

Information Technology

NVEQ Level 3 – Class XI

IT302-NQ2012-Digital Literacy

Student's Handbook



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Preface

The National Curriculum Framework, 2005, recommends that children's life at school must be linked to their life outside the school. This principle makes a departure from the legacy of bookish learning which continues to shape our system and causes a gap between the school, home, community and the workplace.

The student workbook on “**Digital Literacy**” is a part of the qualification package developed for the implementation of National Vocational Education Qualification Framework (NVEQF), an initiative of Ministry of Human Resource Development (MHRD), Government of India to set common principles and guidelines for a nationally recognized qualification system covering Schools, Vocational Education and Training Institutions, Technical Education Institutions, Colleges and Universities. It is envisaged that the NVEQF will promote transparency of qualifications, cross-sectoral learning, student-centred learning and facilitate learner's mobility between different qualifications, thus encouraging lifelong learning.

This student workbook, which forms a part of vocational qualification package for student's who have passed Class X or equivalent examination, was created by a group of experts. The IT-ITeS Skill Development Council approved by the National Skill Development Corporation (NSDC) for the IT/ITeS Industry developed the National Occupation Standards (NOS). The National Occupation Standards are a set of competency standards and guidelines endorsed by the representatives of IT Industry for recognizing and assessing skills and knowledge needed to perform effectively in the workplace.

The Pandit Sunderlal Sharma Central Institute of Vocational Education (PSSCIVE), a constituent of National Council of Educational Research and Training (NCERT) in association with Wadhvani Foundation has developed modular curricula and learning materials (Units) for the vocational qualification package in IT/ITes sector for NVEQ levels 1 to 4; level 1 is equivalent to Class IX. Based on NOS, occupation related core competencies (knowledge, skills, and abilities) were identified for development of curricula and learning modules (Units).

This student workbook attempts to discourage rote learning and to bring about necessary flexibility in offering of courses, necessary for breaking the sharp boundaries between different subject areas. The workbook attempts to enhance these endeavours by giving higher priority and space to opportunities for contemplation and wondering, discussion in small groups and activities requiring hands-on-experience. We hope these measures will take us

significantly further in the direction of a child-centred system of education outlined in the National Policy of Education (1986). The success of this effort depends on the steps that school Principals and Teachers will take to encourage children to reflect their own learning and to pursue imaginative and on-the-job activities and questions.

Participation of learners in skill development exercises and inculcation of values and creativity is possible if we involve children as participants in learning, and not as receiver of information. These aims imply considerable change in school routines and mode of functioning. Flexibility in the daily time-table would be a necessity to maintain the rigour in implementing the activities and the required number of teaching days will have to be increased for teaching and training.

Intellectual Property

Intellectual property (IP) is a legal concept that refers to intangible property rights. Intangible property, describes something which a person or corporation can have ownership of and can transfer ownership to another person or corporation, but has no physical substance.

For example if you create an illustration for use in e-books (digital form of textbook viewed on computing devices), it becomes an intellectual property. You can transfer the ownership of this illustration to a publisher either for a fixed fee, through a royalty scheme or at no cost.

Generally ownership lies with the owner, protected through legal rights. By protecting the efforts, owners can have a safe social environment where their work is protected and hard work is rewarded.

Intellectual property is a legal concept referring to creations of the mind for which *exclusive* rights are recognized. Under intellectual property law, owners are granted certain exclusive rights to a variety of intangible assets, such as:

- Musical, literary, and artistic works.
- Discoveries and inventions.
- Words, phrases, symbols, and designs.

Intellectual property rights also allow protecting intellectual activity in industrial, scientific, literary & artistic fields.

Different types of intellectual property rights that can increase protection include copyright, trademarks, patents, industrial design rights and in some jurisdictions, trade secrets.

Note: You will learn about the different types of intellectual property rights in detail in the next few sessions.

EXERCISE

Perform the following activities till you are confident:

S.No.	Activities
1.	<p>Read the statements below and make ethical judgments.</p> <p>a. A software developer is creating a website that will contain tutorials on using computer software and the content is prepared by him. Should the software developer protect his content?</p> <p>b. An artist is making a duplicate of a world famous poster. In order to make his effort legitimate, what does the artist need to do?</p>

ASSESSMENT

Answer the following:

1. Explain Intellectual property
2. What are the types of Intellectual property?

Fill in the blanks

1. Acronym for IPR _____
2. Types of IPR include _____ , _____ , _____ , _____ & _____.

SESSION2: COPYRIGHT, TRADEMARK & PATENT

RELEVANT KNOWLEDGE

Copyright

Copyright is a legal concept, enacted by most governments, granting the creator of an original work, exclusive rights to it, usually for a limited time period. Copyright protection is available to both published and unpublished work.

Copyright was initially conceived as a way for governments to restrict printing. But now-a-days, this concept helps promotes creation of new works by protecting authors, giving them control of content and the right to make profits from it. Works such as paintings, sculptures, books, photographs, software, audio & visual works, architectural designs, etc. are protected by Copyright. Copyright can be made by either individuals or companies. Companies usually have a legal department with experts to deal with Intellectual property such as the Copyright.

Exclusive rights

Exclusive rights mean that only the copyright holder is entitled to exercise the rights (listed below) and others are prohibited from using the work without permission. Following are some of the rights typically attached to the holder of the copyright:

- To produce copies or reproductions of the work and to sell those copies (including, typically, electronic copies).
- To import or export the work.
- To create derivative works (works that adapt the original work).
- To perform or display the work publicly.
- To sell or assign these rights to others.

Copyright jurisdictions

Copyrights are said to be territorial, which means that they do not extend beyond the territory of a specific state unless that state is a party to an international agreement. For example rights for a content that is copyrighted in one country may or may not be applicable in another country. Today, however, this is less relevant since most countries are parties to at least one such agreement.

Copyright validity

Generally validity of a copyright is whole life of the creator plus fifty to a hundred years from the creator's death, or a finite period for anonymous or corporate creations.

Things that cannot be copyrighted

Several categories cannot be copyrighted such as:

- Slogans, short phrases, familiar symbols or logos, lettering, coloring.
- Ideas, procedures, methods, systems, processes, concepts, principles, discoveries, or devices, as distinguished from a description, explanation, or illustration.
- Works consisting entirely of information that is common property and contain no original authorship (for example: standard calendars, height and weight charts, tape measures and rulers, and lists or tables taken from public documents or other common sources)

Copyright symbol

Content or information that is copyrighted usually identified through the symbol ©; information related to copyright or legal terms is usually made available in product manuals, warranty cards, websites, etc.

Use of copyright symbol © doesn't necessarily mean it's copyrighted.

For example, you might notice lots of websites that have © symbol indicating that the content, website hosted are copyrighted. It reminds the visitors of the website to respect copyright.

Obtaining copyright

Copyright registration is a legal formality intended to make a public record indicating the ownership and the rights of the owner. This can help owners file a case against infringements of their content. Copyright involves procedures as required by the law; refer to copyright bodies or seek help from copyright experts for proper procedure.

Using copyrighted content

You can use copyrighted materials if you obtain permission from the owner; in most cases, you may have to get a written confirmation from the owner to avoid any legal issues.

Note: If a copyright notice is not available, it is recommended to contact the webmaster or owner to check if you require any special permission to use the material. Also it is the right of the owner to grant or deny permission, to part or complete material. If the permission is granted, then the owner may charge a fee or provide the material free of cost; however, the decision is left with the owner. In rare cases, if the copyright of the material is expired and confirmed, then the material maybe used without permission.

Copyright infringement

Copyright infringement is the unauthorized use of works under copyright, infringing the copyright holder's "exclusive rights", such as the right to reproduce, distribute, display or perform the copyrighted work, spread the information contained within copyrighted works, or to make derivative works.

It often refers to copying "intellectual property" without written permission from the copyright holder, which is typically a publisher or other business representing or assigned by the work's creator. Copyright infringement is often associated with the terms piracy and theft.

Examples of copyright infringement includes (not limited to):

- Downloading and using software without paying for it (if it is paid software), purchasing software and re-distributing it for free, etc. resulting in software piracy.
- Paying for single copy and using it on multiple computers (referred to as Software Piracy).
- Downloading paid MP3 (music or audio) or video from websites without paying any money.
- Downloading and/or distributing movies from the Internet through direct downloads or torrents.
- Using copyrighted logos without permission
- Downloading licensed software without paying for it
- Downloading and/or distributing movies without permission

Trademark

A trademark is a recognizable sign, design or expression which identifies products or services of a particular source from those of others. The trademark owner can be an individual, business organization, or any legal entity.

A trademark may be designated by the following symbols:

- TM (the "trademark symbol", which is the letters "TM", for an unregistered trademark, a mark used to promote or brand goods)
- SM (which is the letters "SM" in superscript, for an unregistered service mark, a mark used to promote or brand services)
- ® (the letter "R" surrounded by a circle, for a registered trademark)

Trademark can be registered if it is able to distinguish the goods or services of a party, will not confuse consumers about the relationship between one party and another, and will not otherwise deceive consumers with respect to the qualities.

Like Copyright, Trademarks can be located on a package, a label, a voucher or on the product itself. A trademark is typically a name, word, phrase, logo, symbol, design, image, or a combination of these elements. Example of a trademark includes the logo for Wikipedia website (figure below):



Wikipedia Logo

Patent

A patent is a form of intellectual property. It consists of a set of exclusive rights granted by a sovereign state to an inventor or their assignee for a limited period of time, in exchange for the public disclosure of the invention.

The procedure for granting patents, requirements placed on the patentee, and the extent of the exclusive rights vary widely across countries based on their national laws and international agreements. Typically, however, a patent application must include one or more claims that define the invention. These claims must meet relevant patentability requirements, such as novelty and non-obviousness. The exclusive right granted to a patentee in most countries is the right to prevent others from making, using, selling, or distributing the patented invention without permission.

Patent is done through Patent Offices that are governmental or intergovernmental organizations which controls the issue of patents.

EXERCISE

Perform the following activities till you are confident of the concept:

S.No.	Activities
1.	Find out the trademarks for the following products: a. Basmati rice b. 7 O'CLOCK Razor c. Bisleri d. Benz e. Enfield Bullet f. Kit Kat g. Pepsi h. Usha Sewing machines & Electricals i. Volvo j. Vicks Vapo Rub.

ASSESSMENT

1. Explain Copyright with an example.
2. Explain Trademark with an example.
3. Explain Patent with an example.

Fill in the blanks

1. _____ helps individuals and organizations to protect their original work.
2. Copyright protection is available to both _____ and _____ work.
3. _____ means the copyright holder is entitled to exercise the rights and prohibit others from using the work without holder's permission.
4. Three examples of copyright infringement are _____ , _____ & _____.
5. Copyright is denoted by _____ symbol.
6. Trademark is denoted by _____ symbol.
7. Registered trademark is denoted by _____ symbol.

SESSION 3: PLAGIARISM

RELEVANT KNOWLEDGE

Plagiarism

Copying, reproducing or distributing information without the owner's consent is referred to as plagiarism. Getting involved in such practices is considered unethical.

Copyright infringement refers to violations leading to legal consequences whereas plagiarism refers to activity such as reproducing another's work as if it is one's own original work. Plagiarism is considered an ethical offense and not as a crime. Understand ethics in the following context: You write an article for a competition and someone else copies your original work and claims that she has created the work.

Given below are some examples of plagiarism:

- Downloading and using images or content from websites or other sources and claiming it to be your original work.
- Modifying existing company logos on brochures, flyers, business cards, blogs or other distribution materials.
- Copying full-text or image from websites and placing it in documents without citations or quotations.

Internet Plagiarism

Internet is a major resource for searching, researching, collecting and using information. This information available could be owned by an author who may have published the information for free or for a fee through a publisher.

When information such as text, tutorials, source code to applications, news, etc is copied and reproduced without owner's consent, it is referred to as *content scraping*.

Internet plagiarism is widely practiced in academia and journalism. For example:

- Students, professors or researchers may copy content from the Internet that is considered academic dishonesty and may be punished through suspension or termination.
- Reporters may copy recent news from other website for local paper or other publications and authors using content in text books without providing

citation that is considered unethical. Authors and reports may lose credibility with the organization and may be terminated as a result.

If you want to use the information available on the Internet on your personal use or for public distribution, you need to ensure that you are authorized to copy or distribute the information. In general, it is necessary to obtain permission from the author or the publisher before copying or distributing the information.

Following is a general guideline to avoid plagiarism:

- Use quotations when placing text in documents to indicate that this is copy; use different fonts or colors for quotations.
- Include the source as a footnote either below the quotation or at least at the end of the document.
- Paraphrase the entire text using your own words; check with the original paraphrase for technical accuracy.
- Indicate if it's an improvement of accuracy and quote the original text.

Detecting Plagiarism

Plagiarism is common due to widespread use of computers today. It can be detected manually or automated through computer-assisted methodologies.

Though detecting plagiarism can be difficult, some websites offer text-based plagiarism detection services to detect online presence of copied content. Some of the online plagiarism detection services include (not limited to):

- Chimpsky (chimpsky.uwaterloo.ca)
- Copyscape (www.Copyscape.com)
- Plagium (www.plagium.com)
- PlagTracker (www.PlagTracker.com)

EXERCISE

Perform the following activities till you are confident:

S.No.	Activities
1.	Assess the following statements and share your views on plagiarism: a. Your friend was asked to conduct a presentation on a particular topic and was allowed to use any source for collecting information. Presentation made was appreciated by many; however you found that he has merely used a presentation found on the Internet.

ASSESSMENT

Answer the following:

1. Explain plagiarism.
2. List any three examples of plagiarism.

Fill in the blanks

1. Copying and/or distributing content without owner's consent is referred to as _____.

SESSION 4: AVOIDING VIOLATIONS

RELEVANT KNOWLEDGE

When you create content and/or publish, it becomes your intellectual property. As owner of the content, you have all rights to control how the information can be copied, distributed or reproduced and also, who can use the information. Similarly to use intellectual property owned by others, you need proper permissions from the rightful owner. However in some cases, the owners might provide guidelines for using the content without prior permissions enforced through certain licensing terms.

Certain authors, publishers or owners allow copying, reproducing or distributing content through certain legal conditions without the need for obtaining written permission. For example, you may be permitted to use the content under certain methods & licensing types such as Citation, Fair Use, Public Domain, Creative Commons, etc.

Citation

Citation is a reference to a published or unpublished source. Citation is used for acknowledging or attributing the original work in order to avoid plagiarism. For example, if you would like to quote few sentences from a newspaper or book, you can indicate the source of the content used in your blog or printed material (Sample below).

“This document is compiled from content available in www.wikipedia.org.”

“Compiled from <http://en.wikipedia.org/wiki/Plagiarism>”

Citation is usually available at the end of a document or material referred to as a “footnote”; however, citations need to be provided based on the terms and conditions as set by the owner.

For example, you might have noticed the following citation in this text book (end of first session):

“Note: This document is compiled from a variety of sources including Wikipedia, U.S. Copyright website, Copyright handbook from Copyright office - Government of India (<http://copyright.gov.in/Documents/handbook.html>). “

This is an example to indicate where the key points and content are sourced from to: one, encourage readers to visit respective websites for any clarification and two, to comply with legal requirements.

Fair Use

Fair use is a limitation and exception to the exclusive right granted by copyright law to the author of a creative work. Fair Use refers to using copyrighted materials to a limited extent without obtaining permission. Examples of fair use include news, reporting, teaching, researching, library archiving, etc.

For example, you can include screenshots of a software product in a training document or a blog. However, it is recommended to check with the product vendor (in this scenario) or the website for legal requirements. To know more about Fair Use, visit http://en.wikipedia.org/wiki/Fair_Use.

Public Domain

Works in the public domain are those whose intellectual property rights have expired, been forfeited, or are inapplicable. Basically, the public domain consists of works that are publicly available. For example: a public domain that provides free images is www.openclipart.org.

Creative Commons

Creative Commons (CC) is a non-profit organization headquartered in Mountain View, California, United States devoted to expanding the range of creative works available for others to build upon legally and to share. The organization has released several copyright-licenses known as Creative Commons licenses free of charge to the public. These licenses allow creators to communicate which rights they reserve, and which rights they waive for the benefit of recipients or other creators.

A Creative Commons license is one of several public copyright licenses that allow the distribution of copyrighted works. A Creative Commons license is used when an author wants to give people the right to share, use, and even build upon a work that they have created. Creative Commons licensing provides an author flexibility (for example, they might choose to allow only non-commercial uses of their own work) and protects the people who use or redistribute an author's work, so they don't have to worry about copyright infringement, as long as they abide by the conditions the author has specified.

There are several types of Creative Commons licenses. The licenses differ by several combinations that condition the terms of distribution.

Creative Commons licenses consist of four major condition modules:

- Attribution (BY), requiring attribution to the original author.

- Share Alike (SA), allowing derivative works under the same or a similar license (later or jurisdiction version).
- Non-Commercial (NC), requiring the work is not used for commercial purposes.
- No Derivative Works (ND), allowing only the original work, without derivatives.

These modules are combined to currently form six major licenses of the Creative Commons:

- Attribution (CC BY)
- Attribution Share Alike (CC BY-SA)
- Attribution No Derivatives (CC BY-ND)
- Attribution Non-Commercial (CC BY-NC)
- Attribution Non-Commercial Share Alike (CC BY-NC-SA)
- Attribution Non-Commercial No Derivatives (CC BY-NC-ND)

For example, Wikipedia uses Creative Commons Attribution-Share Alike 3.0 license. You can learn more about Creative Commons at www.creativecommons.org.

Best practices to avoid copyright violations

Following are some of the guidelines to avoid copyright violation:

- Always check the source for legal requirements; usually guidelines are found in *terms and conditions*, *terms of use*, *legal use*, *fair use*, *about us*, *press images*, *etc.* sections of the website. If any of the pages or instructions are not available, mail the author (or webmaster) to confirm if you can use the content in your website or material.
- Never download or use illegitimate (pirated) software; if possible try to research and use open source software as an alternate instead.
- Never share product keys or serial keys; never install paid software (for self or others) unless you are sure of the transaction (receipt).
- Never attempt to browse websites that are restricted by the government.
- If content is copied or reproduced under Fair Use Policy, provide citation or credits to the author, source or publisher.
- When providing content or software, it is essential to provide copyright information. For example, you may include details such as whether the end-user can reproduce / distribute / download the content/ software you have created / developed without your permission, or, if they need to get in touch with you for acquiring permissions for a fee, etc.
- If you are not clear about the licensing terms and conditions, get help from a licensing expert or contact the owner.

ASSESSMENT

Answer the following:

1. Explain Citation with an example.
2. Explain Fair Use with an example.
3. Explain Public Domain with an example.
4. List any three practices to avoid copyright violation.

Fill in the blanks

1. Attributing an author or a publisher is known as _____.
2. _____ provides images and/or content that is free to use by anyone (public).
3. Write any three examples of Fair Use: _____, _____ & _____.

SESSION 5: CYBERLAWS

RELEVANT KNOWLEDGE

Cyber laws are legal regulations to control cyber crimes. Millions of users are dependent on the Internet all over the world and crimes are possible in the cyber space.

Cyber Crime

Cyber Crime or computer crime refers to any crime that involves a computer and a network. Cybercrimes are defined as: "Offences that are committed against individuals or groups of individuals with a criminal motive to intentionally harm the reputation of the victim or cause physical or mental harm to the victim directly or indirectly, using modern telecommunication networks such as Internet (Chat rooms, emails, notice boards and groups) and mobile phones (SMS/MMS)".

Cybercrimes can also refer to unauthorized access or modification to computer materials. Activities such as spam, fraud (mail, chat, etc.), threats, harassment, etc. are some of the cybercrimes popular today. When communicating through Chat, Mail or forums, extra care must be taken to avoid falling into traps. Never respond to chat, mail or electronic messages that are suspicious or fraudulent in nature; for example, you may receive a mail that could promise financial benefits without any efforts which in turn might be a scam.

Several unethical & illegal things happen on the Internet. Activities such as cheating, fraud, misappropriation, piracy, defamation, pornography, hacking, planting viruses, IPR thefts, copyright violations, threats, etc. are committed through the Internet today. These activities are treated as cyber crimes and involving in such activities could lead to severe punishments.

Defamation

In layman's language, defamation means making false statement(s) about someone or something which results in spoiling the reputation of the individual, business, product, group, etc.

Defamation can be either, slander (verbal) or libel (written). Both slander and libel ways of defamation are considered to be punishable offences; depending on the severity, the punishment could be severe. In short, it is illegal and unethical to practice defamation and never should be encouraged.

Cyber Laws

To maintain the Internet as a safe place for all, laws and regulations are required. Laws & regulations that cover the Internet & the World Wide Web are referred to as Cyber laws.

Cyber law or Internet law is a term that summarizes the legal issues related to use of the Internet. It is less a distinct field of law than intellectual property or contract law, as it is a domain covering many areas of law and regulation. It includes internet access and usage, privacy, freedom of expression, and jurisdiction etc.

To know about Cyber laws in India, Visit <http://deity.gov.in/>.

ASSESSMENT

Answer the following:

1. Explain Cyber Crime with an example.
2. Explain Cyber laws.
3. Explain defamation and the types of defamation.

Fill in the blanks

1. _____ refers to illegal activities that are committed by use of a computer or a network.
2. _____ Cyber laws are legal regulations to control cyber crimes.
3. _____ is a way of making false statements to spoil the reputation of an individual, product, business or a group.
4. _____ is verbal form of defamation.
5. _____ is written form of defamation.

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