ALP Curriculum
for
Elementary

Package | 2022
D & E

INTRODUCTION TO TECHNOLOGIES

Directorate of Curriculum and Teacher Education
Khyber Pakhtunkhwa, Abbottabad

Table of Content

ACKNOWLEDGEMENT

Education clarifies our perception of the world around us and helps changing it into a better place. It develops an insight of peeping deep into our lives. It is of utmost importance that every individual be educated for unlocking his/ her potential. Both on personal and national levels, education has been shown to increase economic growth and stability. Education strengthens economic and social status of an individual as well as contributes to a skilled human resource of a country.

Pakistan has many national and international commitments to provide quality education to all children in the country and to enroll all Out-of-School (OOS) Children. The government of Khyber Pakhtunkhwa is determined to provide innovative solutions to address the issue of OOSC in KP, which will pave ways to meet Sustainable Development Goals (SDGs) and Education 2030 targets.

To overcome these challenges the Directorate of Curriculum and Teachers Education (DCTE) has come forward with a solution of "Accelerated Education Programme" that provides fast track and cost-effective education opportunities to those who missed their first chance of education. The accelerated education programme will provide them a chance to re-connect to education and continue their education and training for improved living. The main objective of the AEP is to guide teachers/education providers to teach the curriculum in an accelerated mode without compromising the Student Learning Outcomes (SLOs) and required abilities and competencies.

Elementary & Secondary Education Department, Government of Khyber Pakhtunkhwa, introduces Elementary level Accelerated Education (AE) Curriculum that offers fast track Elementary (middle) education course/ program for children who cannot continue their education in formal schools system because of various reasons, such as being overage, dropped out before completing primary or elementary education cycle, involved in some work etc. It is worthwhile to mention that children out-of-school (OOSC), especially those between the ages of 10 to 16 constitute 82% of the total OOSC in the province. This curriculum will provide an opportunity to large proportion of children within this age cohort.

As part of the overall Non-Formal Education (NFE) programme of the Government, this AE curriculum is equivalent to the formal education elementary level curriculum. Being flexible, alternative and fast track in nature, this curriculum will fulfill the learning needs of a diverse, marginalized and complex group of out-of-school children in the province particularly those who overage, dropped out and have limited opportunities for re-entering the education stream.

The experts deserve enormous appreciation for accomplishing a complex task of developing, reviewing and refining the NFE/ AE curriculum for Elementary level. Although AE

curriculum development is a breakthrough and huge accomplishment, but I take it as a new beginning and first step towards the development of a new accelerated education program at this level.

Let me appreciate the technical and financial cooperation of development partners especially UNICEF who graciously extended their support.

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INTRODUCTION

Articles 25-A and 37(b) of the Constitution of Islamic Republic of Pakistan guarantee right to education (RTE) to all children between the ages of 5 and 16. It is pertinent to mention that basic education is free and compulsory according to these articles and the Government is responsible to provide free education (textbooks, tuition fee etc.) to all children of this age group. At the same time, the Government of Pakistan is bound to provide the right to quality and relevant education under Sustainable Development Goal # 4 (SDG-4) and education 2030 framework for action that is taking forward the agenda enshrined in Education for All (EFA).

In order to translate the constitutional and international commitments into reality and provide the right to free and compulsory education, the Government of KP has responded positively by developing and implementing KP Education Sector Plan. In addition, the E&SED is also strengthening the Non-Formal Basic Education sub-sector by developing provincial NFE policy and related accelerated education programmes for primary and elementary levels to provide alternative education opportunities to out-of-school children in the province. Alternative and accelerated education programmes at both primary and secondary levels will not only complement efforts to address the issue of out-of-school children, but also as stand-alone approach to provide basic education to older age out-of-school who cannot seek admission in formal schools.

Why Accelerated Elementary Education Programme

Following are major reasons that necessitated development of accelerated education programme (curriculum) for elementary level:

- In KP, 80.5% public sector schools are primary, whereas remaining 19.5% include elementary, secondary and higher secondary schools. The supply side proportion of schools in KP highlights its direct relationship with out-of-school children in the province i.e. only 18% children of 5-9 years of age are not in schools and that remaining 82% belong to 10-16 years of age cohort. This proportion validates that; more schools-less out-of-school children and less schools-more out-of-school children. Based on this fact, the province essentially needs a programme at elementary level that is cost effective, flexible and have the ability to be established quickly, so that the children of 10-16 years of age have extensive opportunities of education (Data source: Pakistan Education Statistics 2016-17).
- Accelerated elementary education will fill gap that has been caused by less number of elementary education schools in the province. This programme will essentially be offered

in areas where OOSC are more and that only primary schools are available. This programme may be offered in both morning and evening shifts as appropriate.

- Furthermore, a large number of children, especially girls between the ages of 10-16 in KP, have completed primary education and cannot go to schools owing to unavailability of elementary schools. Therefore, accelerated elementary education programme can offer them a second chance to reconnect to education. This programme will particularly be extremely useful for girls as 67% of the OOSC in KP are girls (Data source: Pakistan Education Statistics 2016-17).

- Accelerated elementary education (curriculum) programme will provide continuing education opportunities to primary pass-outs to transit to elementary level without any interruption. The elementary education programme will be offered in areas where accelerated primary education programme is offered.

- Accelerated elementary education programme, which is fast track and will offer completion of elementary cycle in 18-20 months instead of 36 months, will be an excellent option for those who have primary education certificate and have wasted a few years owing to unavailability of elementary school. This will help in bridging lost educational years and come at par with other children. The said fast track programme will also help in addressing the psychological fears of children that restrict them to reconnect to education.

- The accelerated elementary programme, being a fast track, flexible and cost effective, will require less cost to get operationalized. Therefore, the E&SED may expand the said programme to include most of the OOSC.

INTRODUCTION TO THE CURRICULUM

Curriculum consists of elements that promotes learners' intellectual, spiritual, aesthetic, emotional, social and physical development. Together with curricular and co-curricular activities, it includes approaches to teaching, learning and assessment, quality of relationships within the school, and the values embodied in the systematic functioning of a school especially in non-formal and accelerated education setting.

Subject based curriculum refers to a document describing learning outcomes, the scope and sequence of contents, learning activities, methods of delivery in the classroom. It also includes assessment and evaluation techniques consistent with the Curriculum Framework of a particular subject, and it also provides guidelines for developing pedagogical materials. The accelerated elementary curriculum builds logical connections with the national Curriculum 2006, equivalent to the same as well, and narrates terminal competencies accordingly.

The elementary AEP curriculum is standard based and provides indicators of expectations from learners at completion of each of the packages and grades defined in the curriculum. The curriculum provides a logical sequence of strands/ competencies, standards, benchmarks and students learning outcomes (SLOs). Each SLO is further elaborated by contents, preferred teaching methodologies and techniques to assess the SLOs, which are coded properly. The purpose of coding the SLOs is to enable teachers and education experts to understand the connection between a specific SLO and the corresponding topics provided in the textbook and the guide for teachers. In this way, the teachers will be able to meaningfully connect the topics with SLOs and eventually establish a link to the benchmarks, standards and the strand, which describe expectations from the learners. Such an arrangement is equally useful for the material developers/ authors to be specific while designing contents and activities and examples that suit the learning needs of the learners of NFBE schools, which are comparatively different from the learners studying in formal school environment. Similarly, the prescribed assessment techniques are useful for the teachers and evaluators to formulate relevant test items and apply a pertinent assessment method to assess the learning achievement of the learners.

Curriculum provides base of the teaching and learning system which derives its inspiration and vision from the Education Policies. It sets its structure accordingly to describe concepts, skills and attitudes that have to be developed in the students. It aims to address key questions such as what is the purpose of teaching; what is the desired level of the students as measured by standards and benchmarks, and what will be taught to the students to prepare them for higher studies and the world of work. Curricula documents provide guidelines for textbook developers and authors to develop textbooks and supplementary reading material according to the defined and agreed competencies, scope and guidelines. These enable teachers

to plan their classroom lessons; examiners to set formative and summative assessment according to the prescribed competencies, and to textbook reviewers to review the textbooks according to the contents and scope. The curriculum is also a guiding document for the general public and parents about the wider aims of education and the academic processes that learners experience.

Curriculum Development Process

Department of Elementary and Secondary Education (ESED), Government of KP, decided to develop and offer accelerated education programme for a specific group of OOSC after carrying out a thorough survey to identify OOSC. At the same time, Technical Working Group (TWG) for Non-Formal Education (NFE) conducted a detailed situation analysis of education in general and Non-Formal Education in particular that gave concrete recommendations to go for Elementary level Accelerated Education Programme (AEP) and its curriculum that offers elementary cycle in short period of time in Khyber Pakhtunkhwa. OOSC situation and general situation analysis of the education sector precisely recommended development of accelerated education curriculum for both primary and elementary levels in KP.

DCTE engaged curriculum experts, non-formal education experts and subject specialists for Pashto, Urdu, English, Mathematics, Science, Islamiyat, Geography and History. A couple of workshops were held to review the national curriculum 2006 that showed a variety of different ways of curriculum framework for each subject. However, DCTE experts agreed have standard framework for all the subjects. The framework agreed highlighted vertical and horizontal sequence. The vertical sequence narrated strands/ competencies or themes, learning standards, benchmarks and SLOs. Similarly, the horizontal sequence suggested contents for authors/ materials developers, strategies for teachers and assessment techniques for assessors. Following key strategies were used to condense the curriculum:

- Merging the grades/ levels such as Katchi & 1 to be merged as package A, grades 2 & 3 as Package B, and grades 4 & 5 to be merged as Package C. This vertical integration of the grades/ levels helped in reducing levels/ grades and SLOs
- Review SLOs
- Finding out SLOs that can be integrated, without harming the acquisition of competencies
- Deleting the SLOs that appears to be repetitive
- Integrating SLOs that help in clubbing grades/ levels
- Analyzing where lower order competencies can easily be merged with the higher order skills/ competencies
- Integrating SLOs with other subjects that have alike (similar) learning outcomes.

- Integrating alike contents (concepts) of different subjects (based on SLOs' alignment)
- Emphasis on pedagogy (interactive activities) proposed in the curriculum.

DCTE has conducted a thorough review of elementary level national curriculum 2006 and merged certain levels, such as Grades 6 & 7 were merged as Package D, while Grade 8 was termed as Package E. However, Grade 6 and 7 were kept as it is under Package D and grade 8 under Package E for the purpose of equivalence and certification. Therefore, the accelerated elementary curriculum offers two levels instead of conventional three levels. Similarly, the experts conducted a detailed analysis of the SLOs and merged those appearing to be similar, repetitive and were not compatible with the age of the learners. However, competencies, standards and benchmarks, were kept as they were in the curriculum to obey equivalency principles. Curriculum experts and Subject specialists proposed viable contents, teaching and assessment strategies in the curriculum.

After that, experts review the curriculum and made it ready for approval and further use.

Curriculum Framework

The curriculum framework provides a generic introduction of the curriculum and a brief description of curriculum for non-formal basic education, aims and specific standards elaborated in the national guidelines. Briefly, Curriculum Framework is a broad policy guideline regarding development of learning materials, professional development of teachers/ instructional delivery system, assessment and testing of students' learning outcomes and feedback for changes required for effective future revision of curriculum.

Strand / Competency or Themes

Strand or competency is a key learning area, and used as the top most learning expectation of a particular topic of any subject. Strand and competencies are used interchangeably in different curricula, but convey the same meaning as the top learning expectation in a curriculum hierarchy.

Standards

Standards are broad descriptions of the levels of knowledge, skills and values we expect students to reach in a specific subject during specific time period of learning. The standards describe what all students should know, be able to do and values they should develop in each subject. Knowledge includes the important facts, concepts, issues and information. Skills include the ways of thinking, working, communication, reasoning and investigating that characterize

each subject. The values are the feelings, attitudes, conscience, dispositions, principles, sanctions that are developed in each subject.

Benchmarks

Benchmarks are clear, specific descriptions of developmentally appropriate knowledge, skills and values that students should have by a certain point in time in their schooling. The benchmark statements indicate what students should know, be able to do and the values they should develop at each of the developmental levels i.e. early year, primary, elementary in order to meet the standards.

Student Learning Outcomes (SLOs)

Student Learning Outcomes (SLOs) are specific statements that describe the knowledge, skills and values that students are expected to attain at the end of a particular grade. The SLOs must be SMART i.e. specific, measurable, achievable, realistic, time bound and observable. SLOs differ from objectives in that the focus is not on what the teacher will do but on what students should achieve.

Coding Scheme:

To understand alignment among Standards, Benchmarks, SLOs, Content and Assessment, a systematic coding scheme has been followed.

The elaboration of coding scheme is as follows:

Complete Code : **IT1Db101**

Standard Number		Benchmark Number		
MT	1	D	b1	01
Initial Letter of Subject	Package Name i.e. D or E			SLO Number
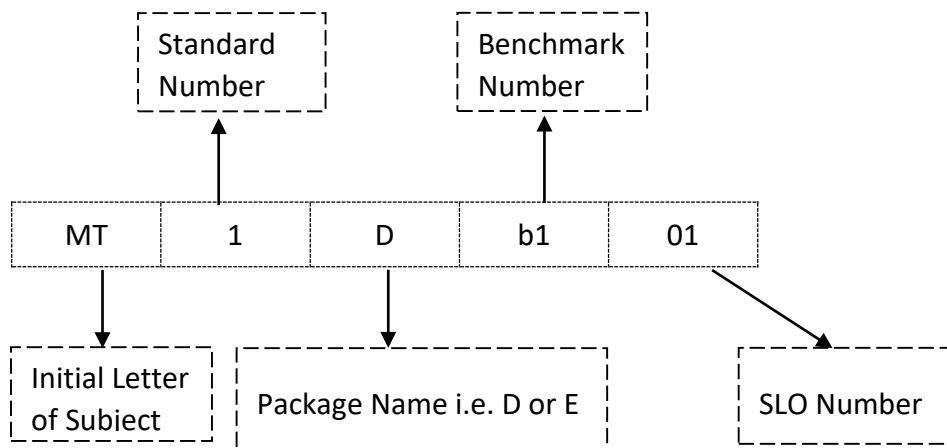
INTRODUCTION TO MODREN TECHNOLOGIES

Introduction to modern technologies curriculum for ALP is based on the belief that modern technologies are effective mean for society to develop its individuals' potential to respond to the challenges of the future. It creates opportunities not only for socially and economically underprivileged sections and prepares young people for the world of work but also reaches out to marginalize and excluded groups of the society to engage them in income generating activities.

This ALP curriculum reflects promotion of technical education according to the demand of learning and knowledge in 21st century. To promote, strengthen and broaden technology education. Subsequently, to achieve this goal the following aims have been determined for the technical education:

- provide out of school students with a foundation in technology that creates opportunities for them to pursue progressively higher levels of study
- prepares out of school students for technology-related occupations, and engages them in technology-related activities appropriate to their interests and abilities
- encourage students to develop a critical sense for wonder and curiosity about scientific and technological endeavors;
- prepare students to critically address social, economic, ethical and environmental issues related to modern technology

This ALP curriculum provides a systematic approach to students' learning in technology in a well-defined and organized framework. While teachers shall play the most significant role in helping students achieve technical literacy, they will need support from the rest of educational system in terms of necessary training in teaching of technology, teaching aids/material, and creating an enabling and conducive environment, if the challenge is to be met.

The structure of curriculum demonstrates coherence by constructing links across the curriculum so that students can make connections between one area of knowledge and skills with other areas and the world of work. The curriculum is designed to be delivered in such a way that students will be able to make connections between what they learn in all subjects and the world outside.

Objectives

Following objectives have been defined to achieve the above mentioned aims of modern technologies:

- To promote technology as an activity that is carried out by all people as part of their everyday life.
- To encourage students to consider the ways in which people have used technical knowledge and methods to meet demand needs.
- To develop understanding of the evolving nature of modern technology.
- To assist students to use modern technological knowledge to make decisions about the quality and worth of products.
- To help students to explore issues, made responsible and take decisions about the use of modern technology in their local environment.
- To develop students' understanding of the different ways people influence and/or are influenced by modern technology.
- To develop students' interest in understanding the knowledge and processes of modern technology that will form the basis of their career in technology.
- To introduce the students with the concepts of modern technologies used in daily life.
- To enables students to use tools and equipment used in modern technologies.

PACKAGE-D

<table>
<tr><td colspan="5">STRAND 1: AGRICULTURE
STANDARD 1: Students will understand, explain and differentiate among various aspects of agriculture and will also investigate the impact and benefits of agriculture for prosper future of this country.</td></tr>
<tr><td colspan="5">BENCHMARK 1: Develop affinity for technology in general and some specific field in particular for adopting a technology related career
UNIT 1: INTRODUCTION TO TECHNOLOGIES</td></tr>
<tr><th>S.No</th><th>SLOs</th><th>Content</th><th>Methodology</th><th>Assessment</th></tr>
<tr><td>IT1Db101</td><td>Define technology</td><td>Introduction to Technology</td><td>• Lecture</td><td>• Questioning</td></tr>
<tr><td>IT1Db102</td><td>Explain importance of technology</td><td>Importance of technologies</td><td>• Group discussion Take students responses on writing boards and conclude the topic briefly.</td><td>• Oral questions/quiz</td></tr>
<tr><td>IT1Db103</td><td>State importance and usage of technologies in daily life</td><td>Usage of technologies (like agriculture, metal work, wood work and electricity) in daily life</td><td>• Group discussion Start discussion on some technologies are being used in local context. Take students responses</td><td>• Home assignment (Students to write in their notebooks at least 2 uses of agriculture technology metal work and electricity in their daily life)</td></tr>
<tr><td>IT1Db104</td><td>Describe advantages and disadvantages of technologies</td><td>Advantages and disadvantages of technology</td><td>• Tell advantages and disadvantages of technologies with the help of writing board
• Conclude activity with the help of students</td><td>• Oral Questions</td></tr>
<tr><td colspan="5">BENCHMARK 2: Describe problems of agriculture land and its solutions.
UNIT: 2 INTRODUCTION TO AGRICULTURE AND AGRICULTURE LAND</td></tr>
<tr><th>S.No</th><th>SLOs</th><th>Content</th><th>Methodology</th><th>Assessment</th></tr>
<tr><td>IT1Db201</td><td>Define agriculture</td><td>Definition of Agriculture</td><td>• Define with the help of mini lecture</td><td>• Oral questions/quiz</td></tr>
<tr><td>IT1Db202</td><td>List importance of Agriculture (in food, clothing and shelters)</td><td>Importance of Agriculture</td><td>• Explain importance of agriculture
• Divide students into three groups
• Group 1 will work on food, group 2 will</td><td>• Written test</td></tr>
</table>

			work on clothing and group 3 will work on shelter • Ask groups to list 3 to 5 importance of agriculture in your assigned filed. • Ask groups to present their work.	
IT1Db203	Explain different branches of agriculture	• Various branches of agriculture	• Group discussion • Presentation	• Home Wok/Assignment Students: Write in their notebooks different braches of agriculture)
IT1Db204	Relate agriculture to other technologies like food, sugar, cotton, chemical, auto and farm technologies	Relationship of Agriculture to other technologies	• Lecture • Relate agriculture to other technologies like food, sugar, cotton, chemical, auto and farm technologies with the help of chart, pictures or photographs • Write key points of topic on writing board	• Written Test • (MCQs)
IT1Db205	Enumerate problems in agriculture in Pakistan	Agricultural problems in Pakistan	• Make a list of agriculture problems in Pakistan on writing board • Discuss each problem • Conclude with the help of suitable examples	• Home Wok/Assignment (Students: Make a list of different problems of agriculture in their notebooks)
IT1Db206	Identify common problems of agriculture (soil erosion, water logging,	Common problems of soil and their solutions	• Make two columns on writing board and write soil erosion, water logging salinity, alkalinity and weed in	• Oral questions/quiz

	salinity, alkalinity & weeds) and their solutions		problems column on writing board and write solutions in other column • Complete solutions column with the help of students.	
IT1Db207	Identify the ways and technologies used to solve land problems	Eradication of land problems	• Lecture • Class discussion	• Oral questions/quiz • Written test

BENCHMARK 3: State importance of soil moisture and irrigation.
Unit-3: CROP PRODUCTION

S.No	SLOs	Content	Methodology	Assessment
IT1Db301	Classify different types of crops and explain Rabi and Kharif crops	Types of crops	• Explore type of crops with the help of brainstorming • Explain Rabi and Kharif crops with the help of mini lecture • Provide some seasonal crops plants (if available in local area) •	• Home Assignment Students: collect one plant of local crop and pasted it in your scrapbook.
IT1Db302	Identify types of soils	Types of soil	• Shows different types of soils with the help of charts or samples • Identify types of soils with their names	• Oral questions
IT1Db303	Differentiate various types of seeds and identify various techniques used in seed treatment	Types of seeds	• Shows different types of seed with the help of charts or samples • Identify types of seeds with their names • Tell different techniques are used in seed treatment	• Home work Students: collect and write names of seeds available in your home
IT1Db304	Explain soil fertility	Soil fertility	• Explain soil fertility with the help of mini lecture	• Written test

| IT1Db305 | State fertilizers and their types | Fertilizers and their types | • What is fertilizer?
 • Take answers with the help of brain storming
 • Explain different types of fertilizers on writing board | • Class task Students: Note important point in their notebooks |
| IT1Db306 | List few problems related to crop production | Problems associated with crop production | • Lecture
 • Class discussion | • Students project (Discus with local people and identify different problems related to crop production) |

Unit-4: IRRIGATION

S.No	SLOs	Content	Methodology	Assessment
IT1Db307	Define irrigation and identify sources of irrigation	Irrigation and various sources of irrigation	• Make a list of sources of irrigation with the help of chart	• Oral questions/quiz
IT1Db308	Explain importance of water for plants	Importance of water for plants	• Ask students why water is important is important for us? • Take students responses on writing board • Tell some importance of water and conclude activity	• Written test
IT1Db309	Describe importance of soil moisture	Importance of soil moisture	• Show some available pictures/photographs of soil moisture • Discuss soil moisture	• Oral questions/quiz
IT1Db310	Name major irrigation problems and explain how to over come	Problems associated with irrigation in Pakistan	• Ask students to make a list of major irrigation problems and write common points on writing board • Explain how we can overcome these problems with the help of technology	• Oral questions/quiz

BENCHMARK 4: Explain the Agriculture implements, machinery and their uses
Unit-5: AGRICULTURE IMPLEMENTS, MACHINERY AND THEIR USES

S.No	SLOs	Content	Methodology	Assessment
IT1Db401	Classify agriculture machinery and its usage	Agriculture machinery and its usage	• Explore different type of agriculture machinery with the help of students • Paste some picture of agriculture machinery on writing board and tell usage of these machineries	• Students Project: Search and write names of agriculture machineries farmers are using in your local area.
IT1Db402	Explain types of ploughs	Types of ploughs	• Lecture • Group discussion	• Written test
IT1Db403	Explain harvesters and enlist different technologies which help to improve the process of harvesting	Harvesters	• Write "Harvesting" on writing board • Ask students tell the meaning of "Harvesting" and explain harvesters and harvesting • Tell different technologies which help to improve the process of harvesting	• Written test • MCQs • Short Questions

BENCHMARK 5: Describe cultivation of vegetables and fruits
Unit-6: CULTIVATION OF VEGETABLES, FLOWERS AND FRUITS

S.No	SLOs	Content	Methodology	Assessment
IT1Db501	Explain importance of vegetable and fruits in our daily life	Importance of vegetables and fruits	• Bring some available vegetables and fruits in classroom • Show and tell the importance of vegetables and fruits in daily life	• Students: Make a list of your favorite vegetables and fruits
IT1Db502	Identify seasonal vegetables and fruits	Seasonal vegetables and fruits	• Write "Seasonal vegetables and fruits" on writing board. Ask students tell the names of some seasonal vegetables and fruits	• Home work/Assignment •

S.No	SLOs	Content	Methodology	Assessment
			• Identify and classify vegetables and fruits according to different seasons.	
IT1Db503	Classify the flowers in respect of annual, biennial, perennial	Classification of flowers	• Bring some available flowers in class • Allow students to investigate these flowers • Ask students: All these flowers are look like same or they have some differences • Take students responses • Classy flowers in respect of annual, biennial, perennial	• Students Project: Collect and write names of flowers and classify these into of annual, biennial, perennial in your notebooks from your home or local environment
IT1Db504	Describe economic value of flowers production and their marketing	Economic value of flowers and their marketing	• Tell economic value of flowers • Identify the ways and marketing of flowers in local areas	• Written test
IT1Db505	Identify the technology used in food preservation	Food preservation technology	• Explain he food preservation process • Make a list of technology used in food preservation	• Home work/Assignment

BENCHMARK 6: Describe domestic poultry farming and poultry feeds, diseases and their control.
Unit-7: REARING OF USEFUL BIRDS AND INSECTS

S.No	SLOs	Content	Methodology	Assessment
IT1Db601	Describe domestic poultry farming	Poultry farming	• Explain domestic poultry • Local field visits of poultry farm (If available nearby) and shows the structure of poultry farm and explain how it work?	• Students homework (Write the economic value of Poultry farm in your notebooks)
IT1Db602	Explain poultry feeds	Poultry feeds	• Explain poultry feeds	• Write names of some poultry

S.No	SLOs	Content	Methodology	Assessment
			• Tell the gradients of modern poultry feed	feeds with the help of your local areas shops.
IT1Db603	Enlist major poultry diseases and their control	Poultry diseases and their control	• Tell names of some poultry diseases (Ranikot, Fowal pox, Fowl cholera and Fowl typhoid) and also expalin the control of poultry diseases	• Written test
IT1Db604	Explain apiculture and sericulture ant their importance in daily life	Apiculture and Sericulture	• Explain apiculture • Local field visits of honeybees (Apiculture) farm (If available nearby) and shows the structure of poultry farm and explain how it work? • Explain Sericulture • Explain the role of technology in the development of apiculture and sericulture	• Students Work: • Write the benefits of Apiculture as a profession

Unit-8 REARING OF USEFUL ANIMALS

S.No	SLOs	Content	Methodology	Assessment
IT1Db605	ate importance of dairy Farming	iry farming	• Explain the concept of dairy farming • Tell the importance of dairy farming with reference to milk production, special care, balanced feed, saved from diseases	• Student Project: write some names of domestic animals with reference to dairy farming
IT1Db606	efly describe goat farming	at Farming	• Explain the concept of goat farming • Tell the importance of goat farming with reference to meat, milk, balanced feed, saved from diseases etc.	• Oral questions/quiz
IT1Db607	ferentiate various types of fishes	h farming	• Ask Students: Tell names of different types of fish	• Student homework:

S.No	SLOs	Content	Methodology	Assessment
			• Tell the importance of fish farming as profession in Pakistan	• Write name of your favorite fish name and also draw its picture in your notebooks.
IT1Db608	list major problems in rearing of useful animals and their solutions	problems relating to rearing of useful animals	• Lecture: Explain major problems in rearing of animals and their solutions	• Written test (MCQs)

BENCHMARK 7: Describe the growing/propagation of plants Value added items of agriculture products and bi-products.

Unit-9: GROWING/PROPAGATION OF PLANTS

S.No	SLOs	Content	Methodology	Assessment
IT1Db701	Differentiate between natural and artificial propagation of plants	propagation of natural and artificial plants	• With the help of chart differentiate between natural and artificial propagation of plants with the help of some suitable examples	• Oral questions/quiz
IT1Db702	Explain cultivation and ways to look after indoor plants	Indoor Plants	• Tell the meaning of indoor plants • Explain the process of cultivation of indoor plants • Ask Question: What qualities make for a good indoor plant? • Take students responses • Tell: A good root system, foliage and check for disease are qualities should be present in a good indoor plant.	• Oral questions/quiz • Written test
IT1Db703	Describe farm forestry and evaluate its importance in daily life	Farm forestry and its importance	• Tell the meaning of farm forestry • Explain the importance of farm forestry • With the help of students identify the	• Oral questions/quiz

S.No	SLOs	Content	Methodology	Assessment
			benefits of farm forestry	

BENCHMARK 8: Describe the environmental degradation.
Unit-10: ENVIRONMENTAL DEGRADATION

S.No	SLOs	Content	Methodology	Assessment
IT1Db801	Describe environmental degradation especially related to agriculture	Environmental degradation	• With the help of lecture tell some environmental degradations which are related to agriculture • Tell environmental degradations impact on agriculture	• Oral questions/quiz
IT1Db802	Describe dams, canals and their importance in agriculture	Dams, canals and their importance in agriculture	• Lecture • Group discussion on dam, canal) • Local field visits (If available nearby	• Written test

Strand-2: NATURAL RESOURCES AND ENERGY
Standard 2: Students will describe and explain common properties, forms, and interactions of energy and matter, their transformations and applications in chemical and physical systems.

BENCHMARK 9: Explain the importance of natural resources in economic development of country
Unit-11: INTRODUCTION OF NATURAL RESOURCES

S.No	SLOs	Content	Methodology	Assessment
IT2Db901	Define natural resources	Natural resources	• Tell students "All those resources that exist without any effort or actions of man are called natural resources" • Explain natural resources with the help of suitable examples	• Oral questions
IT2Db902	Explain weather related resources	Weather related resources	• Identify some weather related resources • Write key point of wind energy and Solar energy on writing board and tell the importance	• Students assignment: • Search and write name of solar energy examples (solar panel, solar battery etc from your home/school

S.No	SLOs	Content	Methodology	Assessment
			of these natural resources in daily life	or local environment)
IT2Db903	Discuss importance of natural resources in economic development of country	Natural resources and economic development	• Start class discussion on how natural resources can play an important role in Pakistan economic development? • Take students responses on writing board • Conclude activity with key points	• Written test

IT2Db904	ggest technologies that are used in exploration of natural resources	Natural resources technologies	• Explain technologies that are used in exploration of natural resources with the help of following points:
			  ➢ modern drilling
			  ➢ blasting technology
			  ➢ digging mines
			  ➢ solar panels
			  ➢ backup batteries
				• Homework:
				• Write importance of solar panel in our daily life

BENCHMARK 10: Explain various types of renewable energy and their usage
Unit-12: RENEWABLE ENERGY

S.No	SLOs	Content	Methodology	Assessment
IT2Db1001	Distinguish and explain various types of resources (solid resources, fossil fuels, liquid resources, gases and nuclear resources)	Types of resources	• Explain solid resources, fossil fuels, liquid resources, gases and nuclear resources). • Write some examples of these resources	• Oral questions/quiz
IT2Db1002	Define renewable energy	Renewable energy	• Define renewable energy with the help of mini lecture • Tell: Hydropower, Biomass,	• Written test

S.No	SLOs	Content	Methodology	Assessment
			Geothermal, Solar Tidal and Wind are some resources of renewable energy	
IT2Db1003	Explain uses of various types of renewable energy	Types of renewable energy	• Write " Uses of various types of renewable energy" on writing board • Explore uses of renewable energy with the help of students • Show list of uses of renewable energy with the help of already prepared chart	• Oral questions/quiz
IT2Db1004	Give example to show limitations of renewable energy	Limitations of renewable energy	• Make list of limitations of renewable energy on writing board • Explain each point of list • Conclude activity with the help of students	• Oral questions/quiz

BENCHMARK 11: Explain various factors affecting climate
Unit-13: ENVIRONMENT

S.No	SLOs	Content	Methodology	Assessment
IT2Db1101	Define climate and environment	Climate and environment	• With the help of mini lecture define climate and environment • Give some examples of environment and climate	• Oral questions
IT2Db1102	Explain various factors affecting climate	Factors affecting climate	• Write on writing board *"Climate is What We Expect"* • Explain atmosphere, oceans and land as elements of climate • Tell the characteristics of Pakistani's Climate	• Written test

			and also take students responses	
IT2Db1103	Define pollution and various types of pollution	lution and its types	• Display a picture showing pollution • Ask students: what is presenting this picture? • Take their responses • Tell definition of pollution	• Home Work/Assignment (survey your local area and find out which type of pollution you observed and note important pints in notebooks
IT2Db1104	Explain waste disposal and recycling	Waste treatment	• Divide students into suitable groups • Ask students write important points of waste disposal and recycling with the help of their textbooks • Ask Groups to present their work turn by turn • Conclude activity with key points	• Written test

IT2Db1105	Describe water treatment	ter treatment	• Explain water treatment process with the help of following steps:
			  i. Coagulation and Flocculation
			  ii. Sedimentation
			  iii. Filtration
			  iv. Disinfection
				• Ask students to make diagram of water treatment plant with the help of their textbook

IT2Db1106	Suggest the technologies which are used to overcome the problem related to environment and global warming	Global warming	• Explain the following technologies which are used to overcome the problem related to environment and global warming:
			  i. Solar panels
			  ii. Batteries for electric vehicle
			  iii. Extraction of hydrogen from water
				• Written test

			iv. Carbon capture and storage	

BENCHMARK 12: Explain sustainable development
Unit-14: SUSTAINABLE DEVELOPMENT

S.No	SLOs	Content	Methodology	Assessment
IT2Db120 1	Define sustainable development	stainable development	• Define sustainable development • Tell the benefits of sustainable development for future generations	• Oral questions/quiz
IT2Db120 2	Explain relationship of energy and environment	Energy and environment	• What is relationship between energy and environment? • Take students responses • Explain relationship between energy and environment with the help of writing board	• Home Assignment
IT2Db120 3	Explain the role of energy in development	le of energy in development	• Write key points on writing board: How energy can play an important role in the development of a country. • Explain each points and ask students to write the points in their notebooks	• Oral questions/quiz

BENCHMARK 13: Describe Mining/Exploration of fuels.
Unit-15: MINING

S.No	SLOs	Content	Methodology	Assessment
IT2Db130 1	Define mining	Mining	• Lecture • Group discussion	• Oral questions/quiz
IT2Db130 2	Describe types of mining	Types of mining	• Explain: Surface mining, underground mining, placer mining and In-situ mining with the help of chart/ writing board	• Written test

IT2Db1303	Explain importance of mining and exploration of salt, coal, gold, gem stones, copper, marble and iron, etc	Importance of mining and exploration of salt, coal, gold, gem stones, copper, marble and iron, etc	• Lecture • Group discussion	• Oral questions/quiz • Written test
IT2Db1304	State the maximum employment opportunities in a local and global economy driven by the field of mining	Mining technology	• Group discussion on opportunities in a local and global economy driven by the field of mining	• Oral questions/quiz

BENCHMARK 14: Distinguish and explain the various types of energy resources (solid, fossil fuels, liquid resources, gases and nuclear resources)

Unit-16: Exploration of fuels

S.No	SLOs	Content	Methodology	Assessment
IT2Db1401	Define fuels	ls	• Brainstorming: Ask students what is "Fuel" • Give them 2 minutes to think in pair • Take their responses • Tell them: The material burnt to produce heat or power is called fuel.	• Oral questions/quiz
IT2Db1402	Identify major types of hydrocarbon and their usage	pes of hydrocarbon and their usage	• Lecture • Group discussion	• Oral questions/quiz
IT2Db1403	Describe process of refinement for hydrocarbons	Hydrocarbon refinement	• Explain the process of refinement for hydrocarbons and also provide examples of Pakistani oil refinery	• Ask students make a diagram of oil refinery tower in your notebooks

IT2Db1404	Explain how technology impacts the production of common chemicals	echnology impacts on production of common chemicals	• Lecture • Group discussion • Presentation	• Home work/Assignment

Summary of Standards, Benchmarks and SLOs for ALP (Package-D)

	Curriculum 2009	ALP Curriculum 2021
Standards	02	02
Benchmarks	16	14
SLOs	122	67

PACKAGE-E

STRAND 3: INDUSTRIAL TECHNOLOGY
STANDARD 1: Students will be knowledgeable to understand and evaluate technology and develop a critical thinking skill based on understanding general patterns that transcend specific technologies. They will compare and contrast among various technologies and their importance according to their usage.

BENCHMARK 1: Explain importance of various professions and dignity of labour.
Unit-1: **INTRODUCTION TO INDUSTRIAL TECHNOLOGY**

S.No	SLOs	Content	Methodology	Assessment
IT1Eb101	Describe importance of various profession	Importance of various professions	• Explain different types of professions with the help of some positive examples • Ask students: What is your favorite profession and why they like it? • Take responses of students	• Oral Questions
IT1Eb102	Explain dignity of labour	Dignity of labour	• Lecture • Group discussion	• Oral questions/quiz
IT1Eb103	State respect and usefulness of professions at local and global	Respect for professions	• Lecture • Group discussion	• Student Project: Search your local area and select any profession and take information how it is respectful and have economic value?

BENCHMARK 2: Describe various types of wood and their usage
Unit 2: Wood and its Kinds

S.No	SLOs	Content	Methodology	Assessment
IT1Eb201	Describe various sources of wood	Various sources of wood	• Brainstorming: Ask students what are some sources of wood? • Take their responses on writing board • Explain sources of wood	Oral Questions

S.No	SLOs	Content	Methodology	Assessment
IT1Eb202	Recognize the importance of technologies in wood industry	Importance of technologies in wood industry	• Tell importance of technologies in wood industry • Elaborate the topic with the help of some technologies which are commonly used in Pakistan	• Written test
IT1Eb203	Explain properties and usage of different types of timber	Usage of different types of timber	• Explore the term "Timer" with the help of think-in-pair • Write different types of timber on writing board • Tell the usage of timber in daily life	Ask Students: Write an paragraph on the importance of timber in your notebook
IT1Eb204	State the employment opportunities in wood work	Employment opportunities in wood work	• Explain wood work • Explain opportunities are available in wood work with the help of some local examples • Take students responses and conclude it	Written test

BENCHMARK 3: Explain and differentiate between various industrial materials like metals and alloys, nonmetals, synthetic materials like plastics/ composite materials etc.

UNIT 3: TYPES OF MATERIAL AND USAGE

S.No	SLOs	Content	Methodology	Assessment
IT1Eb301	ntify fastening material (Bolts, Nuts, Nails, Hinges, Locks, Stoppers and their usage	Fastening materials	• Bring some fastening materials (Bolts, Nuts, Nails, Hinges, Locks, and Stoppers etc.) in class • Show these materials to students and ask them why these are important for us? • Take their responses on writing board • Explain the importance and usage of fastening material in daily life	• Students project: Make a list of fastening materials available in your home
IT1Eb302	scribe various clamping devices/ clamping vices	Clamping devices	• Bring some clamping devices/ clamping	• Students project:

	(Bench/leg/Hand vices, clamps and their usage.)		vices (Bench/leg/Hand vices, clamps in class • Show these materials to students and ask them why these are important for us? • Take their responses on writing board • Explain the importance and usage of clamping devices in daily life	Make a list of clamping devices available in your school
IT1Eb303	Explain protective materials like paints, polishes and their importance/si gnificance	Protective materials	• Ask Students: What can you do to protect your home building from rain or harsh weather? • Take students responses on writing board • Tell them about some protective materials like paints, polishes etc. and their importance in daily life	• Students project: Observe your home or neighboring buildings and write the exterior building paint colour in your notebook
IT1Eb304	ntify synthetic materials (Hard board, chip board, plywood, veneers and Glues)	Synthetic materials	• Bring some synthetic materials (hard board, chip board, plywood, veneers and glues) in class • Show these materials to students and ask them why these are important for us? • Take their responses on writing board • Explain the importance and usage of synthetic materials in daily life	• Students project: Visit your local wood market and take a mini interview with wood work expert and write some important points of your interview in notebook and share with your class fellows
IT1Eb305	Suggest the ways technologies facilitate in production of synthetic materials	Role of technologies in production of synthetic materials	• Explore technologies that are used in the production or manufacturing of synthetic materials • Identify of some local technologies are	• Written test

			working in the manufacturing of synthetic materials	

BENCH MARK 4: Distinguish between measuring, marking, cutting and finishing/ machines and tools used in wood working.
UNIT 4: TOOLS FOR WOOD WORK (THEIR TYPES AND USES)

S.No	SLOs	Content	Methodology	Assessment
IT1Eb401	Identify cutting/machine tools (Hand saws, Bend saw, Circular saw, planes chisels, Hand (Bench drills, Drill Bits and Braces)	Cutting tools	• Bring some cutting/machine tools (Hand saws, Bend saw, Circular saw, planes chisels, Hand (Bench drills, Drill Bits and Braces) in class • Show these tools to students and ask them why these are important for us? • Take their responses on writing board • Explain the importance and usage of synthetic materials in daily life **Note:** Take care while showing and using these tools in class	• Oral questions/quiz
IT1Eb402	Distinguish various driving tools (Hammers, Mallets, Pincers, Screw Drivers) and their usage	Driving tools	• Bring some driving tools (Hammers, Mallets, Pincers, Screw Drivers) in class and place them on table • Ask students: What are common uses of screw drivers in our home? • Take students responses on writing board • Show and write the names of Hammers, Mallets, Pincers on writing board and tell the uses of each driving tool in details	• Classwork: Ask students to write uses of driving tools in your notebook

IT1Eb403	Identify finishing tools (Files, Rasp, Sand paper, scrapers) and their uses	Finishing tools	• Lecture • Group discussion	• Oral questions/quiz • Home Assignment
IT1Eb404	Describe importance of carving and sports goods in the economy of a country	Carving tools	• Write "Importance of carving and sports goods in the economy of a country" • Ask students: Think-in-pair • Take students responses • Tell "Importance of carving and sports goods in the economy of a country"	• Students Project: Ask students search some newspapers and collect sports goods photograph and paste them in your scrapbook

UNIT 5 : VALUE ADDITION TO WOOD PRODUCTS

S.No	SLOs	Content	Methodology	Assessment
IT1Eb405	State importance of wood safety and processes used in wood safety	General safety of wood	• Lecture • Group discussion: Explore importance of wood safety and processes used in wood safety with the help of students	• Oral questions/quiz
IT1Eb406	Suggest the ways technologies help in beautification of wood	Beautification of wood	• Lecture • Explain beautification of wood and what kind of technologies are used or helpful in beautification of wood? • List names of technologies are useful in wood beautification	• Oral questions/quiz

BENCHMARK 5: Explain various metals and important alloys according to their properties and usage
UNIT 6: INTRODUCTION TO METAL WORK

S.No	SLOs	Content	Methodology	Assessment
IT1Eb501	State various important industrial	Importance of metals	• Lecture • Group discussion • List some important industrial metals	• Oral questions/quiz • Written test • Peer assessment

S.No	SLOs	Content	Methodology	Assessment
	metals and their usage		• Tell usage of industrial metals	
IT1Eb502	Describe production/for mation of metallic items (ferrous & non-ferrous metals, alloy steel, iron sheets)	Ferrous & non-ferrous metals	• Brainstorming: Ask students what are metallic items? • Divide class into suitable groups • Start group discussion on metallic items • Take groups presentation • Explain metallic items (ferrous & non-ferrous metals, alloy steel, iron sheets) in details	• Oral questions/quiz
IT1Eb503	Explain types and usage of metals	Types and usage of metals	• Lecture • Activity based	• Oral questions/quiz • Written test
IT1Eb504	Explain how technology helps in extraction and processing of different metals	Role of technology in extraction and processing of different metals	• Lecture • Group discussion	• Home work/Assignmen t (Make of list of technology role in extraction and processing of different metals in your notebooks)

Standard 2: Students will develop the skills required for technology inquiry, for communicating ideas and results, for working collaboratively, and for making informed decisions.

BENCHMARK 6: Describe how tools and equipment can enhance human capabilities.
UNIT 7: TOOLS AND THEIR DESCRIPTION

S.No	SLOs	Content	Methodology	Assessment
IT2Eb601	Identify lay out and measuring tools (Steel Rule, Steel Tap, Hook Rule, Squires Punches, Calipers, Dividers)	Measuring and layout tools	• Lecture • Demonstration	• Oral questions/quiz
IT2Eb602	Explain fastening tools (vices, clamps, wrenches, tongs and Holding bar clip)	Fastening tools	• Lecture • Demonstration	• Home assignment (make a list of fastening tools are available in

				your home in your notebooks)

STANDARD 1: Students will be knowledgeable to understand and evaluate technology and develop a critical thinking skill based on understanding general patterns that transcend specific technologies. They will compare and contrast among various technologies and their importance according to their usage.

BENCHMARK 7: Explain various types of welding materials and welding processes.
UNIT 8: WELDING AND SOME OTHER INDUSTRIAL PROCESSES

S.No	SLOs	Content	Methodology	Assessment
IT1Eb701	Define welding.	Welding	• Lecture	• Oral Questions
IT1Eb702	State various types of welding	Welding and types of welding	• Lecture • Demonstration	• Home assignment
IT1Eb703	Explain the usage of commercial and industrial welding	Usage of welding	• Lecture • Local welding workshop visit (If available)	• Home assignment

BENCHMARK 8: Explain controls and protective devices used in domestic Electrical Appliances and Wiring
UNIT 9: ELECTRICITY

S.No	SLOs	Content	Methodology	Assessment
IT1Eb801	Define electricity	Electricity	• Lecture: Define "Electricity"	• Oral questions
IT1Eb802	Classify types of electricity	Types of electricity	• Group Discussion	• Written test
IT1Eb803	Recognize symbols of electricity	Symbols of electricity	• Lecture • Group Discussion	• Home assignment
IT1Eb804	Explain basic principles of electricity	Basic principles of electricity	• Lecture • Group Discussion	• Home assignment

UNIT 10: ELECTRICAL WIRING

S.No	SLOs	Content	Methodology	Assessment
IT1Eb805	Define wiring	Wiring	• Brainstorming • Lecture	• Oral Questions
IT1Eb806	Identify different types of domestic wiring	Types of wiring	• Lecture • Group discussion: Take students experiences about domestic wiring	• Students Assignment: Observe your home wiring and note it structure

			• Presentation: Groups presentation	outside the wall or inside? And share with class fellows
IT1Eb807	Distinguish wiring materials	Wiring materials	• Lecture • Group discussion	• Written assessment
IT1Eb808	Explain electrical tools used for wiring (different pliers, electrical knife, steel rule, hand drill phase tester and electric drill machine)	Wiring tools	• Bring some electrical tools used for wiring (different pliers, electrical knife, steel rule, hand drill phase tester and electric drill machine in class • Ask students: What are common uses of electrical in electricity? • Take students responses on writing board • Conclude activity with your own experiences	• Written assessment • Home assignment (Make a list of electrical tools used for wring in your notebooks)
IT1Eb809	Explain control and protective devices used in domestic wiring (fuses and circuit breakers)	Control and Protective devices	• Lecture • Group discussion	• Written assessment
IT1Eb810	Explain the usage of various meters (ammeter, voltmeter, ohmmeter, watt-hour meter)	Types of meters	• Bring ammeter, voltmeter, ohmmeter, watt-hour meter) in class • Ask students: What are common uses of meters? • Take students responses on writing board • Tell uses of each meter turn by turn.	• Performance task for students: (Use of ammeter voltmeter etc. if available)
IT1Eb811	State various types of batteries	Types of batteries	• Lecture • Group discussion	• Written assessment

| BENCHMARK 9: Describe safety measures in industrial technology related to health and environment |
| UNIT 11: SAFETY MEASURES |

S.No	SLOs	Content	Methodology	Assessment
IT1Eb901	Describe health and environment related safety measures	Health and environment related safety measures	• Lecture • Group discussion	• Oral test • Written test

| BENCHMARK 10: State importance of industries like automobiles, ships and aircrafts etc. in the economy of a country. |
| UNIT 12: LINKAGE OF INDUSTRIAL TECHNOLOGY TO OTHER TECHNOLOGIES |

S.No	SLOs	Content	Methodology	Assessment
IT1Eb1001	Describe the relationship of industrial technology to other fields of technology and engineering	Relationship of industrial technology to other fields of technology and engineering	• Lecture • Group discussion • Presentation	• Written test

Summary of Standards, Benchmarks and SLOs selected for ALP (Package-E)

	Curriculum 2009	ALP Curriculum 2021
Strands	3	3
Standards	4	2
Benchmarks	15	10
SLOs	72	40

ASSSSSMENT AND EVALUATION

Assessment provides a way to measure students' demonstration of learning. It helps us answer the questions: "How much did they learn?" and "How well did they learn it?" and "How well did we teach it?" It determines their progression through their learning experiences and enables them to demonstrate that they have achieved the intended learning outcomes.

Evaluation is an integral part of the teaching-learning process. It involves gathering information through various assessment techniques and making value judgments and sound decisions. Assessment provides information to a teacher about students' achievement in relation to the learning objectives. With this information, the teacher makes informed decisions about what should be done to enhance the learning of the students or to improve teaching methods.

EDUCATIONAL ASSESSMENT

This ALP curriculum establishes that the ultimate outcome for the out of school students will learn the skill and competencies needed to succeed in today's world such as the skills of inquiry, reasoning, problem solving, decision-making and working collaboratively. To meet these outcomes, teachers need to provide students with learning experiences that are more authentic. If we want an accurate appraisal of how well teachers are helping students achieve these outcomes, they must make changes in assessment that reflect the changes in ALP curriculum and instruction.

Assessment, which uses strategies such as performance, portfolio, students' self-reflections and peer review, is considered as a valuable addition to standardized assessment. The rationale of alternative assessment is to gather evidence from real-life, use multiple assessment strategies to assess learning, and provide ongoing feedback to students. Alternative assessment is a better way to determine how well students are learning (and how effective instruction is) than traditional forms of assessment. Research on assessment suggests that a constructive alignment between instruction, learning, and assessment is vital.

INCORPORATING ASSESSMENT INTO THE LEARNING PROCESS

Linking assessment to instruction i.e., embedding it in the process of learning is central to full implementation of this ALP curriculum. To allow students to construct learning in the classroom through authentic experiences, assessment must be:

1. Open-ended, allowing for discussion and revision of new understanding.
2. Tolerant of divergent thinking of students with naive understanding and promote the notion of no "one right answer."
3. Presented in alternative modes, not just paper-and-pencil responses to limiting questions.
4. Designed to foster analysis, comparison, generalization, prediction, and modification according to the grade and developmental level.
5. Capable of promoting collaboration and team effort in demonstration of competence.
6. Ongoing and cumulative, showing growth over time.

THE LEARNING ASSESSMENT PROCESS

Following is a process, as an example, to follow for the development and implementation of assessments:

1. Select learning outcomes from a Package D or E.
2. Design assessments to measure learning outcomes.
    i. Determine the outcomes to measure,
    ii. Determine the purpose for the assessment,
    iii. Determine the assessment method to employ, and
    iv. Determine the kind of assessment data you need to collect.

3. Design learning events based upon learning outcomes.
4. Include assessment activities within the learning designs.
5. Deliver learning.
6. Assess learning and learning events/activities.
7. Gather and format data generated from assessment activities.
8. Interpret the assessment data.
9. Use assessment data to make decisions at the student, classroom, and course level.

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ASSESSOR(S)
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The teacher, the student doing self-assessment, or the student(s) assessing a peer or group, can do the assessment.

A. Teacher Assessment
   The teacher assesses individual students or groups of students using a variety of assessment tools to implement the various assessment strategies.

B. Self-Assessment
   - The ability to perform self-assessment is a critical programming goal that has implications for lifelong learning.
     Self- assessment helps students to develop understanding of the established criteria. This is particularly true with the respect to movement skills for which a cognitive understanding is a necessary step to good performance.
   - Self- reflection is a part of self- assessment and includes personal responses and reflections about oneself or the learning process (e.g., using interest inventories, descriptions of likes/ dislikes, responses to performance results). These reflections and responses can be recorded and included in student learning logs and portfolios.

C. Peer Assessment
   Peer assessment is an effective way to collect a great deal of reliable information in a short amount of time. Evaluating the work of others is a valuable learning experience for the student who is doing the assessment. While students make systematic judgments about each other's performance relative to stated criteria for the student learning outcomes, it extends the teacher's knowledge about an individual or group.

D. Group Assessment
   Group assessment is similar to peers' assessment; however, group assessment involves using groups of students to assess other groups or using one student to assess a group.

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CLASSROOM ASSESSMENT STRATEGIES
</div>

Some of the classroom assessment strategies are described as follows:

A. Observation
   Observation provides a way of gathering information fairly quickly while a lesson is in progress. When used formally the students would be made aware of the observation and criteria being assessed. Informally it could be frequent, but brief, check on a given criterion.
   <u>**Observation guidelines for teachers:**</u>
   - Observe a certain number of students per class rather than all students
   - Focus on one skill at a time
   - Display scoring rubrics, rating scales, and checklist criteria
   - Use computer/ information technology to assist in recording observations (subject to availability)

B. Performance Tasks

Performance tasks (skill demonstrations, games, routines, drawings, projects, presentations) are activity-based tasks used to observe student acquisition and/or application of knowledge, skills, and/or attitudes where:

- Students perform, create, construct, produce, or do something
- Deep understanding and/ or higher order thinking skills are needed
- Involves significant work that usually takes days to weeks to complete
- Calls on students to explain, justify, and defend Performance is directly observable
- Criteria are specified and explained to students along with the task
- There is no single best product or correct process,
- Performance-based Assessments
- Assess communication, presentation, psychomotor skill
- Emphasis on higher order thinking and application - allows in-depth assessment of main content ideas.
- Encourages re-examination of instructional goals.

C. Questioning/ interviews

- Effective questioning (e.g., open-ended, divergent, convergent) promotes critical thinking and allows teacher to identify what the student knows and what the students' needs to learn.

D. Reflections

- This type of strategy also allows for formative assessments and the development of portfolio products.
- Students can demonstrate their understanding using words, pictures, and labeled drawings. Entries could include active living participation charts, recess participation records, personal goal-setting plans, and so on.

E. Paper and Pencil Tasks

- Paper and pencil tasks may involve answering multiple-choice, true or false, open-ended, or matching questions, completing a drawing, or labeling a diagram.
- Test items tend to assess knowledge of factual information and application of basic skills in isolated, de-contextualized ways rather than assessing the application of the knowledge and skills in meaningful, everyday situations.

Assessing Affective Traits and Dispositions

Positive, well-developed affective traits motivate students to learn effectively now and in the long-term. Students have a better self-concept, higher productivity and become more involved citizens of their society. In addition, they learn or analyze themselves and refine behaviours and disposition.

SUMMATIVE ASSESSMENT

The purpose of assessment is to measure the extent to which students have achieved the learning outcomes of the programme based on curriculum statements.

Notes:

(i) Question paper will be based on the ALP Introduction to Modern Technologies Curriculum not on a particular textbook.

(ii) Questions involving unfamiliar contexts or daily life experiences may be set to assess candidates' problem-solving and higher-order processing skills. In answering such questions, sufficient information will be given for candidates to understand the situation or context. Candidates are expected to apply their knowledge and skills included in the syllabus to solve the problems.

FORMATIVE ASSESSMENT

It is suggested that in addition to the conduction of final examination, the teacher should evaluate ALP students class work on completion of each lesson/unit. In additional to the end of the session / annual exam, the practice of formative assessment should be used throughout the session. Tasks in the formative assessment should include:

- Homework
- Assignments (class work or home assignment)
- Quizzes
- Frequent written tests
- Group Discussion
- Oral Presentation

Feedback/reflection on students' work in the above tasks should be provided to the students.

ASSESSMENT METHODS

1. The **selected response -** students select the answer to a question from two or more given choices. Such items are easy to develop. Their short response time allows more information to be assessed in a short time.
2. A **constructed response** format requires students to create or produce their own answer in response to a question or task. This allows teachers to gain insight into students' thinking and creative processes, and to assess higher order thinking
3. **Essay Items** may have students construct restricted-responses that limit the length, content and nature of the answer; or extended-responses that allow greater freedom in response.

   Performance assessments require students to construct a more extensive response to a well-defined task, often involving real-world application of knowledge and skills.

Some Commonly Used Formats

Selected Response

Multiple-Choice Items

Multiple choice items have a short question, followed by multiple answer choices from which students must pick the correct or the best answer. The question is called the stem, and the answer choices are called options. The options contain one correct or best answer, and two or more distracters.

Short Answer

Short-answer items are questions that call for students to write short answers (3-4 sentences at most), such as definitions or short responses.

Essay Items

Such items literally have students answer a question by writing an essay. The length, nature and content of the essay are dependent on the question posed, so responses may be restricted or extended.

GUIDELINES TO THE TEXTBOOK AUTHORS

A textbook is an important teaching and learning resource and one of the most extensively used resources in our classrooms. The textbooks provide technology information for the acquisition of knowledge. Writing a textbook is an extremely important and technical task in the sense that it requires the translation of curriculum learning outcomes at the proper cognitive level of the students. Textbook authors of ALP need to consider, among others, following guidelines:

- Introduction to textbook explaining the structure and format of the book, organization of concepts in connection with the curriculum.
- Write SLOs at the beginning of each chapter.
- The textbook must have accurate, authentic and up-to-date material or content.
- The language structure should be written in such a way as if talking to audience.
- The material must be sufficient to give students the knowledge they need to understand, the concepts, develop the inquiry skills and engage in higher order thinking.
- The material should help students understand the world in which they live, and prepare for lifelong learning and skills.
- The material must be error free so it can be trusted.
- The material must be unbiased.
- The book must be attractive and engaging along with illustrations, tables, graphs etc.
- The illustrations should be clearly, accurately, appropriately and neatly drawn. These must be properly labelled and captioned.
- The textbook should have variety of practical and thinking activities to engage students in learning.
- Exercises should be included to encourage students to think, develop skills, and use information for a variety of purposes.
- The textbook must contain Table of contents and Glossary.
- The textbook must be contextually relevant and feasible to use in ALP classroom environment.
- The figures, illustrations and pictures should be from local/ Pakistani environment and culture.
- Should give students material to think beyond the textbook too.
- As the curriculum is specifically designed for out of school children who due to some reasons are out of school system therefore retain and limit the textual material to the learning outcomes details. Consider the time allocated to a subject in the scheme of studies. This will help to decide length, width and depth of chapters/topics/subtopics and concepts.

GUIDELINES FOR WRITING A CHAPTER

To make the learning of technology interesting and exciting and to provide a strong foundation for higher learning, each chapter in the technology textbooks must have, among others, the following features.

- **Student Learning Outcomes** at the beginning of each chapter clearly describing the objectives and tasks to be achieved in the chapter.
- **Key words, terms and definitions** to be highlighted in the text.
- **Technology tidbits** to provide snippets of interesting and useful knowledge.
- **Attractive and colorful illustrations** to captivate students.
- **Do You Know?** Questions to recall, think and apply what they have learnt as well as to reinforce the learning of key concepts and principles.
- **Mini-exercise** to provide questions involving technology investigations and relating technology contents with the technology, society and environment.
- **Awareness beyond the classroom** to widen the horizon of the students by providing interesting information and introducing related, more advanced concepts according to grade level in an understandable way.

- **Key Points** to provide a summary of the concepts and principles in the chapter.
- **Review Questions** at the end of each chapter to:
  - ➢ Recall and integrate previous learning
  - ➢ Engage students and develop their creativity
  - ➢ Move from lower to higher order thinking
  - ➢ Develop process skills
  - ➢ Develop multiple intelligences
- **Think-Tank/Investigate** to include open-ended questions to provoke students' thinking, creatively and investigation skills.
- **Interesting Activities**
  Include interactive and useful activities, strengthening students'
  - ➢ Vocabulary
  - ➢ Understanding
  - ➢ Critical thinking
  - ➢ Process skills
  - ➢ Performance Assessment

CRITERIA FOR ANALYSIS OF THE TEXTBOOK

Following criteria must be considered for selecting learning material for the textbook. Answers to most of these questions, if in the affirmative, will indicate a good quality textbook.

1. Is the content accurate and up to date?
2. Are important skills developed?
3. Do the illustrations (pictures, drawings, graphs, etc.) help to understand the contents better?
4. Do the end-of-the chapter exercises encourage students:
a. To think;
b. To develop their skills, and
c. To be creative.
5. Are learning activities suitable for the needs of the learner?
6. Do learning activities include student participation in real life issues and promote technology inquiry or investigation?
7. Are varieties of assessment strategies suggested? (e.g., fill-in-the-blank, multiple choice, project work, exhibitions, open-ended and divergent responses, think tank etc.)
8. Do the text, questions and suggested activities stimulate interest that would lead to further study?
9. Are there biases? a) Religion b) nationality c) gender d) occupation e) Class
10. Is it related to the goals of the curriculum?
11. Is a teacher's guide included?
12. Is it attractive and appealing to children?
13. Is the language readable, understandable, and easy to follow? Appropriate for the children who will use it?
14. Are the following adequate:
    - Page size
    - Line spacing
    - Titles and sub-titles
    - Font size
15. Are the contents relevant to the needs, age and level of understanding of the students?
16. Is there an introduction and key points/summary?

17. Does it have?
    - An introduction explaining its organization;
    - Table of contents
    - Glossary, and
    - Index.

DIRECTORATE OF CURRICULUM & TEACHER EDUCATION
KHYBER PAKHTUNKHWA, ABBOTTABAD
Phone # 0992-382634 Fax # 0992-381527 (Email dcte-kpk@hotmail.com)

Dated Abbottabad the, 27.09.2022

NOTIFICATION

No. 4436-43/ADL(C&TR): In exercise of powers conferred under the *"Khyber Pakhtunkhwa Supervision of Curricula, Textbooks and Maintenance of Standard of Education Act. 2011"* and consequent upon the recommendations of the Review Committee notified vide No. 4340-45 dated 16.09.2022, **Mr. Muhammad Shoukat, Director, Curriculum & Teacher Education Khyber Pakhtunkhwa Abbottabad**, being Competent Authority is pleased to notify the **"Alternate Learning Pathways (ALP) Elementary (Grades VI-VIII) Curriculum 2022"**.

1. The Directorate of Professional Development Khyber Pakhtunkhawa (DPD), Regional Professional Development Centers (RPDCs), FATA Institute for Teacher Education, Elementary Colleges of Khyber Pakhtunkhawa shall align Training Manuals/Material, related to ALP with Curriculum 2022.

2. All development partners, NGOs/INGOs working or intends to work in the area of ALP activities shall obtain prior approval/NOC for their training, textual materials and align them with the ALP Curricula 2022 (Grades VI-VIII) from DCTE Khyber Pakhtunkhawa Abbottabad in the educational institutions / allotted ALP centers of Khyber Pakhtunkhawa and Newly Merged Districts.

3. In case of non-compliance, the institutions/ firms at fault shall be proceeded against under Section (4) of the Khyber Pakhtunkhawa Supervision of Curricula, Textbooks and Maintenance of Standard of Education Act. 2011.

DIRECTOR

Endst: of even No & Date
Copy for information to the:

1. Secretary to Government of Khyber Pakhtunkhwa E&SE Department, Peshawar.
2. CPO Elementary and Secondary Education Department Khyber Pakhtunkhwa Peshawar.
3. Chairman Khyber Pakhtunkhwa Textbook Board Phase V Hayatabad Peshawar.
4. Ms. Gulnaz Jabeen, Education Officer UNICEF Peshawar.
5. Director, Elementary & Secondary Education Khyber Pakhtunkhwa Peshawar.
6. Mr. Muhammad Asif Kasi, Provincial Coordinator JICA-AQAL Khyber Pakhtunkhwa Peshawar.
7. Mr. Muhammad Rafique Khattak, Director ALP-PIU E&SE Khyber Pakhtunkhwa Peshawar.
8. MD PSRA KP Office: 18/E Jamal ud din Afghani Road, University Town, Peshawar.
9. MD ESEF Khyber Pakhtunkhwa Plot #:20, Street No.13, Sector E-8, Phase-7, Hayatabad, Peshawar.
10. Director Director, FITE Peshawar & Jamrud.
11. Director General, Information & Public Relations Khyber Pakhtunkhwa Peshawar.
12. All Heads of Development partners, NGOs/INGOs working in education sector Khyber Pakhtunkhwa.
13. Section Officer (B/T), Elementary & Secondary Education Department Peshawar.
14. P.S to Director, Local Directorate.

Syed Amjad Ali
Additional Director
Curriculum & Textbooks Review