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## Development of the Programme Post Graduate Certificate in Information and Assistive Technologies for the Instructors of Visually Impaired through ODL Mode

Mrs. Asha Yadav, Faculty, School of Vocational Education and Training, Indira Gandhi National Open University, New Delhi (INDIA); Email: [ashayadav@ignou.ac.in](mailto:ashayadav@ignou.ac.in)

Dr. Mrityunjay Kumar, Faculty, Dept. of History, Shaheed Bhagat Singh College, University of Delhi, New Delhi (INDIA); Email: [mrityunjaykumarhistory@gmail.com](mailto:mrityunjaykumarhistory@gmail.com)

Dr. Pradeep Kumar, Faculty, School of Extension and Development Studies, Indira Gandhi National Open University, New Delhi (INDIA); Email: [pradeep@ignou.ac.in](mailto:pradeep@ignou.ac.in)

### Abstract

The 'Persons with Disabilities (PwDs) Act 1995 was passed in parliament & came into enforcement on 7<sup>th</sup> February 1996. Keeping in mind this Act, it was decided to develop a programme for the Instructors of Visually Impaired so that trained Instructors may train persons with visual impairment in such a way that they may get equal opportunities, protection of rights and full participation in different activities of modern technology oriented society and persons with visual impairment may come in a mainstream. Hence, courses related with Assistive & Adaptive Technologies, IT Skills & Software for Visually Impaired & English Communication Skills were developed in Open and Distance Learning (ODL) mode to reach out to the aspirants-instructors or teachers. This research paper discusses how this Post Graduate Certificate in Information and Assistive Technologies for the Instructors of Visually Impaired (PGCIATIVI) programme was developed.

**Key words:** Persons with Visual Impairment, Assistive & Adaptive Technologies, IT Skills, Software for Visually Impaired, English Communication Skills

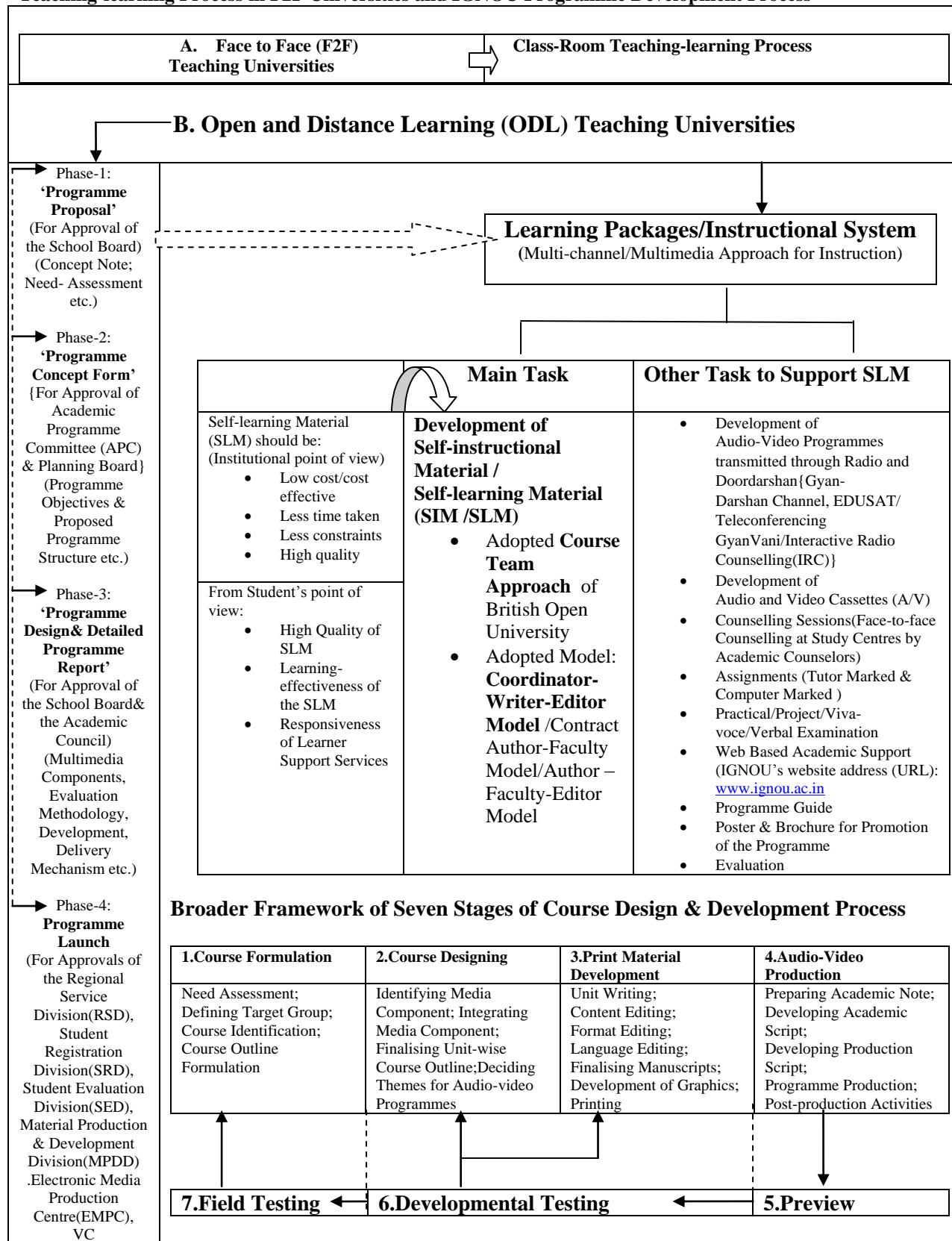
### Introduction

Post Graduate Certificate in Information and Assistive Technologies for the Instructors of Visually Impaired (PGCIATIVI) Programme provides opportunity for educating and training the instructors of the Visually Impaired. The programme equips the learners in the use of modern and updated information and assistive technologies. Provides hands on experience in acquiring skills and competencies. This is a Competency-based programme for those instructors / educators who are working with Visually Impaired. Certification will help them in getting gainful employment in this emerging and challenging area.

### Programme Objectives

- To sensitise the learners in understanding people with visual impairment;
- To orient the learners about the assistive and information technologies in general and for People with visual impairment in particular;
- To equip the learners in the use of assistive and information technologies in teaching people with visual impairment;
- To provide learners hands on experience in acquiring skills and competencies in facilitating Learning in people with visual impairment.

## Teaching-learning Process in F2F Universities and IGNOU Programme Development Process



**Phase-1: ‘Programme Proposal Form’**

Phase-1 form is filled in after discussion with the ‘Discipline Group’ within a school. Discussion is carried out about concept note, social relevance of the programme, need assessment/field survey/literature survey undertaken or proposed, collaborative arrangement envisaged outside IGNOU for design-development-delivery, programme strategies related to for design-development-delivery, budgetary requirement for need assessment & development. The Programme Structure is placed before ‘Programme Design Expert Committee’ for guidance. Phase-1 Form Proposal may be discussed in the ‘School Council, if required & then submitted to ‘School Board’ for approval.


**Phase-2: ‘Programme Concept Form’**

Phase-2 Proforma (filled in) is placed before Academic Programme Committee (APC) and Planning Board for obtaining approvals along with the resolution of the School Board & the Phase-1 Proforma. APC is a Standing Committee of the Planning Board. Information regarding programme structure (Number of courses, credits, theory, practical, project, field work component(s); counselling/contact hours; number of audio/video programme(s); teleconferencing time/radio broadcasting time; telecast time / kits / floppies / CD ROMs; proposed number of regional centres & study centres for first launch; design-development-delivery and evaluation strategies in the light of university norms; collaborative arrangements envisaged outside IGNOU (academic / financial delivery related) is filled in phase-2 form.

**Phase-3: ‘Programme Design & Detailed Programme Report’**

Phase-3 Proforma (filled in) is placed before School Board and then to Academic Council (AC)/Academic Council Standing Committee (ACSC). At this stage Programme Coordinator obtains Programme & Course Code from the Planning Division.

**Explanation of Programme and Course Codes**

Variable(s)	Programme: Post Graduate Certificate in Information and Assistive Technologies for the Instructors of Visually Impaired (PGCIATIVI)
	Course(s): MVEI-011, MVEI-012, MVEI-013, MVEI-014
1. Level of the Programme {Awareness (A)/undergraduate(UG) or bachelors(B)/Postgraduate(P/PG), research(R)} (UG course can't be a part of PG prog. Certificate can be a part of Diploma & UG prog.)	Post Graduate (P): <ul style="list-style-type: none"> <li>• Post Graduate Diploma (PGD)</li> <li>• Post Graduate Certificate (PGC)</li> <li>• ‘Master (M)’</li> </ul>
2. Discipline where the Programme Originates	‘Vocational Education (VE)’
3. Integrated means, both Theory & Practical, Self-Learning Material (SLM) is inbuilt in one Course. No separate course is for practical.	‘Integrated (I)’
4. The Stage of Preparation (New/Revision of the Course/Programme); 0 is assigned for New Course, & 1 for first revision; 2 for second revision & so on. Till 9 for 9 <sup>th</sup> revision.	New Course; Hence, ‘0’ is assigned
5. Last 02 numerals for the Number of Courses in that discipline varies from 01 to 99	Here 11 <sup>th</sup> Course
Now Course Code would be:	MVEI-011
This Course Code (MVEI-011) indicates:	Master level vocational education integrated new course (offered for the first time)

Following Information is filled in Phase-3 form regarding programme objectives; type of prog.; eligibility for enrolment; entrance test; duration of the prog.; medium of instruction; prog. Structure; counselling/contact hours; total no. of A/V programmes; radio broadcasting time/telecast time; kits/floppies/CDs ROM Computer mediated counselling/any other; list of courses (mention if any adoption/adaption of existing courses); multimedia components in the instructional package (audio/video, network (Internet); broadcasts; tele-conferencing etc.; delivery mechanism & support system for teaching learning (print material media-MPDD/any other agency-time needed in hours; counselling/contact or face to face media-study centre/ prog. centre agency-time needed in hours; tele-conferencing media-school/EMPC agency-time needed in hours; audio media-school/EMPC agency-time needed in hours; video media-study centre agency-time needed in hours; radio counselling media-radio station agency-time needed in hours; hands-on/laboratory work media-study centre/work centre agency-time needed in hours; computer mediated counselling media-tele-centre/study centre /any other agency-time needed in hours); instructional pattern-semester/annual; evaluation methodology (theory & practical components); fee to be charged; details of collaborative arrangement with external agencies (educational institution/employer groups/industry/government departments/foreign institutions/private agency/any other); development, delivery; approval by other statutory bodies {school board's approval of proposal (phase-1); planning board's approval of programme concept (phase-2); school board's approval of programme structure (phase-3)}; proposed schedule (from the date of approval of the academic council; course writers' meetings-in no. of months; course development-course development-in no. of months; course production-in no. of months; completion of audio/videos-in no. of months; finalization of the list of study centres-in no. of months; finalization of the list of work centre-in no. of months; advertisement date; entrance test date; programme launch date; observations & signature of the competent authorities. After approval of AC/ACSC programme coordinator convenes the meeting of course writers with the approval of competent authority.

#### **Phase-4: Programme Launch**

At last Phase-4 form is placed before for the approvals of the Regional Service Division (RSD), Student Registration Division (SRD), Student Evaluation Division (SED), Material Production & Development Division (MPDD), Electronic Media Production Centre (EMPC), and competent authority when 50% self-study materials are ready at hand along with student support services like counselling, assignments, evaluation, practical, lab experiments, teleconferencing etc. Then this under development programme becomes on offer programme.

#### **About the Programme**

**Programme Code:** -PGCIATIVI

#### **Programme Credit**

The programme is of 16 credits (with four courses of four credits each). At IGNOU, one credit is considered to be equivalent to 30 hours of study and other academic activities relevant to the course. It gives you an idea of the inputs required by the course of study.

#### **Eligibility**

- i) Bachelor degree in Computer Science from a recognized University (B.C.A./B.Sc.-ComputerScience)Or,
- ii) Bachelor degree in any discipline from a recognized University with diploma/certificate inComputer Science Or,
- iii) Bachelor degree in any discipline from a recognized University subject to the conditionthat PGCITATI will only be awarded after successfully completing the CIT programmefromIGNOU.

### Mode of selection

Selection will be based on merit. Preference will be given to those candidates who have teaching experience in the field of Visual Impairment.

**Medium of Instruction:** English

### Duration of the Programme

Minimum 6 Months and Maximum 2 years offered in both January and July cycleof admissions

### Programme Fee

The programme fee is Rs.5000/- for the entire programme of six months. The total fee is to be paid at the time of admission in the form of Demand Draft/Challan drawn in favour of IGNOU,payable at New Delhi.

### Student Intake

20 Students will be admitted at every programme study centre.

### PROGRAMME FRAMEWORK

The Programme consists of 4 courses. The details are as follows:

Sl.No.	Course Code	Course Title	Nature of the Course	Credits
1.	MVEI-011	Understanding the Learner	Integrated (Theory+ Practical)	4
2.	MVEI-012	Assistive and Adaptive Technologies	Integrated (Theory+ Practical)	4
3.	MVEI-013	Software's for Visually Impaired	Integrated (Theory+ Practical)	4
4.	MVEI-014	Communication Skills	Integrated (Theory+ Practical)	4

**Programme Structure (Details/Nomenclature of the Courses Blocks and Units as suggested by the Experts of Programme Design Committee and Course Expert Committee)**

<b>Name of the Programme: ‘Post Graduate Certificate in Information and Assistive Technologies for the Instructors of Visually Impaired (PGCIATIVI)’</b>			
<b>COURSE-1: MVEI-011 UNDERSTANDING THE LEARNER</b>	<b>COURSE-2 MVEI-012: ASSISTIVE AND ADAPTIVE TECHNOLOGIES</b>	<b>COURSE-3:MVEI-013 SOFTWARE'S FOR VISUALLY IMPAIRED</b>	<b>COURSE-4:MVEI0-14 COMMUNICATION SKILLS</b>
<b>Block 1: Understanding the Disability</b> Unit 1: Definitions, Meaning and Concept Unit 2: Understanding the Visual Impairment Unit 3: Implications of Visual Impairment <b>Block 2: Disability and Law</b> Unit 4: Persons with Disabilities and the Constitution Unit 5: International Framework for Disability <b>Block 3: Teaching and Evaluation Methodology</b> Unit 6: Introduction to Teaching Methodology Unit 7: Evaluation Methodologies <b>Block 4: Plus Curriculum for Visually Impaired</b> Unit 8: Braille Unit 9: Orientation and Mobility Unit 10: Sensory Training Unit 11: Daily Living Skills	<b>Block 1: Overview of Assistive and Adaptive Technologies</b> Unit 1: Assistive and Adaptive Technologies (Historical Perspective) Unit 2: Adaptive Technologies Unit 3: Assistive Technologies Unit 4: Emerging Trends <b>Block 2: Accessibility</b> Unit 5: Introduction to Accessibility Unit 6: Web Accessibility Unit 7: Other Accessible Technologies	<b>Block 1: Screen Reading Software</b> Unit 1: Working with Screen Reader Unit 2: Introduction to Screen Reading Software Unit 3: Word Processing with Screen Readers Unit 4: Spreadsheets with Screen Readers Unit 5: Using Database with Screen Readers <b>Block 2: Screen Magnification Technology</b> Unit 6: Introduction to Screen Magnification Technologies Unit 7: Customizing Screen Magnification Software <b>Block 3: Optical Character Recognition</b> Unit 8: Introduction to Optical Character Recognition Unit 9: Working with Optical Character Recognition <b>Block 4: Refreshable Braille Display and Embossing</b> Unit 10: Introduction to Refreshable Braille and Tactile Reader Unit 11: Braille Embossing	<b>Block 1: English in Daily Life</b> Unit 1: Introduction to Communication Unit 2: Greetings and Introductions Unit 3: Skills Required at the Job: Telephoning Unit 4: Importance of Small Talk in Business Unit 5: Email and SMS <b>Block 2: English for the Job Market</b> Unit 6: Profiling Oneself for the Job Market Unit 7: Looking for a Job Unit 8: Portfolio Making Unit 9: Writing your Curriculum Vitae (CV) Unit 10: Job Interviews <b>Block 3: English at the Work Place I</b> Unit 11: Presentation Skills- I Unit 12: Presentation Skills-II Unit 13: Participating in Discussion Unit 14: Body Language: Non-Verbal Communication Unit 15: Using Computers in Daily Life <b>Block 4: English at the Work Place II</b> Unit 16: Business Correspondence Unit 17: Report Writing Unit 18: Work Ethics
<b>Total No. of Units/Chapters in all Four Courses: 11+07+11+ 17= 47 Units</b>			

## INSTRUCTIONAL SYSTEM

At IGNOU ‘Multimedia Approach’ is adopted for delivering instruction. The various instructional components are face to face interaction during counselling sessions, self-instructional print material, hands on experience, audio/video programmes and assignments. .

### Print Material

The print materials are self- instructional in nature. It is supplied to the students in the form of Blocks. Each block contains 2-5 units. The University provides study material and assignments to the students.

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**Audio Video Programmes**

The audio and video programmes are supplementary, meant for clarification and enhancement of understanding. Besides, the video programmes are telecast on the national network of Gyan Darshan and audio programmes are broadcast on Gyan Vani channel. Learners can confirm the dates of telecast and broadcast for the programme from their programme study centre. The information is also provided through IGNOU newsletters sent to the learners periodically.

**Counselling Sessions**

Counselling sessions are mainly held on weekends, that is to say, Saturday and Sunday of the week. The details of the practical counselling schedule will be made available to you by the Coordinator of your programme study centre.

**Assignments**

Assignments are an integral component of the instructional system. There is one assignment for each course. Students will have to work on these assignments. These assignments are to be submitted to the programme study centre.

**Practical**

This programme has practical and hands on experience components also. For successful completion of the programme, a participant is required to have a minimum of 75% attendance in the practical counselling sessions. A participant will not be eligible to appear in the term-end examination if the percentage of attendance in practical counselling sessions falls below 75%. He/she can, however, appear for the theory papers.

**Web Based Support**

The learners can have access to IGNOU's website at the following address: [www.ignou.ac.in](http://www.ignou.ac.in), this website offers relevant information to the general public and student support facilities to the learners.

**Introduction to the Programme Courses Blocks and Units**

Programme: 'Post Graduate Certificate in Information and Assistive Technologies for the Instructors of Visually Impaired (PGCIATIVI)' consists of four courses that are:

Course-1: Understanding the Learner (MVEI-011)

Course-2: Assistive and Adaptive Technologies (MVEI-012)

Course-3: Software for Visually Impaired (MVEI-013)

Course-4: Communication Skills (MVEI-014)



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**Introduction to the Course-1 Understanding the Learner (MVEI-011)**

This course consists of four blocks that are:

Block-1: **Understanding the Disability**

Block-2: **Disability and the Law**

Block-3: **Teaching and Evaluation Methodology**

Block-4: **Plus Curriculum for Visually Impaired**

Understanding the learner is a concept which gives prompt information to the trainers about their pupils'. It includes the entire personal, social as well as, educational aspect of a learner.

**Introduction to the Block-1 Understanding the Disability**

This block-1; **Understanding the Disability**, will orient learners in detail about definitions, meaning and concept of disability and visual impairment, understanding the visual impairment and their related issues and implication of visual impairment, models of disability and public awareness solutions.

Block-1; 'Understanding the Disability' contains three units that are:

**Unit-1: Definitions, Meaning and Concept**

**Unit-2: Understanding the Visual Impairment**

**Unit-3: Implications of Visual Impairment**

Unit-1; 'Definitions, Meaning and Concept' will orient you in detail about various meaning and definitions of disability, various types of disability, historical perspective of disability in Indian and foreign concept. Unit-2; 'Understanding the Visual Impairment', discusses in detail about visual impairment and their related-issue like definition and meaning, causes, policies for prevention of visual impairment, precautions to prevent the blindness and changing attitude towards visual impairment.

Unit-3; 'Implications of Visual Impairment' deals with different models of disability like medical, social and educational models, implications of visual impairment like social psychological and educational implications, solutions and public awareness.

We hope that various aspects discussed in this block will provide you a sound knowledge about person with visual impairment. It will also orient you about their past, it will show their current state and it will make you able to plan their future, so that you can do a better innovative job in the field of visual impairment.

**Objectives**

After going through this block, trainee will be able to:

- understand the concept of Impairment. Disability and Handicap;



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- know the various aspects related with visual impairment;
  - understand the implications of visual impairment on their Social. Educational and personal life; and,
  - make the plans for the Rehabilitation of persons with visual impairment.

### **Introduction to Block-2 Disability and Law**

**Block-2; ‘Disability and the Law’** is based on different legal issues of disability with focuses upon visual impairment. It consists Constitutional provisions, various acts like Person with Disabilities Act (1995), Mental Health Act (1987), Rehabilitation Council of India Act (1992) and National Trust Act (1999). International Framework like UN Convention on the Rights of the Child (1989), UN Standard Rules (1993). Biwako Millenium (2002), United Nations Convention on the Rights of Persons with Disability (2006) etc.

This Block-2 Disability and Law is consists of two units’ that are:

#### **Unit-4: Persons with Disabilities and the Constitution; and**

#### **Unit-5: International Framework for Disability**

**Unit 4** Persons with Disabilities and the Constitution deals with constitutional provisions for persons with disabilities, PWD Act (1995) and their various chapters, other various legislations like Mental Health Act (1987), Rehabilitation Council of India Act (1992) and National Trust Act (1999).

**Unit 5** International Framework for Disability would provide you information about UN Convention on the Rights of the Child (1989), UN Standard Rules (1993), Biwako Millenium (2002). UN Convention on the Rights of Persons with Disability (2006) and other various international legislative issues.

We hope that aspects discussed in this block related with international framework for disability and Indian constitutional provision for persons with disabilities would orient you about legal (National and International) rights of persons with disabilities and you can also sensitize them about their rights.

### **Objectives**

After going through this block, trainee will be able to;

- analyse the human rights approach towards persons with Disabilities;
- know the implications of various National and International disability specific legislations
- understand the rights mentioned in various National and International disability specific legislations; and
- sensitize the persons with disabilities about their constitutional and legal rights.

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**Introduction to the Block-3 Teaching and Evaluation Methodology**

Block-3, 'Teaching and Evaluation Methodology' orients about different teaching methodologies for general teaching as well as computer teaching to the persons with Visual impairment and highlights the various evaluation methodologies.

This Block-3; 'Teaching and Evaluation Methodology' contains two units that are:

**Unit-6: Introduction to Teaching Methodology****Unit-7: Evaluation Methodologies**

Unit-6 covers teaching methodology pertaining to computers for visually impaired. The aspect covered are the critically of approach, practical, rigor & analogous learning & examples have been incorporated.

Unit-7 'Evaluation Methodology' is used to assess the quality of the computer training for visually impaired, the need for evaluating the learners and the teaching methodology. Various formats of Evaluation Methodology & its importance have been discussed in this unit. Another aspect covered in it is how to do evaluation at the different stages of training. Similarly different issues which occur most often while dealing a computer training program for visually impaired have been discussed in detail. The effectiveness of evaluation methodology through different case studies have been included which would help the teachers/instructors/trainers to provide the quality computer training.

**Objectives**

- Describe the need for appropriate teaching methodology required while training or teaching visually impaired on computers.
- Empower the instructors or teachers with teaching methodologies to be used to disseminate various techniques to work on various applications using screen readers.
- Enhance the instructor's or teacher's capabilities and skills to understand the learner's need and select appropriate approach (es).
- Optimize knowledge of the scope of the screen reader for the visually impaired.
- Explain the different types of evaluation.
- Describe various tools and techniques in use for evaluation in the education process.

**Introduction to the Block-4; Plus Curriculum for Visually Impaired**

**This block-4; Plus Curriculum for Visually Impaired** would give the information about Sensory Training (procedure and importance), Orientation and Mobility (Techniques and Importance), Braille (Different dots and teaching methodology) and Daily Living Skills (training methods of different skills and importance).

We hope that this course MVEI-011 will provide a deep and important knowledge about different aspect related with visual impairment.

This Block-4; Plus Curriculum for Visually Impaired consists of four units that are:

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**Unit-8: Sensory Training****Unit-9: Orientation and Mobility****Unit-10: Braille****Unit-11: Daily Living Skills**

Plus Curriculum for Visually Impaired contains Sensory Training, Orientation & Mobility, Braille, Daily Living Skills & Assistive Technologies but in this block we are not discussing about Assistive Technologies because in course 3 & 4 (MVEI-012 & MVEI-013) we have discussed in detail about technologies related with visual impairment.

**Unit-8:** Sensory Training, deals in detail about development of various sensory organs like Touch, Hearing, Smell, Taste and Residual Vision. It will also orient you about different methods of sensory organ's development.

**Unit-9:** Orientation and Mobility gives an idea about concept & importance of Orientation and Mobility for the persons with visual impairment, different indoor and outdoor techniques of Orientation and Mobility in Indian conditions.

**Unit-10:** Braille provides the prompt information about brief history of Braille, development of Braille in India, concept of Hindi & English Braille, reading –writing & other skills & various techniques for learning Braille.

**Unit-11:** Daily Living Skills provides information about concept & importance of Daily Living Skills for the persons with visual impairment, various skills like cooking, shaving, bathing, toileting, etc.

We hope that various skills & techniques mentioned in this block about Plus Curriculum for Visually Impaired will provide an innovative knowledge about visual impairment & their plus curricular skills.

**Objectives**

After going through this block, trainee will be able to:

- Understand the importance of sensory training for persons with visual impairment;
- Know the various techniques to develop the sensory organs;
- Do the hands on practice of different Orientation and Mobility techniques;
- Understand the concept of Hindi & English Braille;
- Do the hands on practice of different letters & sentences in Hindi & English Braille; and
- Train the various daily living skills to the persons with visual impairment.

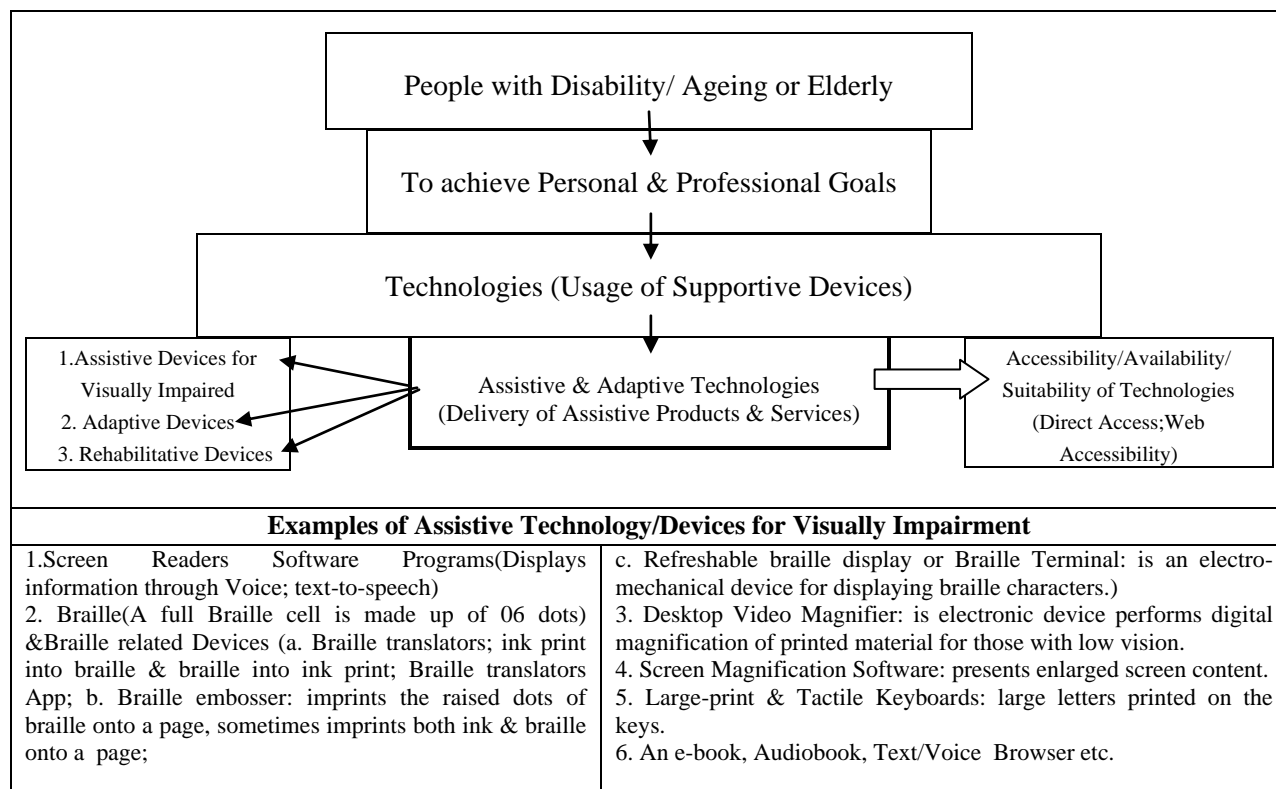
**Introduction to the Course Assistive and Adaptive Technologies (MVEI-012)**

**This course consists of two blocks that are:**

Block-1 Overview of Assistive and Adaptive Technologies

## Block-2 Accessibility

This course highlights the various aspects of assistive and adaptive technologies for the visually impaired. The terms, Assistive and Adaptive Technology, are frequently used as a single phrase. Many people use them interchangeably. Accessibility is about making things accessible to all people (whether normal or disabled). Examples regarding Assistive Technology/Devices for Visual Impairment are mentioned below.



**This course contains two blocks:**

**Block-1:** Overview of Assistive and Adaptive Technologies

**Block-2:** Accessibility

**Introduction to Block-1 Overview of Assistive and Adaptive Technologies (Course: MVEI-012)**

This block consists of four units:

**Unit-1:** Assistive and Adaptive Technologies (Historical Perspective)

**Unit-2:** Adaptive Technologies

**Unit-3:** Assistive Technologies

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**Unit-4: Emerging Trends**

Today technology is having its penetration in every aspect of a human's life. It has made positive differences in normal people's life as well as in disabled people. It has particularly dramatic benefits for people who are visually impaired. Various assistive and adaptive technologies have made information easily accessible to them and it also made them competent for independent mobility. This block will orient you about different aspects of assistive and adaptive technologies, like its historical perspective, concept of assistive and adaptive technology and its implication for persons with visual impairment and about innovative and emerging trends and technology for person with visual impairment. These will be beneficial for you in understanding the various technology and their utilization in the life of persons with visual impairment. It will also be helpful for person with visual impairment to mainstream them in modern developing and technology oriented society.

**Objectives**

After going through this block, trainee will able to:

- Understand the concept of Assistive and Adaptive technologies;
- Know about the history of Assistive and Adaptive technologies;
- Aware about various modern technologies of persons with visual impairment; and
- Do the hands on practice of different technologies to be used for persons with visual impairment.

**Introduction to Block-2 (Accessibility)**

This block contains three units:

**Unit-5: Introduction to Accessibility****Unit-6: Web Accessibility****Unit-7: Other Accessible Technologies**

Accessibility is a general term used to describe the degree to which a product (e.g. device, service, and environment) is accessible to as many people as possible. This is often used to focus on people with disabilities. Accessibility is a broad concept and it is responsible for direct access in technologies and services to disabled people.

In this block learner learns about the various aspects of accessibility related with visual impairment i.e., concept of accessibility and universal design, its linkage with assistive and adaptive technologies, standard of universal designs, web accessibility, components of web accessibility and about several other accessible technologies like screen readers, Braille related technologies, etc. These will provide learner an innovative knowledge about different accessible technologies and their using techniques for persons with visual impairment.

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## Objectives

After going through this block, trainee will be able to:

- Understand the concept of accessibility;
- Understand the linkage between accessibility and assistive technologies;
- Know the norms of creating universal design;
- Recall the various accessible/assistive technologies of visually impaired; and
- Do the hands on practice of various accessible technologies to be used for person with visual impairment.

## Introduction to the Course-3 Softwares for Visually Impaired (MVEI-013)

This course **MVEI-013 Softwares for Visually Impaired** consists of four blocks that are:

Block-1 Screen Reading Software

Block-2 Screen Magnification Technology

Block-3 Optical Character Recognition

Block-4 Refreshable Braille Display And Embossing

Several Computer software have been developed or adopted for the persons with Visual Impairment so that they may use them to gain information and get into the mainstream modern technology oriented society. Block-1, 'Screen Reading Software', discusses screen reading software like JAWS, SAFA, WindoEye, Supernova, NVDA etc. and Mobile Screen Reading Software like TALKS, MobileSpeak and company details of each software as well. Block-2 is 'Screen Magnification Technology.' In this block Screen Magnification Technology & customizing screen magnification software like Zoom Text, MAGic have been introduced. Block-3, 'Optical Character Recognition', throws light on working with Optical Character Recognition & their use and installation of system. Block-4, 'Refreshable Braille Display and Embossing', is devoted to introduction to hardware like Refreshable Braille Display Tactile Reader and Braille Embossers.

## Introduction to the Block 01, Screen Reading Software of the Course MVEI-013

The main of screen reading software is to enable the computers to 'talk' or 'speech'. These speak the texts. A text to speech system is also known as speech synthesizer. This is a software which accepts texts as input and generates output in form of speech. Various screen reading software like JAWS, SAFA, and NVDA etc. have made easy the use of computer for people with visual impairment. Software especially

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like JAWS has made a significant contribution in mainstreaming of visually impaired people in information-technology area.

This block orients about various screen reading software, using word processing system, spread sheets and database with the help of screen readers. This will help learner to understand the process of computerization of persons with visual impairment and learner will also be able to update his-self in information technology area.

### Objectives

After going through this block, trainee will be able to;

- understand the concept of screen reader;
- know about various screen reading software for visually impaired;
- know the word of word processing, spread sheets and data base with the help of screen readers; and
- do the hands on practice of various screen reading software to be used by persons with visual impairment.

### Introduction to the Block 02, 'Screen Magnification Technology' of the Course MVEI-013

The Screen Magnification Technology (SMT) basically assists person with low vision in accessing the information on the computer screen and printed material. Screen magnifier is a type of software or hardware which is used to enlarge the content of the computer screen, printed materials or any object. The simplest way of magnification is to present an enlarged portion of the focused area of the original screen content, so that it covers some or the entire full screen. Screen Magnification software like Zoom Text, MAGic, Supernova have made the screen and other printed forms accessible for person with low vision.

In this block learner will learn about different screen magnifiers and their function for children with low vision. This will also strengthen about features, types of magnifiers and working process of Zoom Text, MAGic, and Supernova etc.

### Objectives

After going through this block, trainee will be able to;

- understand the concept of Screen Magnification Technology;
- know about various Screen Magnifiers and their features; and
- do the hands on practice of various screen magnifiers to be used for people with low vision.



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**Introduction to the Block 03, ‘Optical Character Recognition’ of the Course MVEI-013**

Optical Character Recognition (OCR) is the mechanical or electronic translation of images of handwritten, type written or printed-text (captured by scanner) into machine-editable text. This refers to the branch of pattern recognition, artificial intelligence and computer science that involves reading from paper and translating the images into a form that the computer can manipulate. Optical Character Recognition technology offers blind and low vision persons the capacity to scan printed text and then spell it back in synthetic speech or save it to a computer.

In this block learner will learn about the concept and features of Optical Character. Recognition. This will also orient learner about working functions of OCR and their installation system. After learning this block learner will be able to get specific information about this highly specialized technological aspect of persons with visual impairment.

**Objectives**

After going through this block, trainee will be able to;

- understand the concept of Optical Character Recognition;
- know about the installation and using system of Optical Character Recognition; and
- do the hands on practice of various OCRs to be used for people with visual impairment.

**Introduction to the Block 04, ‘Refreshable Braille Display and Embossing’ of the Course MVEI-013**

A Refreshable Braille Display is a piece of hardware that provides Braille output from your computer by means of raising or lowering a combination of sometimes eight round tipped pins. It is said refreshable because Braille cells of the device change, or refresh, according to the part of the screen that has the computer attention.

Similarly Braille embosser is a hardware device used for printing computer generated text in Braille format. This device is also known as Braille printer. Braille embossers are used in combination with Braille translation software which converts computer generated text into Braille format. Blind computer users, who cannot use a normal computer monitor, they use these devices. After learning this block learner will know about concept, functions and their significance for persons with visual impairment.

**Objectives**

After going through this block, trainee will be able to;

- understand the concept of Refreshable Braille and Tactile Reader;
- understand the concept of Braille Embossing;
- know about different Refreshable Braille, Tactile Reader and Braille Embossing; and

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- do the hands on practice of various Refreshable Braille Displayers and Braille Embossers.

### **Introduction to the Course-4 Communication Skills (MVEI-014)**

**Communication Skill is an important and mandatory aspect of our daily life.** This course **MVEI-014 Communication Skills** consists of four blocks that are:

Block-1 English in Daily Life

Block-2 English for the Job Market

Block-3 English at the Work Place-I

Block-4 English at the Work Place-II

**Block 01, English in Daily Life**, orients learner in detail about the written and oral communication, introducing yourself formally and informally, greetings, telephoning skills, social interaction and use of e-mail and SMS. Through. These broad topics we will give you practice in the skills of reading, writing, speaking and listening.

**Block 02, English for the Job Market**, discusses in detail the process of preparing oneself for the job market, ideas for looking for suitable jobs, writing letters, vocabulary, portfolio making, writing a standard Curriculum Vitae (CV) and the difference between portfolio and resume.

**Block 03, English at the Work Place-I**, deals with presentation skills for the work place like signaling, signposting and listing techniques, body language, visual aids, participating in discussions for the recruitment process, importance of non-verbal communication and the use of computer in daily life.

**Block 04, English at the Work Place-II**, would give learner information and practice in Business Correspondence, report and proposal writing.

We hope that the various skills and techniques in communicating in English and other issues of personality development, discussed in this course would provide learner with a significant knowledge and practice about effective communication and its importance in our daily and professional life.

### **Introduction to the Block 01, English in Daily Life**

**BLOCK INTRODUCTION** This block consists of 5 units dealing with English in daily life. Since we all know that English plays a very important role in our day-to-day life so the learners should be encouraged to improve their skills of communication. It becomes necessary that the instructors should be well versed with the communication skills.

**Unit1: Introduction to Communication**, deals with the various forms of communication and the difference between written and oral communication. The features of a good conversation, opening and closing conversation and barriers of communication have also been discussed in detail in this unit.

**Unit 2: Greeting and Introduction**, demonstrates how to introduce oneself formally and informally and also - how to greet in the right tone. Learner can also learn words to be used in your personal, social or

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professional life. In the pronunciation section, learner would come to know that there is a mismatch in the spelling and sound of English.

**Unit 3: Skills required at the Job: Telephoning**, illustrates various skills required to make telephone calls at the workplace. Learner would learn that how your voice, speech and tone should be while answering queries, making requests, confirming facts etc. over the phone.

**Unit 4: Importance of Small Talk in Business**, this unit would make learner aware of the importance of engaging in social interaction.

**Unit 5: Email and SMS**, focuses upon the use of e-mails and SMS. Learner would know about the format and structure of e-mails and devices used in SMS.

We hope that various skills discussed in this block would help learner in enhancing the power of communication required in daily life.

### **Introduction to the Block 02 English for the Job Market**

This block consists of five units i.e. 6, 7, 8, 9 and 10 dealing with English for the job market.

**Unit 6: Profiling oneself for the Job Market** suggests how one should prepare oneself for the job market. It throws light on the qualities needed at the workplace. We have also discussed how one should behave at a new workplace and how to write a profile. Vocabulary related to personal, social and professional spheres and language structures required for asking and answering questions have also been dealt with in this unit.

**Unit 7: Looking for a Job**, tells us about an idea that how one should look for a suitable job. It also gives help in exploring the internet for jobs and to write letters to find out about the job market. Vocabulary associated with jobs has also been discussed in this unit.

**Unit 8: Portfolio Making**, deals with the portfolio-making where the students will learn how to make their portfolio and the difference between a portfolio and a resume.

**Unit 9: Writing your Curriculum Vitae (CV)** provides information about Curriculum Vitae. In this unit students are made familiar with the importance of Curriculum Vitae (CV) while applying for a job. They will learn to write their Curriculum Vitae which meet international standards.

**Unit 10: Job Interviews**, is about job interviews where the students would be made aware of do's and don'ts while appearing for an interview.

We hope that after going through the above units, students would find themselves competent enough to face the challenges of the world of jobs.

### **Introduction to the Block 03 English at the Work Place-I**

The block consists of 05 units i.e. 11, 12, 13, 14 and 15 dealing with English at the work place.

**Unit 11: Presentation Skills –I**, discusses in detail the presentation skills required at the workplace. Students will learn the essentials of presentation and the 'use of signaling, signposting and listing techniques in presentation.

**Unit 12: Presentation Skills –II**, focuses again upon presentation skills, where the emphasis is on first impressions, body language, effective use of voice, commonly used structures of presentation and language associated with visual aids. Summaries and conclusions and question answers session at the end of the presentation have also been discussed in detail.

**Unit 13: Participating in Discussion**, entitled 'Participating in Discussions' will help the students in the recruitment process. It will make them identify the skills and attitudes needed when participating in a discussion. The language of discussions has been elaborated in order to develop better understanding among students. Students will also be provided with quick tips for discussions.

**Unit 14: Body Language: Non- Verbal Communication**, illustrates body language as non-verbal communication. This unit will help students to expand their vocabulary and to understand non-verbal communication. It will help them to face an interview panel and make them recognize the importance of body language. All the features of non-verbal communication have been elaborated upon in this unit.

**Unit 15: Using Computers in Daily Life**, lays emphasis on the importance of computer in daily life. It will help students to get exposure to computer related language and vocabulary. It makes students aware of IT related language and issues relevant to their daily life.

We hope that this block would be fruitful in sharpening the skills of the students.

### **Introduction to the Block 04 English at the Work Place-II**

This block consists of three units i.e. 16, 17 and 18 dealing with English at the Work Place.

**Unit 16: Business Correspondence**, Business Correspondence discusses various kinds of correspondence, the use of appropriate and effective language in writing letters and give learner practice in various types of formal letters.

**Unit 17: Report Writing**, Report Writing focuses on the different kind of reports, characteristics of a good report, various steps and format of writing a report, so that learners are able to write the reports effectively.

**Unit 18: Work Ethics**, helps to develop a right attitude towards work, understand the main points of a case study, and develop the ability to welcome new recruits and to learn language structure related to work ethics.

We hope this block would be helpful in sharpening the skills of writing formal letters, reports in English so that learner can function effectively in his/her workplace.

### **Evaluation**

The evaluation of the performance of the students will be based on continuous evaluation (Assignments) and term end examination.

Examination		Maximum Marks	Weightage
<b>Theory</b> (for theory component, evaluation comprises 03 aspects)	1. Self-evaluation Exercises	100	Non-credit (No weightage)
	2. Continuous Evaluation ( <i>In the form of periodic compulsory assignments</i> )	100	15% for each course
	3. Term-end Examination (TEE)	100	35% for each course
<b>Practical</b> (for practical component)	1. Continuous Evaluation of Practical Assignments	100	35% for each course
	2. Evaluation of Performance in Practical Examination	100	15% for each course

The letter grade system is used for grading continuous and terminal examination components. These letter grades are:

Letter Grade	Qualitative Level	Point Grade	Percentage (%)	Division
A	Excellent	5	80% & above	I Division with Distinction
B	Very Good	4	60-79.9%	I
C	Good	3	50-59.9%	II
D	Average	2	40-49.9%	III
E	Unsatisfactory	1	Below 40%	Failed

In each course, the student will have to obtain at least D grade in both continuous and terminal evaluation separately. However, the overall average should be at least C grade for the successful completion of the course.

## Conclusion

Keeping in mind the preventive and promotive aspects of rehabilitation of person with visual impairment like education, employment & vocational training, manpower development, creation of barrier free environment etc., this programme was developed in ODL mode so that maximum aspirants may get training to instruct the persons with visual impairment.

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