethical conduct within the entire corporate.
- It concerns ethical decision-making at the organizational level.
- It applicable to large corporations with complex structures.
- Compliance with legal requirements.
- It is crucial for establishing and maintaining the corporate culture, reputation.

(b)

Engineering ethics

- (i) It applies to engineering practice and research.
- (ii) It focous on protecting the public, the environment, and the safety of workers.
- (iii) It based on professional codes of ethics, laws, and regulation.
- (iv) More focouged on the public interest
- (v) It is a professional responsibility

Personal ethics

- It applies to all aspects of a person's life.
- It focouges on individual behavior in accordance with one's value.
- It based on personal values, beliefs and experiences.
- more focused on individual behavior
- It is a personal responsibility.

c) Cyber Bullying

- i) It is a type of harassment in which teenagers are victims using electronic devices.
- ii) Actions involve tracking, monitoring and invasive behavior.
- iii) ~~It is~~ less focused on personal ~~invasion~~ violation.
- iv) It may not always be considered a criminal offense.

Cyber Stalking

It is a type of harassment in which elders are victims using electronic devices.

Action involve insult, rumors and spreading.

Primarily focuses on personal ~~invasion~~ violation and invasion of privacy.

It may often considered ~~a~~ criminal.

d)

Self plagiarism

- i) It may or may not be intentional.
- ii) It can be considered as a lesser form of plagiarism.
- iii) It involves reusing one's own work.
- iv) Generally not illegal but considered as unethical in all contexts.

Global plagiarism

It may intentional.

It can be considered as a most serious type of plagiarism.

It involves using someone else's work.

Usually illegal and unethical in all contexts.

Lessons - 3

Professional Ethics

- * **Definition of Ethics**: Ethics is a branch of philosophy that deals with the moral principles that govern our behavior. It is concerned with questions of right and wrong, good and evil, and what we ought to do. Ethics can be applied to individual actions, as well as to the behavior of groups and institutions.
- * **Business Ethics**: Business ethics refers to the moral principles and values that guide the behavior and decision-making of individuals and organizations in the business world.
- * **Corporate Ethics**: Corporate ethics refers to the moral principles and values that guide the behavior and decision-making of businesses and organizations.
- * **Ethics**: Ethics refers to the moral principles, values and standards that guide human behavior and decision-making. It involves distinguishing right from wrong and determining what is morally acceptable in various situations.
- * **Engineering Ethics**: Engineering ethics refers to the set of moral principles and guidelines that engineers are expected to follow in their professional practice. These ethics help ensure the responsible and ethical development of technology and engineering solutions.
- * **Personal Ethics**: Personal ethics refers to the set of moral principles and values that guide an individual's behavior and decision-making.

① Importance of Integrity: Integrity is the quality of being honest and having strong moral principles. It is the ability to do the right thing, even when it is difficult. People with integrity are trustworthy, reliable, and ethical. They are also respected and admired by others.

Importance of integrity

- It ~~lead~~ builds trust • It helps you stay true to yourself
- It leads to success • It makes you feel good about yourself

② Difference between moral ethics and laws.

moral ethics

(i) It deals with what is right and what is wrong from society's point of view.

(ii) Depends upon moral values.

(iii) There are no ~~legal~~ punishment provisions against it.

(iv) There is no ^{necessary} ~~boundation~~ boundation necessary.

for ex:

charging unduly high price
No restriction

laws

(i) It deals with what is right and what is wrong from law's point of view.

Depends upon laws, Rules and Regulations.

There are ^{punishment} ~~legal~~ provisions for it.

• there is boundation necessary.

for ex: charging above MRP.

restriction.

* Ethics in Business.

ans: Ethics in the business world refers to the moral principle and values that guide the behavior and decision-making of individuals and organization within the context of commerce and trade.

(1) Honesty and integrity: Ethical businesses prioritize honesty and integrity in their dealing. They are truthful in their communication, transparent in their operations...

② Customer focus: Ethical businesses prioritize customer satisfaction and safety. They provide quality products and services.

③ Healthy Competition: Business should compete fairly and ethically. This means avoiding anti-competitive practices such as price-fixing or collusion.

④ Respect for the rule of law: Business should respect the laws and regulations that govern their activities. This means obeying the law, even when it is not in their best interests.

⑤ Contrast ethical and legal issues as related to information technology.

Ethical issues

legal issues

i) Moral principles and values

law and regulations

ii) what is right and wrong

what is legally permissible and prohibited.

iii) privacy, intellectual property, artificial intelligence.

unauthorized access, data infringement, privacy violation.

iv) cybersecurity.

computer crime laws, computer fraud.

* How IT uses or benefits from social and professional issues.

ans ⇒ It can use or benefit from social and professional issues in a number of ways including.

(i) Addressing social problems: IT can be used to address a variety of social problems, such as poverty, education, healthcare, and environmental sustainability.
Ex ⇒ IT can be used to provide online education to people in remote areas.

(ii) Enhancing professional practice: IT can be used to enhance professional practice in a variety of fields, such as law, medicine, engineering, and business.

(iii) Creating new opportunities: IT can create new opportunities for people and businesses, such as by providing access to new markets, creating new jobs, and enabling new forms of communication and collaboration.
Ex ⇒ IT has enabled the rise of e-commerce.

(iv) Promoting social and professional responsibility: IT can be used to promote social and professional responsibility by raising awareness of ethical issues, such as privacy and security. Ex ⇒ IT can use their skills to develop tools that help people to protect their personal data.

2.8
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Q1. Write a short note on IEEE Code of ethics.

Ans → The IEEE (Institute of Electrical and Electronics Engineers) Code of Conduct is set of ethical guidelines that govern the behavior and professional conduct of IEEE members and individuals associated with IEEE activities.

Some key points of IEEE Code of Conduct.

1. Commitment to the public: IEEE members are expected to priority the safety, health, and welfare of the public. They should ensure that their professional activities contribute and benefit the Society.
2. Honesty and Integrity: IEEE members are required to be honest, fair, and impartial in their professional dealings. They should not engage in fraud or misrepresentation.
3. Respect for others: IEEE members should be respectful for others, and discrimination, harassment and bullying this kind of things should not in IEEE members.
4. Professional Competence: IEEE members are expected to maintain and enhance their technical and professional competence throughout their careers.

Q2. Developing green IT policies.

Ans → Developing green IT policies is an important step for organizations that are committed to reducing their environmental impact.

(i) Set clear Goals: Define specific environmental goals, such as reducing energy consumption by a certain percentage or minimizing electronic waste.

(i) Identify your opportunities for improvement:

Take a close look at your IT infrastructure and operations to identify areas where you can make improvements.

(ii) Set measurable targets: once you have identified your opportunities for improvement, set measurable targets for yourself.

(iv) Employee Training: Educate employees about the green IT policies and encourage their active participation in achieving environmental goals.

(v) Continuous improvement: Green IT policies should be dynamic and evolve with changing technology and regularly review and update them to stay current.

3 Standards and learn to identify green IT.

and → (i) ISO 14001: This is an international standard for environmental management systems. It provides a framework for organizations to assess, manage, and improve their environmental impact.

(ii) ISO 50001: This is an international standard for energy management systems. It helps organizations to reduce their energy consumption and improve their energy efficiency.

(iii) TCO 2.1: This is a standard for the total cost of ownership of IT equipment. It considers the environmental impact of IT equipment throughout its lifecycle, from manufacturing to disposal.

(iv) Green Grid: This is a non-profit organization that promotes the efficient use of IT resources. It has developed a number

(iii) Compost food scraps and yard waste: This creates nutrient-rich soil that can be used to fertilize plants.

Energy Use

(i) Turn off computers, monitors and other devices when they are not in use: This can save a significant amount of energy, especially if they are left on ~~over~~ overnight.

(ii) Use energy-efficient appliances and lighting: These appliances and lights use less energy, which can save money and reduce pollution.

(iii) Install motion sensors to turn off lights automatically when the room is empty: This can help to prevent lights from being left on unnecessarily.

Incentives

(i) Offer employees financial incentives to recycle: This could include a small bonus for each pound of e-waste recycled or a discount on their utility bill for using energy-efficient appliances.

(ii) Educate employees about the importance of green computing: This could involve holding workshops or providing them with information about the environmental impact of their computing habits.

(iii) Make it easy for employees to recycle: This could include providing recycling bins in convenient locations and making sure that they are emptied regularly.

of standards and guidelines for green IT.

Q4. How you can evaluate green computing ~~performance~~ Performance metrics.

- (1) Power usage effectiveness (PUE): This metric measures the total power consumed by a data center divide by the power consumed by the IT equipment. A PUE of 1 is ideal, but most data centers have a PUE of 2 or higher.
- (2) Data center infrastructure efficiency (DCIE): This metric measures the energy efficiency of the cooling, power, and other infrastructure systems in a data center. A DCIE of 1 is ideal, but most data centers have a DCIE of 2 or higher.
- (3) Energy intensity (EI): This metric measures the amount of energy used per unit of IT workload. A lower EI indicates a more efficient data center.
- (4) Carbon footprint: This metric measures the amount of greenhouse gases emitted by a data center. A lower carbon footprint indicates a more environmentally friendly data center.

Q5. which recycling practice, energy uses and incentives used at workplace used for implementing green computing

- (i) Set up a recycling program for E-waste: This includes old computers, monitors, printers, and other electronic devices. E-waste is major source of pollution, so recycling it helps to reduce environmental impact.
- (ii) Recycle paper, plastic and other office waste: This is a simple way to reduce the amount of waste that goes to landfills.

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Assignment - 2

Q.1

Q.1 Explain law relating to patent under patent act 1970 including concept and historical perspective of patent law in India.

Ans: Patent law is a branch of intellectual property law that deals with the protection of inventions. A patent is a grant of exclusive rights to an inventor for a limited period of time (60 years), in exchange for the disclosure of the invention to public. Patent rights can be used to prevent others from making, using, selling, or offering to sell the patented invention without the inventor's permission.

Historical Perspective of patent law in India.

The first patent law in India was enacted in 1856, but in India was ~~it~~ it was based on the British patent law and was not well suited to the needs of the India economy. The Indian Patents and Designs Act, 1911 was enacted to replace the 1856 law and to promote industrial development in India. This law was based on the German patent law and was more favorable to inventors.

The Patents Act, 1970 was enacted to replace the 1911 law and to bring Indian patent law into line with international standards. The 1970 Act is based on the Paris Convention for the Protection of Industrial Property and the Patent Cooperation Treaty.

(b) discuss patentable inventions with special reference to biotechnology product.

ans: patentable inventions in Biotechnology.

- **Biotechnology products:** These include DNA sequences, proteins, genetically modified organisms (GMOs) and new biological compositions.
- **Biotechnology processes:** These include methods for producing or using biotechnology products, as well as methods for diagnosing and treating diseases.
- **Biotechnology devices:** These include devices used in biotechnology research and development, as well as devices used to administer biotechnology-based products and therapies.

Examples of patented Biotechnology products:

- **Insulin:** Insulin is a hormone that helps to regulate blood sugar levels, it is used to treat diabetes mellitus, a chronic disease that affects millions of people around the world.
- **Human growth hormone:** Human growth hormone (HGH) is a hormone that stimulates growth and development. It is used to treat children with growth hormone deficiency and adults with certain endocrine disorders.
- **Genetically modified crops:** Genetically modified crops are crops that have had their DNA altered to give them desired traits, such as resistance to pests or herbicides.
- **Monoclonal antibodies:** Monoclonal antibodies are laboratory-produced proteins that can be used to diagnose and treat diseases. They are used in a variety of medical applications including cancer treatment, immunotherapy, and infections.

• Vaccines: Vaccines are biological preparations that are used to protect people against infectious diseases. Vaccines are made from weakened or killed pathogens, or from parts of pathogens.

Q2. Discuss shades of gray.

- (i) Reason of student toward plagiarism.
- (ii) Responding to plagiarism (Acting and non acting)
- (iii) Tools to avoid plagiarism

Shades of gray: Shades of Gray is a term used to describe the many different aspects of a person's personality, character, and behavior. It suggests that everyone is complex and multifaceted, and that we cannot be easily categorized into ~~black~~ black and white boxes.

(i) Reasons of student toward plagiarism.

- Lack of understanding: Many students simply do not understand what plagiarism is or why it is wrong. They may think it is okay to copy someone else's work as long as they don't get caught.
- Pressure to succeed: Students may feel pressure to succeed in school and may see plagiarism as a way to get good grades without having to put in the hard work.
- Lack of time: Students may feel like they don't have enough time to complete their assignments and may see plagiarism as a way to save time.
- Laziness: Some students may simply be lazy and not want to put in the effort to do their own work.

(ii) Responding to plagiarism

Acting responses: Acting responses involve taking some form of action against the student who plagiarized. This could include giving the student a failing grade on the assignment, suspending or expelling the student from school, or even taking legal action against the student.

Non-acting responses: Non-acting responses involve taking no action against the student who plagiarized. This may be appropriate in cases where the student did not understand what plagiarism was or where the plagiarism was minor.

(iii) Tools to avoid plagiarism:

- **Citation generators:** Citation generators can help students to generate citations in the correct format. This can make it much easier for students to give credit to their sources and avoid plagiarism.
- **plagiarism checkers:** Plagiarism checkers can scan a student's work for any ~~same~~ instances of plagiarism. This can help students to identify any potential problems before they submit their work.

A Specify the general criteria to become a professional engineer?

ans → To become a professional Engineer

① Education: obtain a bachelor's degree in engineering.

~~②~~ ② Skills: related to the department you have skill related to your department like: coding skill.

③ Communication skill: As an engineer you should have a great communication skill.

④ Listening skill: As an engineer or to become a professional engineer you should have a great listening skill.

⑤ Teamwork:

⑥ Leadership:

+++

Point out the need of industry code of practice:

ans → ① Promoting fair competition.

② Improving the quality and safety of products and services.

③ Reducing the risk of accidents and injuries.

④ Protecting the environment.

⑤ Ensuring that all businesses in an industry operate to a common set of standards.

* Discuss the nature of professionalism and its place in the field of IT.

* Illustrate principles of professional practice:

ans → ① Competency ② integrity ③ Respect ④ Confidentiality

⑤ Accountability: professionals should be accountable for their actions.

⑥ Ethical behavior: IT professionals are expected to adhere to a strong code of ethics.

⑦ Communication skills:

⑧ Teamwork:

8 marks

- (*) Discuss as a case study if you get a job of a software professional in IT industry. what role you are playing to
- (a) Develop green IT
 - (b) Manage professionalism among team members
 - (c) Tackling jealousy and ~~envy~~ envy among your team members.

As a software professional in the IT industry, I can play a significant role in developing green IT, managing professionalism and tackling jealousy and envy among team members.

- Developing green IT
- (i) Set clear Goals: Define specific environmental goals. Such as reducing energy consumption by a certain percentage of minimizing electric waste.
 - (ii) Identify your opportunities for improvement: Take a close look at your IT infrastructure and operations to identify areas where you can make improvements.
 - (iii) Employee Training: Educate employees about the green IT policies and encourage their active participation in achieving environmental goals.
 - (iv) Set measurable target: Once you have identified your opportunities for improvement, set measurable targets for yourself.
 - (v) Continuous Improvement: Green IT policies should be dynamic and ~~also~~ evolve with changing technology. Regularly review and update them to stay current.

(b) Manage professionalism among team members

- (i) Lead by example: Demonstrating professionalism through my own conduct and work ethic to set a positive example for others.
- (ii) Clear communication: Ensuring clear and respectful communication among team members and resolving conflicts.

(iii) Performance feedback: Providing constructive feedback to keep everyone focused on common objectives.

(iv) Conflict ~~Resolution~~ Resolution: Actively addressing any issues related to professionalism such as ~~bad~~ inappropriate behaviors, ethical concerns.

(c) Tackling jealousy and Envy Among:

(i) Promote collaboration: Encourage a collaborative work environment where team members support each other's success.

(ii) Recognize individual contributions: Acknowledge and celebrate individual achievements within the team to boost morale.

(iii) Mentoring: Facilitate mentorship programs within the team to help junior members learn from experienced colleagues.

(A) Exemplify the need for developing a Green IT policy at workplace.

and: Environmental impact: It helps to reduce the organization's carbon footprint by promoting energy-efficient practices and responsible electronic waste disposal.

(i) Cost savings: Implementing energy-efficient technologies and practices can lead to significant cost savings on electricity bills and reduce the need for frequent hardware replacements.

(ii) Resource efficiency: It encourages the efficient use of IT resources, such as servers and data storage.

(iv) long ~~term~~ term viability: IT practices ensure the long-term viability of the organization by minimizing risks associated with resource scarcity and environmental instability.

Pys Distinguish between trademarks and copyrights.

- Copyright**
- (i) The Copyright Act, 1957.
 - (ii) It protect the original creative expressions like literary works, artistic works, dramatic works.
 - (iii) validity of Copyright is of author life + 60 years after his/her death.
 - (iv) It does not provisional application requires.
 - (v) No symbolic representation use to show registration.

- trademarks**
- Trade mark act, 1999
- It protect the unique name that makes a brand, slogan, logo, shape, colour etc. अविभाज्यता
 - validity of ~~copy~~ trademark is 10 years.
 - It does not provisional applications requires but it requires a trademark search.
 - TM used when registration is complete.

Pys write the steps to obtain GI certificate in india.

- ans → Steps to obtain GI certificate in india.
- ① Step-1: Filing of application: The application must be made in the prescribed form (GI-1A to GI-1D) and must be prescribed fee (Rs. 5000).
 - Step 2: Preliminary scrutiny and examination of the application: The GIR will scrutinize the application to ensure that it is complete and meets all the requirements.
 - Step 3: Show cause notice: If the GIR is satisfied that the geographical indication is eligible for registration, it will issue a show cause notice to the applicant.

Step 4: publication in the geographical indications journal.
if there is no opposition to the registration of the geographical indication, the GIR will publish the application in the geographical indications journal.

Step 5: Registration of the geographical indication:
if there is no opposition to the publication of the application, the GIR will register the geographical indication. The GIR will issue a registration certificate to the applicant.

Step 6: Authorized user certificate: once a geographical indication is registered, any producer in respect of which the geographical indication is registered can apply to the GIR for an authorized certificate.

Ques Describe the elements of a successful technical resume.

- Ans →
- Personal information: Include your personal information start by including an informative header with details about yourself.
 - write personal summary: write personal summary this should include your name, email address, phone number, mailing address. your skills and experience to the specific job you are applying for. list your technical skills and programming languages as well other skills such as communication skills.
 - Include hobbies and interests: write your interest and hobbies what is do you like what is do you not like what is your interest area and what is your hobbies area example.

- Work Experience: List your previous jobs and internships ~~in reverse~~ include the company name, your job title and a brief description of your responsibilities and accomplishments.
- Education: List your educational background, including the name of the institution, the degree you ~~earned~~ and earned your GPA.
- Certificates & rewards: List any relevant certifications or rewards you have received.
- Projects: If you have any personal projects that are relevant to the job you are applying for, you can list them here. Be sure to include a brief description of each project as well as the programming languages and technologies you used to make it.

pyo illustrate various methods to avoid plagiarism.

① Cite your sources: properly ^{mention} cite all the sources you use in your work, including books, articles, websites, and even personal communications.

② Use ^{reference} quotation marks: When directly quoting a source, use quotation marks and provide a citation/reference.

③ Keep records: Keep detailed notes of your sources including publication information and page numbers.

④ Use plagiarism Detection Tools: utilize plagiarism detection software to check your work before submission.

⑤ ~~and~~ fair use: familiarize yourself with the concept of fair use and how it applies to your use of copyrighted material.

⑥ create original work: focus on developing your own ideas and analysis rather than relying heavily on existing sources.

⑦ Review your work: cross check your ~~work~~ ^{work} to ensure accuracy and proper citation.

⑧ ^{use} plagiarism checkers: plagiarism checkers can scan a student's work for any instances of plagiarism. This can help students to identify any ~~potential~~ ^{potential} problems before they submit their work.

Pyqs Explain the various types of identity theft. Assume you have made some nice painting and you want to get its copyright. Discuss the procedure of obtaining copyright of this item in india.

ans ⇒ Identity theft: Identity theft is a crime, identity theft occurs when a stranger, gaining access to your personal information without your knowledge. such as name, social security number, birthday, credit card numbers to commit fraud or other crime.

Types of identity theft

- ① financial identity theft
- ② Medical identity theft
- ③ Employment identity theft
- ④ Tax identity theft
- ⑤ criminal identity theft
- ⑥ social security identity theft

- ① financial identity theft: This is the most common ^{type} ~~form~~ of identity theft - when someone uses another person's information for financial gain such as credit card numbers, to open new credit accounts, steal money from bank accounts.
- ② Medical identity theft: This is the most common type of identity theft - when someone uses another person's personal information to gain medical care, prescription, drugs, or other medical services.
- ③ Employment identity theft: This is the most common type of identity theft - when someone uses another person's personal information to get a job or benefits.
- ④ Tax identity theft: This is the most common type of identity theft in this type of identity theft when someone uses another person's personal information to file a fraudulent tax return or claim a refund.
- ⑤ criminal identity theft: This is the most common type of identity theft in this type of identity theft, ^{under arrest} criminal uses another person's personal information to police. then victim's false criminal records will be filled instead of ~~the~~ criminal.

⑥ Social security identity theft: In this identity theft when someone uses another person's social security number, to use it for apply for loans & credit cards.

Steps to obtain patent in india.

Step-1: Patent search

Step-2: Drafting patent specification

Step-3: Patent application filling

Step-4: Patent ~~app~~ publication for public opposition.

Step-5: Requesting patent Examination.

Step-6: Grant of a patent

~~Step-7:~~ Documents required for patent

- Application form → Power of Attorney
- Complete Specification → Statement and undertaking
- Abstract of Invention → Priority document
- Proof of right to file → Proof of fee payment

Assume you have made some nice paintings and you want to get the copyright.
* Discuss the procedure of obtaining copyright of this item.

- ① Creation of the work: Ensure that your painting is an original creation, as copyright protection is granted to original artistic works.
- ② Application: You can apply copyright by filling out the prescribed application form, which is available on the official website of the copyright official in india. The form is called "Form XIV".
- ③ Submit the application: ~~you~~ submit the completed application form to the Registrar of Copyrights. You can do this online or through physical submission.

- ④ Supporting Documents: Along with the Application form, you will need to submit three copies of your painting. If it's a three-dimensional work, you should provide photographs from different angles.
- ⑤ Fees: Pay the required fee, which can vary depending on the type of work and the method of submission. You can find the fee details on the copyright official website.
- ⑥ Examination and processing: After submission your application will be examined by the copyright office to ensure it complies with the law.
- ⑦ Copyright Certificate: Once your application is approved, you will receive a copyright certificate. This certificate serves as evidence of your copyright.
- ⑧ Duration of copyright: In India, the copyrights for artistic works, including paintings, is granted for the lifetime of the artist plus 60 years after that period.

Extra

* Define patent & copyright & trademark

Patent: A patent grants property rights to the creator of a new, unique and useful invention, discovery or process. There are three types of patents. Utility, design and plant.

Copyright: A copyright is a form of intellectual property that protects original works of authorship that are fixed in a tangible medium.

Trademark: A trademark can be a phrase, word or design - or all three - that describes what your company does or sells. Having a trademark can help separate you from your competitors.

* Intellectual property: Intellectual property refers to creations of the mind, such as inventions, ideas, designs, literary and artistic work, symbols, names and images etc. that someone has created so this created property is called Intellectual property. ~~and it is type for the IP~~

(pg 10) there are four types of IP ① patents, ② copyright ③ Trademark ④ Trade secrets. one page back answers.

~~what do you mean by plagiarism and types of plagiarism~~

* Trade secret: Trade secret is a type of intellectual property, it is confidential information. A trade secret is a process of a company this is generally not known outside of the company. Trade secrets can include a wide range of information, such as:

- Manufacturing process
- formulas and recipes
- financial data
- Business methods.
- source codes.

Example: The Coca-Cola company's formula for Coca-Cola.

* what is ~~plagiarism~~ plagiarism and types of plagiarism.

The process of using another person's ideas or work and showing that it is your ~~own~~ own, ~~idea~~ idea or work. It process is called plagiarism.

Types of plagiarism.

① Direct plagiarism: Copying someone else's work ~~and~~ without attribution or credit.

② Self plagiarism: Reusing your own work without proper reference, it is not allowed.

③ source-based plagiarism: citing the wrong source or misrepresenting the original source.

④ paraphrasing plagiarism: Rewriting someone's else's work in your own words without proper reference.

⑤ Accidental plagiarism: unintentionally failing to give proper credit due to workload of the original source.

⑥ Mosaic/patchwork plagiarism: Taking pieces from various sources and compile them into a single piece without proper ~~credit~~ reference.

Q99) Elaborate IT act 2000 and what is the impact of this law on IT. ans ⇒ The Information Technology Act, 2000, also known as the IT Act 2000, is an Indian law that was developed to provide legal recognition to electronic commerce and facilitate e-governance.

• Impact of the IT Act 2000;

① Legal recognition: It provides a legal framework for e-commerce and electronic transactions.

② Data protection: It protect sensitive ~~information~~ information or data.

③ Cybersecurity: It encouraged individuals to ~~maintain~~ maintain better cybersecurity practices.

* IT standards: IT standards refer to guidelines that define how technology and information should operate.

- ① ISO 27001: A standard for information security management systems.
- ② IEEE 802.11: Defines wireless networking standards.
- ③ TCP/IP: Defines how data packets should be transmitted and received.
- ④ HTML and CSS: standards for creating and formatting web content.
- ⑤ ISO 9001: A quality management standard applicable to various industries including IT.
- ⑥ HTTP/HTTPS: protocols for web communication, with HTTPS adding security.
- ⑦ IPv4 and IPv6: standards for IP addressing and routing on the internet.
- ⑧ PCI-DSS: standards for data security and securing credit card data.
- ⑨ ISO 20000: A standard for IT service management.

(PYQ) Why freedom of expression is important issue in cyber world today?

Copy access 17

- Freedom of expression allows people to speak out against injustice and oppression (असुविधा).
- In many countries, people are silenced or imprisoned for expression their views. The internet provides a platform for these voices to be heard.
- It allows people to share information about human rights abuses.
- It allows people to connect with others and build communication.
- It allows people to express their artistic and creative talents.

12 M → (PYQ) Explain in detail the concept of identity theft. How does social networking plays an important role in ethical issues.

Ques → what is identity theft & its type and all explain ~~विस्तार~~
उस ही वही से देख लेना।

Social networking plays a crucial role in ethical issue related to identity theft due to the vast amount of personal information shared online. Users ~~upload~~ upload details like Name, date of birth, location and even financial information on social media.

Ethical issues arising from social networking

- privacy: Social networking sites collect a vast amount of personal data about their users, and this data is not always protected. As a result, user information can be easily accessed by third parties including identity thieves.
- cyberbullying: Social networking sites have been used as a platform for cyberbullying, which can have a huge impact on victims. This includes posting hurtful comments, sharing embarrassing photos, videos creating fake profiles.
- security: Social networking sites have been ~~targeted~~ targeted by hackers who have stolen user information and used it to commit fraud and to commit various identity thefts like financial theft, social security ~~identity~~ theft.

Copyrights: social networking sites is used to copy and access another intellectual property and paste it or upload it, showing like it is own, this leads to copyright issues.

plagiarism: social networking also leads to plagiarism, accessing different resources from social networking and use it without any proper credit or reference.

- Q10 write short notes on
- crime in virtual world
 - copyright vs Trademark
 - coding standards

a) crime in virtual world: criminals are using virtual worlds to commit a variety of crimes, including theft, fraud and ~~harassment~~ harassment.

Types of crime in the virtual world

- Theft: criminals can steal virtual goods, such as in-game currency or items, they can also steal personal information such as credit card numbers or passwords.
- fraud: criminals can use virtual worlds to scam people out of money, they may create fake website or profiles to scam people ~~for~~ money.
- Harassment: criminals can use virtual worlds to harass and bully others. They may send unwanted messages ~~to~~ to harass the people.
- cyberstalking: criminals can use virtual worlds to stalk people. They may track people's movements gather personal information or make threats (चमकी देना).

© Coding standards: Coding standards are a set of guidelines and best practices for writing code. They are designed to improve the quality, readability and maintainability of code. Coding standards can cover a wide range of topics including.

- Naming conventions: How to name variables, functions, classes and other code elements.
- Indentation: How to indent code to make it easier to read.
- White space: How to use white space to make code more visually.
- Comments: How to use comments to explain code.
- Error Handling: how to handle errors in code.
- Testing: How to test code to make sure it is working correctly.
- Exception handling: how to handle exceptions in code.

(b) from back sides page.

(py) Describe the coding standards for DBMS and networks.
DBMS coding standards

① Naming conventions: Use meaningful names for tables, columns, variables and functions. Maintain consistency in naming conventions throughout the codebase.

② Indentation: Use proper indentation to improve code readability and easier to understand.

③ Commenting: Add comments to complex code sections, algorithms.

④ Error Handling: Implement proper error handling mechanisms handle exceptions and prevent crashes.

⑤ Performance optimization: Choose efficient data structure and algorithms to minimize processing time.

Networking Coding standards

- ① protocol : Adhere to the relevant network protocols and standards to ensure compatibility.
- ② Error Handling and Retransmission: Implement error detection and correction mechanisms to ensure data transmission.
- ③ security measures: Implement security, encryption and authentication protocols to secure the information.
- ④ Performance optimization: Design network protocols and algorithms to minimize latency and optimize packet routing.

Q. Analyse the role of incentives at workplace.

Incentives at workplace play a crucial role in shaping employee behavior ..

- ① Increased Productivity: Incentives provide employees ~~with a~~ a reason to work harder and achieve more.
- ② Improved Employee Engagement: Incentives engagement and involvement among employees.
- ③ Enhanced employee ~~Retention~~ ^{assumption}: Incentives can play a significant role in reducing employee assumption.
- ④ Motivation: Incentives serve as a motivation for the employees that create more positive work atmosphere.
- ⑤ ^{improve} Teamwork and Collaboration: Incentives ~~can~~ promote teamwork and collaboration among employees.