

### PRODUCTION OF LEARNING RESOURCES

**Table : Production of 16 mm films and Video programmes since 1985**

S. No.	Types of LRs produced	Numbers produced during the period		
		1980-1990	1991-2000	2001-2005
1.	OHP Models	45	25	
2.	Transparencies			
	Mech Engg.	239	102	
	Elect & Electronics Engg.	187		
	Civil Engg.	51		
	Other Disciplines/ General	30	52	
3.	Slides	45	74	
4.	Film Strips	12		
5.	16 mm films	8		
6.	Video Programmes in video cassettes	46	132	34
7.	Video Series on Soil Mechanics under NITTTR-ISTE Joint Project	16		
8.	Video Programmes/ Video Lectures	-	-	44
9.	Video programmes for Telecasting through Gyan Darshan	-	-	150+
10.	Micro teaching / role play video recording	38	48	42
11.	Multiple media Training Packages for industries		7	2
12.	Power Point Presentations		60	210
13.	Training modules	150	48	

**Table : Learning Resources sold since 1985**

S. No.	Types of LRs produced	Numbers sold during the period		
		1980-1990	1991-2000	2001-2005
1.	Transparencies Mech Engg. Elect & Electronics Engg. Civil Engg. Other Disciplines/ General	9443	1620	
2.	Slides	270	884	
3.	Film Strips	349		
4.	16 mm films	79		
5.	Video Programmes in video cassettes	856	3849	324
6.	Video Series on Soil Mechanics under NITTTR-ISTE Joint Project(Nos. Sold till '04			800
7.	Multiple media Training Packages for industries		7	
8.	Training modules	NIL	48	

**Table : Innovations in Media Resources Development for Improving Instruction & Training**

S. No.	Innovations/ Activity	Year
1.	Established reprographic section	1972
2.	Started using printed charts for laboratory and classroom teaching. Started using 3D models for classroom teaching	1974-75
3.	Established audio-visual aids section	1975-76
4.	Established Learning resource sales section for selling various print & non-print LRs.	1977-78
5.	<ul style="list-style-type: none"> <li>➤ Started developing black &amp; white slides.</li> <li>➤ Started developing photographic album.</li> <li>➤ Started use of washed X-ray films and gelatine paper for Over Head Projector using single colour sketch pen and started training on OHP.</li> <li>➤ Started developing magnetic cutouts made of card sheets using refrigerator magnetic strips.</li> </ul>	1978-79

S. No.	Innovations/ Activity	Year
	<ul style="list-style-type: none"> <li>➤ Started using 16 mm films in training programmes.</li> <li>➤ Prepared proposals for establishing 16mm film production centre and multiple media teaching learning package development centre under UNDP project.</li> <li>➤ Established photographic section.</li> <li>➤ Started developing cutouts using sand paper on flannel boards.</li> </ul>	
6.	<ul style="list-style-type: none"> <li>➤ Started colour screen-printing.</li> <li>➤ Started developing black &amp; white filmstrips.</li> <li>➤ Developed black &amp; white filmstrip duplication machine.</li> <li>➤ Established a dark room for B &amp; W film, filmstrip and slides development &amp; printing.</li> <li>➤ Started developing magnetic cutouts made of card sheets using button magnets and magnetic strips.</li> <li>➤ Started fabricating and using magnetic boards for classroom purposes.</li> <li>➤ Started developing different handmade charts with single colour, multi-colour, using thermocole sheets, card sheets etc.</li> <li>➤ Started developing and using flipcharts.</li> </ul>	1980
7.	<ul style="list-style-type: none"> <li>➤ Started developing colour slides.</li> <li>➤ Established CCTV studio.</li> <li>➤ Started process of purchasing equipment for video production.</li> <li>➤ Started developing magnetic cutouts made of coloured plastic sheets and thermocole using button magnets and magnetic strips.</li> <li>➤ Started developing filmstrips along with audiocassette.</li> <li>➤ Started using Cellulo-Tri- Acetate transparency sheet with multi-colour marker pens on OHP.</li> <li>➤ Started using different types of transparency mounts and folios.</li> <li>➤ Started using and promoting the masking and revealing technique on OHP.</li> </ul>	1981-82
8.	<ul style="list-style-type: none"> <li>➤ Received Nagra system and 16 mm film projector under UNDP project.</li> <li>➤ Organised script-writing workshops for developing scripts for film production.</li> <li>➤ Intensive workshops were organised under Auto-Poly Project on designing and development of Learning Resources.</li> <li>➤ Started producing black and white 16 mm films.</li> <li>➤ Started developing coloured acrylic sheet OHP models for displaying the motion of links in a single unit.</li> </ul>	1983-84
9.	<ul style="list-style-type: none"> <li>➤ Started process of purchasing U-matic equipment for video production</li> </ul>	1984-85
10.	<ul style="list-style-type: none"> <li>➤ Received Sony make ½” video equipment under UNDP project</li> </ul>	1985
11.	<ul style="list-style-type: none"> <li>➤ Established full-fledged studio for video production with facility of vision mixing, video editing, sound recording, previewing, make-up room etc. The whole system started functioning in 1991.</li> </ul>	1985-90
12.	<ul style="list-style-type: none"> <li>➤ Started video production on U-matic format.</li> <li>➤ Enhanced the services of sales section by selling the video programmes on different technical and non-technical subjects</li> </ul>	1985-86

S. No.	Innovations/ Activity	Year
	<p>and other print &amp; non-print Learning resources to Polytechnics, Engineering Colleges and Industries.</p> <ul style="list-style-type: none"> <li>➤ Designed and fabricated thermocole cutting machine.</li> <li>➤ Started using Polyester transparency with multi-colour OHP marker pens. (Soluble &amp; Permanent type) and transparency scroll on OHP.</li> </ul>	
13.	<ul style="list-style-type: none"> <li>➤ Started producing coloured 16 mm films. Three films were produced.</li> <li>➤ Started recording the microteaching activity on VHS format and the process of self-feedback through video.</li> <li>➤ CCTV studio was converted into a modern classroom with following facilities. <ul style="list-style-type: none"> <li>○ Different types of boards such as glass board, magnetic board, white board etc.</li> <li>○ Wall mounted OHP screen, portable screen</li> <li>○ Screen for projecting other projector's output.</li> <li>○ Slide projector and opaque projector facility</li> <li>○ This classroom was connected through cables to the workshop and other engineering laboratories with one-way video and two-way audio system. This system facilitated the participants seating in the classroom to view the real demonstration/ process being conducted at the workshop or in the laboratory with facility of asking any question online to the demonstrator.</li> </ul> </li> </ul>	1986-87
14.	<ul style="list-style-type: none"> <li>➤ Started developing and using Technova film for transparency preparation.</li> </ul>	1988-89
15.	<ul style="list-style-type: none"> <li>➤ Purchased sound recording equipments like Studer, 16 channel mixer, cartridges, microphones, and booms for video production and made them functional.</li> <li>➤ Started developing screen-printed transparencies in transparent multi-colours for mass production and marketing purpose.</li> </ul>	1989-90
16.	<ul style="list-style-type: none"> <li>➤ Sound recorded 6 songs for 35 mm film produced by Sai Paranjape at preview theatre of the institute.</li> <li>➤ Started using photocopy able Polyester film for transparency preparation and started developing overlay transparencies.</li> </ul>	1989-90
17.	<ul style="list-style-type: none"> <li>➤ Sound recorded Shiva Kumar Sharma (Santoor) at Bharat Bhavan as per the directives from GOI with our sound equipment.</li> <li>➤ Suggested OHP manufacturers for providing an extra projection bulb mechanism in the OHP instead of only one bulb. The suggestion was accepted and implemented by the OHP manufacturers.</li> </ul>	1990-91
18.	<ul style="list-style-type: none"> <li>➤ Started professional broadcast level studio based video production on U-matic, High band &amp; Betacam and produced number of engineering content-based video programmes.</li> </ul>	1991-95
19.	<ul style="list-style-type: none"> <li>➤ UGC started broadcasting video programmes produced by NITTTR, Bhopal on Doordarshan Channel under Country Wide Classroom.</li> </ul>	1992-93

S. No.	Innovations/ Activity	Year
	<ul style="list-style-type: none"> <li>➤ Designed and developed photographic blowups using computer and still film camera.</li> <li>➤ Started developing multi-colour transparencies using colour printers.</li> <li>➤ Designed and developed 3D animations for video production.</li> <li>➤ During training programmes of Cement Industry personnel, recording of microteaching activity was started in two phases. We started doing first recording before giving any inputs and other recording after giving the content inputs to the trainees during the training programme. This was followed by feedback from peers as well as from the tutor/s.</li> <li>➤ Desktop publishing work was started for designing and developing various types of visuals and NITTTR publications using Apple computer.</li> </ul>	
20.	<ul style="list-style-type: none"> <li>➤ Started developing Industry based multiple media packages including Curriculum, Trainer's Text Book, Trainee's Workbook, Set of coloured 35 mm slides, set of coloured transparencies, CBT, Video Programmes etc. in different languages. About 4-5 packages were developed during this period for Indian Industries like Cement manufacturing Association, Indian Railways etc.</li> <li>➤ Various 2D and 3D animations were conceived and developed for CBT.</li> </ul>	1992-98
21.	<ul style="list-style-type: none"> <li>➤ Sound recorded the classical music programme of Golotsav Goswamy under Kumar Gandharva centenary at Manav Sangrahalaya as per the directives from GOI with our sound equipment.</li> </ul>	1993
22.	<ul style="list-style-type: none"> <li>➤ Sound recorded for the documentary on Urdu Sanskriti and Wild Life (The Tigers) for GOI.</li> </ul>	1994-95
23.	<ul style="list-style-type: none"> <li>➤ Researched for the computer based multimedia development technology from various places and developed our own computer based multimedia technology. Started computer based multimedia development.</li> </ul>	1996-2001
24.	<ul style="list-style-type: none"> <li>➤ Started developing and using Power Point Presentations with the help of multimedia projector during training programmes.</li> </ul>	1996-97
25.	<ul style="list-style-type: none"> <li>➤ Introduced the concept of Learning Resource utilization Centre and Learning Resource Development Centre in different Polytechnic institutes under Western Region. Project proposals were developed for LRUC establishment in the polytechnics of Bihar and Arunachal Pradesh. These were submitted to their respective higher authorities for approval and implementation.</li> </ul>	1998
26.	<ul style="list-style-type: none"> <li>➤ Started producing the video lecture series on technical subjects as directed by IGNOU for telecasting through Gyandarshan Channel.</li> </ul>	2000-04