CURRICULUM

MEDIA PRODUCTION (II)

GRADE X
2020

GOVERNMENT OF PAKISTAN

Ministry Of Federal Education and Professional Training

ISLAMABAD

Contents

Introduction

Media production means a single-medium or multimedia feature film, television show or series, video, commercial, photographic project, interactive computer or video game or other program intended for a national audience and fixed on film, video tape, computer disk, laser disc or other delivery medium that can be viewed or reproduced and that is exhibited in theaters or by individual television stations or groups of stations, television networks or cable television stations or via other means or licensed for home viewing or use.

We live in a world dominated by various kinds of media. Every day, people engage with and consume information from many different mediums using various devices, sometimes at the same time. For instance, they may listen to a podcast or the radio while checking social media on their phone or watch TV while looking for recipes on their tablet.Media actually refers to any kind of communication whose purpose is to inform, educate or entertain a wide audience. It can be anything from web content to social media to TV, video and radio content.

The media trends are always changing and evolving, but one thing is certain: The role of media in people's everyday lives and its impact on our personal, social and political circumstances is enormous. A huge protest march can be organized through social media within days. A homemade video can go viral and spark a worldwide debate or simply amusement. A well-crafted ad or promotional website will convert a skeptic into a faithful customer of a brand. Students undertaking a career in media production will learn to understand the development and impact of various media trends, as well as produce different kinds of content and manage various media industries. Students pursuing a career in media production can choose from several streams.

Rationale

Media consumption and creation is essential to modern communication. Media, in its evolving forms, influences and shapes the way people view themselves and others and plays a crucial role in the creation of personal, social, cultural and global identity. This production-based course is designed for learners who wish to develop technical media skills and an understanding of the contexts of journalism, advertising and narrative within media. Learners explore the media and media conventions through practical experiences and formal analysis of the media products of themselves and others. Creative and critical thinking skills are a significant component of the course. Learners work within learning environments that simulate a professional setting in order to develop products in a specific medium. Through acquisition of technical and analytical skills learners will develop the ability to appreciate the operational functions and social implications of their medium of specialization.

Aims

- Use media techniques and technologies in order to create their own media products
- Implement aspects of design and design processes relevant to media works
- Manage media activities by applying appropriate time management, planning and negotiation skills
- Use and identify appropriate production elements and narrative structures in the creation of media products
- Analyze and respond to media issues and the role of media in society
- use media codes and conventions when making and responding to media works
- Identify target audiences for specific media products.

Objectives

- Students will be prepared to enter the workforce in desktop publishing, print production and/or multimedia production.
- Students will demonstrate proficiency in industry technical standards.
- Students will be able to identify and describe specific design career options and job skill requirements.
- Students will demonstrate proficiency in industry-standard safety procedures.
- Students will demonstrate proficiency in customer service skills and interaction with stakeholders in their roles with marketing, sales, advertising, reporting and production.

Grade-X

Learning Themes and Students' Learning Outcomes Knowledge, Skills and Attitudes					
Chapter 01 Adobe Audition(Audition Mixing)					
T= 05, P= 08, Total= 13					
Content	**Students' Learning Outcome**	**Activities/Practical**	**Duration**	**Tools**	**Work place**
Introduction to Adobe Audition	Student will be able to: • Describe adobe audition • Install and set the workspace • Learn about adobe audition interface • Understand testing of inputs and outputs with Audition	• Presentation on Adobe Audition interface. • Setup inputs and outputs	01 Periods(T) 02 Periods(P)	Stationary items,multimedia,computer system/laptop	Classroom/Lab
Basic Editing	• Learn about Import file in adobe audition.	• Import sound form different sources.	02 Period (T) 02 Period (P)	Stationary items	Classroom/L

	• Learn about selection of region for editing and change its levels • Understand the process of cut, delete, and past audio regions with multiple clipboard • Learn about extending and shortening musical selections • Describe the concept of loop (repeating part of a waveform) • Comprehend fading regions to reduce artifacts	• Edit a file by using all basic editing techniques (cut, extend, shorten, loop etc.)			ab
Effects in Adobe Audition	• Learn Aboutsoundeffectsbasics • Learn use of Effects Rack • Describe Effects (Amplitude, Compression, Delay and echo effects, Filter and Equalizer, Modulation effects, Noise reduction/restoration, Reverb effects, Special effects, Stereo imagery effects, Time and Pitch effect, Third-party effects (VST and AU)) • Managing presets	• Apply different effects to audio clips. • Improve sound quality of audio by applying relevant effects.	02 Periods(T) 03 Periods(P)	Computer and its accessories	Lab
Audio Restoration	• Learn use ofAbout audio restoration • Reducing hiss, crackles, pops, and clicks, broadband noise • Learn about De-humming a file • Removing artifacts, Alternate click removal	• Improve audio clip by audio restoration as per requirement	01 Periods(T) 03 Periods(P)	Computer and its accessories	Lab

Mastering	• LearnMastering sound
	    • equalization
	    • dynamics
	    • ambience
	    • stereo imaging
	    • "push" the drum hits; then apply the changes
	• Mastering diagnostics
		• Perform Mastering techniques on audio clips	01 Periods(T)
			02 Periods(P)
				Computer and its accessories	Lab

Sound Design	• Learn aboutsound design
	    • rain sounds
	    • babbling brook
	    • insects at night
	    • an alien choirs
	    • sci-fi machine effects
	    • alien drone flyby
	• Extracting frequency bands
		• Create different sound designs	01 Periods(T)
			03 Periods(P)
				Computer and its accessories	Lab

Multitrack Editor	• Learn about recording, using waveform Editor. • About multitrack production • Multitrack and Waveform Editor integration • Changing track colors • Loop selections for playback • Track controls • Channel mapping in the Multitrack Editor • Side-chaining effects • Save as template	• Record audio using different editor. • Produce multitrack audio • Design track controls	02 Periods(T) 03 Periods(P)	Computer and its accessories	Lab
Editing Clips	• Creating a DJ-style continuous music mix (mixtape) with crossfading • Mix or export a collection of clips as a single file • Select and merge all clips in a track into a single file • Edit for length • Clip edits: Split, Trim, Volume	• Apply all editing techniques on different sound clips	02 Periods(T) 04 Periods(P)	Computer and its accessories	Lab

	Extend a clip via looping				
Sound Libraries	• Know about sound libraries • Build a rhythm track using percussion, melodic elements, loops and other effects	• Use sound libraries and create tracks	01 Periods(T) 04 Periods(P)	Computer and its accessories	Lab
Mixing	• Learn about mixing and its process • Learn Testing your acoustics • Learn about Exporting as stereo • Learn about burning an audio CD/ DVD album • Learn about Publishing to SoundCloud	• Produce stereo output file • Burn audio CD/DVD • Publish to different platforms.	01 Periods(T) 04 Periods(P)	Computer and its accessories	Lab

Chapter 02 Adobe Premier Pro					
T= 05, P= 14, Total=19					
Introduction to Adobe Premier Pro	Student will be able to: • Define and use Adobe Premier Pro • Install and set the workspace • Understand nonlinear editing • Understand the workflow	• Presentation on Adobe Premiere Pro interface	01 Periods(T) 02 Periods(P)	Computer and its accessories	Lab
Project Setup	• Set up a New project • Know about Importing assets • Work with the Media Browser • Importing images • Understand media cache • Capturing the videotape	• Import media from different sources	01 Periods(T) 02 Periods(P)	Computer and its accessories	Lab
Organizing timeline	• dWorking with bins • Organize media content in sequence • Learn to Modifying content	• Organize media in bins	01 Periods(T) 03 Periods(P)	Computer and its accessories	Lab
Working with Clips and Markers	• Program Monitor controls • Controlling resolution • Using markers • Use of Sync Lock and Track Lock • Find gaps in the Timeline • Learn to Move clips • Extract and delete segments	• Create project using monitoring controls • Use sync locks • Move and delete clips	02 Periods(T) 03 Periods(P)	Computer and its accessories	Lab
Transitions & Effects	• Understand Transitions • Edit points and handles • Adding video transitions • Use A/B mode to fine-tune a transition • Adding audio transitions • Working with effects • Use of composition techniques in your projects • Video typography essentials	• Apply visual / audio transitions and effects to project	02 Periods(T) 03 Periods(P)	Computer and its accessories	Lab
Advanced Editing Techniques	• Four-point editing • Learn Re-timing, replacing clips and footage. • Use of nesting sequences • Comprehend trimming	• Edit and trim clips as per requirement	02 Periods(T) 04 Periods(P)	Computer and its accessories	Lab

Multi-camera Editing	• The multi-camera process • Create a multi-camera sequence • Understand Switching multiple cameras	• Edit video using Multi-camera effects	02 Periods(T) 03 Periods(P)	Computer and its accessories	Lab
Editing and Mixing Audio	• Setting up the interface to work with audio • Examining audio characteristics • Adjusting audio volume/ gain • Normalizing audio • Create a split edit • Adjust audio levels in a sequence • Work with Audio Mixer • Adjusting EQ • Applying effects in the Audio Mixer • Clean noisy audio	• Setup application interface for audio auditing • Apply different audio settings e.g. volume, gain, levels • Use audio mixture in given project. • Use Equalizer (EQ) • Remove noise	02 Periods(T) 03 Periods(P)	Computer and its accessories	Lab
Color Correction and Gradient	• Color-oriented workflow • Learn about color-oriented effects • ing exposure, color balance and gradient	• Enhance video using color correction.	02 Periods(T) 03 Periods(P)	Computer and its accessories	Lab
Exporting Frames, Clips, and Sequences	• Overview of export options • Export single frames • Export a master copy • Work with Adobe Media Encoder	• Export video product for publishing	02 Periods(T) 03 Periods(P)	Computer and its accessories	Lab

Chapter 03					
Media Production Field Work					
Radio programs	The students will be able to : • Define radio • Describe history of radio in Pakistan • Understand use of audio recording equipment(microphone, storage media and digital audio equipment) • Know about broadcasting(advertisement,news,journalism, talk shows) techniques • Learn the different between print and broadcast • Develop skills techniques and art of radio news through sound and spoken words	• Demonstration a role play of broadcasting a radio commercial • Demonstration a role play of broadcasting a celebrity interview	02 Periods(T) 03 Periods(P)	Stationary items,multimedia,computer system/laptop	Lab
News channels	• Define news • Describe history of news in Pakistan • Understand types of news • Understand interview techniques • Understand script, narrations, story boards and shooting script • Develop techniques and art of news through sound and spoken	• Conduct news for any incident • Conduct a panel discussion on any topic	02 Periods(T) 03 Periods(P)	Stationary items,multimedia,computer system/laptop	Lab

Content	Students' Learning Outcome	Activities/Practical	Duration	Tools	Workplace
		words			
	• Understand process of reporting				
TV channels	• Describe types of TV channels(religious, sports, entertainment, news, cartoon and educational) • Understand role of production houses for different channels • Learn about advertisement creation for TV channel	• Make ad for brand/product promotion	02 Periods(T) 05 Periods(P)	Stationary items,multimedia,computer system/laptop	Lab
Documentary	• Describe effects of documentary • Identify idea and location for documentary • Perform all media tools to create a documentary	• Make a short documentary on skills development	02 Periods(T) 03 Periods(P)	Stationary items,multimedia,computer system/laptop	Lab

Chapter 04
Social Media Content
T = 12, P = 16,Total = 24

Content	Students' Learning Outcome	Activities/Practical	Duration	Tools	Workplace
Introduction to Social Media	Student will be able to: • Define Social Media • Understand to create social media content • Define media content (images, audio, video and graphics etc.)	• Group discussion and presentation on social media • Create content to publish on social media channels •	01 Periods(T) 02 Periods(P)	Stationary items,multimedia,computer system/laptop	Lab
Content Production	• Know how to create epic content • Describe tools/software for content creation • Define audience and targeted audience relevant content production	Enlist the names of tools/software used to create a media production content	01 Periods(T) 02 Periods(P)	Stationary items,multimedia,computer system/laptop	Lab
Brainstorming Techniques	• Understand to find inspiration • Define your focus • Know about tags • Know how to change your thinking perspective	Discuss and research latest social media trends for media production	01 Periods(T) 02 Periods(P)	Stationary items,multimedia,computer system/laptop	Lab

Social Media Platforms	• Know the list of platforms used to publish content
	   • Facebook
	   • Instagram
	   • Twitter
	   • LinkedIn
	   • Snap chat
	   • Pinterest
	   • YouTube
	• Understand business page setup
	• Know about page promotion
	
	•
		• Prepare a presentation on social media platforms
		Post a designed intro video content of your school on Facebook, Instagram, Twitter and LinkedIn as per dimensions of social media platforms.
			01 Periods(T)
			02 Periods(P)
				Stationary items,multimedia,computer system/laptop	Lab

Types of Social Media Content	• Understands different content for social media like
	   • Graphics
	   • Photography
		Group class presentation on types of media contents for different platforms	01 Periods(T)
			02 Periods(P)
				Stationary items,multimedia,computer	Lab

Content	Students Learning Outcome	Activities/Practical	Duration	Tools	Workplace
	• Gifs • Videos • Blogs & Vlogs etc.			system/laptop	

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<tr><td colspan="6" align="center">Chapter 05
Blender</td></tr>
<tr><td colspan="6" align="center">T = 10, P= 16, Total = 30</td></tr>
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Content	Students Learning Outcome	Activities/Practical	Duration	Tools	Workplace
Introduction to 3D Modeling and rigging	The students will be able to: • Define 3D modeling • Define rigging • Describe Scope of 3D modeling. • Learn about use of 3D modeling tools (blender, maya, 3D studio max etc.)	• Group discussion and presentation on 3D modeling concept	01 Periods(T) 03 Periods(P)	Stationary items,multimedia,computer system/laptop	Lab
Basic concept of blender	• Define blender • Understand use of blender and interface • Understand camera setup • Learn properties of transformation(translate,rotate,scale,mirror, edit , duplicate, delete)	• Presentation on blender properties	02 Periods(T) 03 Periods(P)	Stationary items,multimedia,computer system/laptop	Lab
Blender practices	• Learn about node, mesh and vertices • Learn about pivot point adjustment • Understand about shapes (cube, rectangle, circle, cone editing etc.) • Understand about materials and UV mapping • Comprehend lightning concept • Understand about physics • Learn about animation insertion • Learn about key frames • Understand 3D view,timeliner,graphic editor, job sheet	• Make an animation of bouncing ball by utilizing required tools of blender • Design a virtual tour of institute building	02 Periods(T) 05 Periods(P)	Stationary items,multimedia,computer system/laptop	Lab

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<tr><td colspan="6" align="center">Chapter 06
Soft skills</td></tr>
<tr><td colspan="6" align="center">T = 10, P =12, Total =22</td></tr>
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Content	Students Learning Outcome	Activities/Practical	Duration	Tools	Workplace
Introduction to soft skills	The Students will be able to: • know the basic soft skills • understand the importance of soft skills in daily life • apply soft skills for academic and professional success	• Group discussion and model presentation on soft skills	01 Periods (T) 03 Periods (P)	Multimedia, projector or LED TV with good sound system	Classroom
Personal and professional grooming	• learn the personal and professional aspects of life. • understand the importance of self-image. develop self-confidence	• Perform role play to enhance self-awareness, self-confidence and self-image • Demonstrate a pictorial presentation on personal and professional grooming.	01 Periods (T) 02 Periods (P)	Multimedia, projector or LED TV with good sound system	Classroom

Content	Students' Learning Outcome	Activities/Practical	Duration	Tools	Workplace
Communication Skills	• know model of communication. • realize importance of active listening and responding. • understand effective communication. identify obstacles in communication.	• Perform role play and group exercises through listening audio or video documentaries. • Carry out practice amongst students to reflect verbal and non-verbal communication.	01 Periods (T) 03 Period (P)	Multimedia, projector or LED TV with good sound system	Classroom
Leadership and teamwork	• know the importance of teamwork in a professional environment. understand the concept of teamwork and leadership.	• Give students some task to observe teamwork and leadership properties among them	01 Periods (T) 03 Period (p)	Multimedia, projector or LED TV with good sound system	Classroom
Time Management	• know the concept of better time management. • observe time management in daily life understand professional and personal time management.	• Arrange a small competition task following time management • Schedule the tasks. •	01 Periods (T) 03 Period (p)	Multimedia, projector or LED TV with good sound system	Classroom/Lab
Attitude, behavior, and customer care	• learn the concepts of attitude and behavior understand the impact of positive and negative attitude in professional life	• Through different scenarios practically apply the principles of customer care and positive attitude. • Exercise and deal with problematic and angry persons by conducting role plays	02 Periods (T) 03 Periods (P)	Multimedia, projector, or LED TV with good sound system	Classroom/Lab

Chapter 07

Entrepreneurship T = 10, P =14, Total =24

Content	Students' Learning Outcome	Activities/Practical	Duration	Tools	Workplace
Introduction to Entrepreneurship	The students will be able to: • define entrepreneurship • know the key concepts of entrepreneurship • understand main component of entrepreneurship • learn types of entrepreneurship	• Group discussion on entrepreneurship	01 Periods (T) 02 Periods (P)	Multimedia Presentation and virtual exposure	Classroom
Feasibility and Business Plan	• know how to identify business opportunity. • know how to develop feasibility and business Plan. • prepare a business plan.	• Design a business plan keeping in view skills of cosmetology	02 Periods (T) 03 Periods (P)		Classroom

Marketing and Marketing Mix	- learn about concept of marketing and marketing mix - understand 6 P's of marketing - calculate costing and pricing	Develop a marketing strategy for your business model developed in previous activity	02 Periods (T) 03 Periods (P)	Multimedia and White Board	Classroom

Assessment and Evaluation

The technical subject curriculum for matric tech emphasizes on a classroom environment in which students will be encouraged to learn technical processes and knowledge of graphic designing within meaningful contexts. It is important that assessment strategies reflect this emphasis and are consistent in approach. An assessment program, which provides regular feedback, and is part of the learning process, is important to both student and teacher. Feedback tells students if they demonstrate understanding of concepts and if their actions display expected performance levels for inquiry, decision making, and problem solving. Regular feedback inspires confidence in learning graphic designing and becoming technically literate.

Therefore the assessment of students' learning must be aligned with curriculum outcomes. The curriculum provides suggestions for developing student learning across the general curriculum outcome areas: knowledge, skill and attitude. These outcomes describe a balance of inquiry problem solving, and decision making, within a suggested social-environmental context, for a given set of technical knowledge.

Incorporating assessment into the learning process

Assessment of students' learning must be part of every teaching and learning experience. Students should learn to evaluate their own learning. Traditional student testing programs, which rely on final, one-time evaluations, provide data that is of limited use to students as they construct knowledge. Meaningful assessment, like meaningful learning, must be authentic and connected to real-life problems.

A constructivist approach to learning and teaching has profound implications for the way learning is measured. Traditional classroom practice relies heavily on paper-and-pencil tests to measure students' learning and ability to apply knowledge. Learning is a processor connecting prior understanding with new learning. Consequently, an assessment strategy that measures the acquisition of facts and elements cannot serve a constructivist model.

To allow students to construct learning in the classroom through authentic experiences, assessment must be:
- Valid, leading to attainment of multi-dimensional technical learning
- Open-ended, allowing for discussion and revision of new understanding
- Tolerant of divergent thinking and promote the notion of no "one right answer"
- Presented in alternative modes, not just paper-and-pencil responses to limiting questions
- Designed to promote analysis, comparison, generalization, prediction, and modification
- Capable of promoting collaboration and team effort in demonstration of competence; and ongoing and cumulative, showing development over time.

Types of assessment

Assessment serves many important purposes. Some of them are given below:
- Diagnostic (to plan instruction to fit the student's prior knowledge)
- Formative (to improve performance and adapt instruction)
- Summative (to report on final performance)

Classroom assessment

The primary purpose of classroom assessment is not only to evaluate and classify students' performance but also to inform of teaching methods and learning environment, and to monitor student progress in achieving year-end learning outcomes. Therefore, classroom assessment is used for various purposes:
- Assessment as Learning
- Assessment for Learning
- Assessment of Learning

Traditionally, the focus of classroom assessment has been on assessment of learning (summative assessment). Assessment for learning has been used only for diagnostic processes and for feedback. In order to enhance learning of all students, the role of assessment as learning must provide an opportunity to students whereby they become critical and analysts of their own learning.

Assessment strategies

Teachers learn about students' progress not only through formal tests, examinations, and projects, but also through moment-by-moment observation of students. To assess students' knowledge, skills, competencies and attitudes, teachers require a variety of tools and approaches, such as:

- **Selected Response**: Multiple-choice, matching, completion tests, etc.
- **Self-constructed Response Questions**: Fill-in-the-blank phrase(s), essay (restricted and extended response), reports, procedures, explanations, short answer sentence(s), paragraph(s), label diagram, and graph/table, etc.
- **Performance and Activity Based Assessment:** Portfolios, presentation, illustrations, lab, workshops, workstations, field visits, demonstration, process skills, enactment, project, group discussion, exhibition, table, graph, portfolios, etc.
  Note**:** Rubrics for all assessment tools must be prepared before administration.
- **Communication, Attitudes and Values Assessment:** Oral questioning, observation, interview, conference, process description, checklists, rating scales, anecdotal records etc.

Students' self-assessment

Students recognize the relationship between content achievement, skill proficiency, and assessment opportunities by setting their sights on their own demonstration. They can do self-assessment if they are provided with the knowledge-related checklists as well as checklists specific to applications and attitudes. Students assume the role of a researcher and use critical thinking skills as they find facts and make inferences to reach more conclusions about their learning. They are not receiving information passively and then simply giving it back to the teacher after memorizing it. Assessment should allow students to monitor their progress in various technical skills: initiating and planning; performing and recording; analyzing and interpreting; communication and teamwork. The curriculum calls for students to be actively involved in their learning, using the tools of dress making during classroom, laboratory, and workshop activities.

Quality in assessment

Assessment of professional and vocational learning must change as technical instruction moves from a focus on facts to a focus on in-depth understanding of major concepts and processes. Whereas the Quality Assessment will have the following major objectives:

- Measurement of what students should know and are able to do according to the Learning Outcomes
- Objective verification of the application of technical principles to familiar and unfamiliar situations; and
- Alignment with the Learning Outcomes and the Teaching/Learning Strategies.

Therefore, assessment and evaluation of the students' learning of technical aspects according to predetermined objectives and learning outcomes will ensure the quality of their academic achievements.

CONSTRUCTION OF TEST ITEMS

Written test items (selected response and creative response) should adhere to the following criteria:

- Items should be clearly written according to domain and depth of concept.
- Each test items should be written on the understanding level of learners.
- Test items should cover what learners have had opportunities to learn.

Too frequently, these test items measure students' gains in recall of factual information. There are other relevant facts for students to acquire. These are higher levels of thinking and competency that students should also develop.

These test items should measure students' achievement in:

- Understanding basic technical education concepts of graphic designing and acquired learning;
- Evaluating contents in terms of criteria or learning outcomes
- Problem-solving skills
- Analytical and creative thinking
- Positive attitudes developed toward methods of thinking
- Ability to work together with others
- Relevant concepts and generalizations developed
- Ability to manipulate and utilize techniques and technical equipment
- Understanding the concepts of design development
- Developing the software commands

Guidelines for Writing a Textbook

A textbook is an important teaching and learning resource and one of the most extensively used resources in classrooms. To reflect national needs and aspirations the needs and aspirations, the textbooks should be written in accordance with this curriculum. This curriculum meets not only the general aims and objectives but also fulfills the specific requirements of the individual subject. As the textbook serves as a framework for teaching, the author/authors should consider the following features:

- A textbook must include an introduction to the textbook, explaining how to use the textbook
- The textbook must be in line with the national curriculum, covering all SLOs of each content.
- Content and illustrations must be culturally, contextually and age appropriate.
- All text and material must be accurate, up-to-date and error-free.

- The continuity of the concepts, their integration and logical development should be ensured.
- Horizontal and vertical overlapping of the concepts should be avoided.
- The textbook should be informative and interactive with questions to be put at suitable intervals to provoke the students to think.
- The language used should be simple, clear, straight forward, unambiguous and easily comprehensible by the students of the particular level.
- Simple questions may be asked within the chapter, which requires students to recall, think, and apply what they have just learnt as well as to reinforce the learning of the concepts and principle.
- The examples and applications should be from everyday life and be supportive of our cultural values.
- Photographs and illustrations should be clear, labeled and supportive of the text. Tables, flow charts and graph may be given wherever needed.
- Key points at the end of each chapter should provide a summary of the important concepts and principles discussed in the chapter.
- End-of-the-chapter exercises must include a variety of assessment styles based on levels of Bloom's Taxonomy. These should encourage students to think, develop skills, and use information for a variety of purposes.
- Textbooks should be free from all kinds of biases including, gender, religion, occupation, social background etc.
- To make the students self-learner use of IT based resources may be encouraged. Relevant internet links and other online resources may be included.
- Glossary of the new vocabulary must be included.

Guideline for planning and writing a chapter

The textbook author may decide the titles of each chapter and can choose to cover students' learning outcomes (SLOs) from any themes in developing the content of the chapter. The textbook author must also keep in mind that a number of SLOs cannot be addressed in the text (as if this is done it would lead students to simply memorize the text and not serve the realization of the curriculum). These SLOs could be realized through questions and practical activities within and at the end of the chapter exercises.

- Learning outcomes must be given at beginning of each chapter.
- Decide on key ideas, facts, concepts, skills and values that can be developed.
- Illustrations must clearly convey the desired concept.
- Activities must demand from students to do inquiry and problem solving according to grade level.
- Ensure that the content is up to date, accurate and developmentally   appropriate.
- Contents must be in line with chapter outcomes.
- Language must be consistent, culturally appropriate and grammatically correct (as if talking to a group).
- Language must engage and hold reader's attention.
- Recall previous learning, where possible.
- Structure the writing so that the sentence is simple, paragraphs deal with single ideas etc.
- Interesting information in the form of tidbits, fact file, point to ponder   etc. must be given.
- Write a summary/concept map at end of each chapter, reviewing key   knowledge and skills.

- End-of-chapter exercises
- Recall and integrate previous learning
- Engage students and develop their creativity
- Move from lower to higher order thinking
- Focus on multiple intelligences
- Keep the text contextually relevant in line with local teaching and   learning.
- Provide website links for further research

Guidelines for Writing Learner Workbook

Workbooks are books that contain writing activities and exercises that build upon each chapter in the textbook. Workbook exercises help students to develop conceptual understanding of the concepts dealt with in the text, to develop skills and to apply knowledge to new situations. Basic features of a workbook A workbook should have:

- Various exercises and activities for each chapter, topic, subtopic.
- Exercises and activities that will enable student to develop and practice the content knowledge, skills and higher order thinking.
- Accurate and variety of exercises.
- Clear illustrations/ examples/ explanations to show what students are   supposed to do, and/or what product looks like.
- Exercises and activities with a variety of purposeful, stimulating, challenging and innovative items to encourage students to review and   practice the knowledge and skills they have learnt.
- Exercises that include both constructed and restricted response items.
- Activities, which requires readily available, acceptable, and affordable   materials and resources.

Basic Requirements for Lab (Tools/Equipment)

S. No.	Items
1.	Computer System
2.	Internet Connection
3.	Web Browser
4.	Search Engines
5.	Internet or Intranet Connectivity
6.	UPS
7.	Operating System (Windows,Linux)

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