HYDROLOGY PROJECT
Technical Assistance

HIS Surface Water Training Specifications

Contents

Introduction

This document provides an overview of training for staff involved in managing and operating a Hydrological Information System for surface water. The training courses presented here, were developed and implemented under the Hydrology Project (1996-2003). Selected courses may be required again in the near future, for refresher purposes and when new staff is posted in the various HIS functions.

The initiative to use training as human resource development or to further develop as specialised training provider may originate from different institutional levels. Some training can very well be managed as in-house affair. Other training is arranged at nearby local training institutes. For specialised training, with low enrolment volume, dedicated central training institutes play an important role in the water sector as a whole.

HIS training beneficiaries, managers and providers, would find this HIS training reference document a valuable tool in their work. It offers a quick start in the often tedious process to spell out personalised staff learning paths, define a particular course in detail, locate available resources, or prepare annual training plans for the department.

Courses are grouped in a logical arrangement, per instrument, software and HIS function and include information on the following aspects:
- Course title
- Target group
- Provider(s)
- Location (central, local)
- Duration
- Technical advisors involved in design and deliveries
- Objective
- Admission qualifications
- Equipment or software used
- Programme (suggested syllabus)

In addition to the training courses included, there are more training possibilities to improve the staff's job performance, for example:
- Topical workshops and seminars
- Postgraduate training in India and abroad
- Study tours in India and abroad

The contents of these training activities will vary a lot, as they depend on available resources and the interest of third parties to respond to HIS training needs. Examples of what postgraduate training and study tours could look like are available in separate HP catalogues:
Study tours in India, listing interesting example sites and data management offices
Catalogue on postgraduate training in India

New Delhi, February 2003

Training specifications

Surface Water Hydrometry - Data Collection

ToT - 1: training skills

Target group:	Candidate in-house trainers (S-8)
Provider during HP:	NWA (ex Central Training Unit of CWC)
Location:	Pune
Duration:	3 days for training skills + time required for selected technical topics, as per TNA
Remarks:	Requests for additional rounds expressed by various States and CWC.
Consultant:	S.Jagota / H. Wittenberg / V. Dharma Rao

Objective:	After this course, the participants are able to • develop and manage in-house training courses • effectively present, guide exercises and facilitate discussions • apply SW data collection practices
Admission qualifications:	• data collection experience • communicative personality, interest in training
Training methods:	Lectures, exercises, discussions
Equipment/software used:	All basic instruments in SW data collection
Provider after HP:	NWA –c/o–CWC, Pune
Contact person:	CE, NWA

Program

Day 1
    09.30   Registration & introduction on course objectives
    10.30   Discussion: Role of supervisor & observer in hydrometry
    11.30   Discussion: Types of data, checks required & records compiled
    14.00   Exercise: Compilation of field records

Day 2
    09.30   Discussion: Types of sites & site selection criteria
    10.30   Exercise: Practice site selection in field
    14.00   Exercise: Practice levelling survey at site

Day 3
    09.30   Discussion: Demarcating discharge sites
    10.30   Exercise: Practice demarcation of discharge sites in the field
    14.00   Lecture: Types of current meters
    14.30   Demonstration: Steps of operation & maintenance
    15.30   Exercise: Practice operational & maintenance steps of current meter

Day 4
    09.30   Lecture: Procedure to measure water depth & stage
    10.00   Demonstration & exercise: Steps to measure water depth & stage
    14.00   Demonstration & exercise: Steps to measure velocity by floats
    16.00   Demonstration & exercise: Steps to measure velocity by wadding

Day 5
    09.30   Demonstration & exercise: Steps to measure velocity by boat
    12.00   Demonstration & exercise: Maintenance of boat & allied equipment
    14.00   Demonstration & exercise: Steps to measure velocity at a bridge site

Day 6
    09.30   Demonstration & exercise: Computing discharge values from velocity
    14.00   Demonstration & exercise: Plotting stage discharge relation graph

Day 7
    09.30   Demonstration & exercise: Maintenance of gauging site
    11.00   Demonstration & exercise: Installation & maintenance of staff gauge

Day 8
    09.30   Discussion: Training needs & organisation development
    10.00   Exercise: Training needs analysis of an organisation
    10.30   Lecture: Matching training demand with supply
    11.00   Discussion: Training development cycle step by step
    14.00   Discussion: Training management areas
    14.30   Exercise: Define trainers' role in training development & management
    15.00   Lecture: Overview of communication skills in training
    15.30   Exercise: self assessment
    15.45   Exercise & tips: presentation skills
    17.15   Feedback: video playback of days recording

Day 9
    09.30   Icebreaker
    09.45   Lecture: Elements of skills training
    10.00   Exercise and tips: skills training
    14.00   Lecture: Discussion techniques overview
    14.15   Exercises & tips: open (inventory) discussions
    16.00   Exercises & tips: focused (questioning) discussions
    17.00   Feedback: video playback of days recording

Day 10
    09.30   Icebreaker
    10.00   Exercise: participants prepare for a mini course, using all methods
    14.00   Exercise: participants run a mini course
    16.00   Evaluation & valedictory

ToT - 2: Training management

Target group: Active SW, GW, WQ in-house trainers

Provider during HP: Consultant in co-operation with TC

Location: In States and at CTU (for CWC)

Duration: Three days for new trainers. Subsequent rounds would take one day or shorter.

Remarks: First round focused on overall HP training plan.

Consultant: S.Jagota / R. L Qazi / H. Wittenberg

Objective: After this course, the participants are able to solve current problems in training development, management and communication skills

Admission qualifications: Earlier HP training practice

Training methods: Workshop style refresher training and planning sessions

Equipment/software used: N.A.

Provider after HP: First round by Consultant. Subsequent regular training management meetings by Training Co-ordinator.

Program

Day 1   09.30   Overview & objective
               10.00   Personal introductions and open inventory of current issues
               11.00   Discussion of current issues
               14.00   Refresher training: text analysis and skills training
               17.00   Summary & tips.

Day 2   09.30   Icebreaker
               10.00   Lecture: Staffing plan = training volume
               10.30   Demonstration: example staffing plan
               11.00   Exercise: Tabulation & calculation of organisation's training volume

Day 3   09.30   Icebreaker
               10.30   Introduction to training planning principles
               11.00   Example training plan & calendar
               11.30   Exercise: Prepare training plan & calendar of the organisation
               14.00   Discussion: Implementation of training plan
               15.00   Lecture: Training information & administration in the HP
               17.00   Evaluation

Hydrometry for Helpers / Khalasi

Target group:	Helpers / Khalasi (S-1)
Provider during HP:	In-house trainers
Location:	Sub-divisions, local institutes and sites
Duration:	2 days
Remarks:	
Consultant:	V. Dharma Rao

Objective:	After this course, the participants are able to •
Admission qualifications:	•
Training methods:	Lectures, exercises, discussions
Equipment/software used:	Training aids
Provider after HP:	In-house or at local training institute

Program

Day 1	09.30	Registration, introduction on course objectives
	10.30	Discussion: Role of supervisor & observer in hydrometry
	11.30	Discussion: Types of data, checks required & records compiled
	14.00	Exercise: Safety of field records
Day 2	09.30	Demonstration & exercise: Maintenance of gauging site
	11.00	Demonstration & exercise: Installation & maintenance of staff gauge
	14.00	Demonstration & exercise: Maintenance of boat & related equipment
Day 3	09.30	Demonstration & exercise: Steps to measure velocity by floats
	11.30	Demonstration & exercise: Steps to measure velocity by wading
	16.00	Evaluation & valedictory

Hydrometry for Gauge Readers / Observers

Target group:	Observers / Gauge readers (S-2)
Provider during HP:	In-house trainers and local institutes
Location:	Sub-divisions, local institutes and sites
Duration:	5 –10 days, as per TNA
Consultant:	V. Dharma Rao

Objective:	After this course, the participants are able to

Admission qualifications:

Training methods:	Lectures, exercises, discussions
Equipment/software used:	Training aids

Program

Day 1
1. Registration, inauguration & introductory lecture on course objectives
2. Discussion: Role of supervisor & observer in hydrometry
3. Discussion: Types of data, checks required & records compiled
4. Exercise: Compilation of field records

Day 2
1. Discussion: Types of sites & site selection criteria
2. Exercise: Practice site selection in field
3. Exercise: Practice levelling survey at site

Day 3
1. Discussion: Demarcating discharge sites
2. Exercise: Practice demarcation of discharge sites in the field
3. Lecture: Types of current meters
4. Demonstration: Steps of operation & maintenance of current meters
5. Exercise: Practice operational & maintenance steps of current meter

Day 4
1. Discussion: Maintenance of gauging site
2. Discussion: Installation & maintenance of staff gauge
3. Lecture: Procedure to measure water depth & stage
4. Demonstration & exercise: Steps to measure water depth & stage
5. Demonstration & exercise: Steps to measure velocity by floats
6. Demonstration & exercise: Steps to measure velocity by wading

Day 5
1. Demonstration & exercise: Steps to measure velocity by boat
2. Demonstration & exercise: Steps to measure velocity at a bridge site
3. Discussion: Maintenance of boat & allied equipment
4. Evaluation & valedictory

Hydrometry for Supervisors / Heads of Station

Target group:	Supervisors / Head of Station (S-3)
Provider during HP:	In-house trainers
Location:	Sub-divisions, local institutes and sites
Duration:	7 - 15 days, as per TNA
Consultant:	V. Dharma Rao

Objective:	After this course, the participants are able to •
Admission qualifications:	•
Training methods:	Lectures, exercises, discussions
Equipment/software used:	Training aids
Provider after HP:	In-house or at local hosting training institute

Program

Day 1	1	Registration, & introduction on course objectives
	2	Discussion: Role of supervisor & observer in hydrometry
	3	Discussion: Types of data, checks required & records compiled
	4	Exercise: Compilation of field records
Day 2	1	Discussion: Types of sites & site selection criteria
	2	Exercise: Practice site selection in field
	3	Discussion: Demarcating discharge site
	4	Exercise: Practice demarcation of discharge sites in the field
Day 3	1	Lecture: Types of current meters
	2	Demonstration: Steps of operation & maintenance
	3	Exercise: Practice operational & maintenance steps of current meter
	4	Lecture: Procedure to measure water depth & stage
	5	Demonstration & exercise: Steps to measure water depth & stage
Day 4	1	Lecture: Current meter measurement at bridge site & by boat
	2	Demonstration & exercise: Steps to measure velocity by boat
	3	Demonstration & exercise: Maintenance of boat & related equipment
	4	Demonstration & exercise: Steps to measure velocity at a bridge site
Day 5	1	Demonstration & exercises: Computing discharge values from velocity
	2	Demonstration & exercises: Plotting stage discharge relation graph
Day 6	1	Discussion: Maintenance of gauging site
	2	Discussion: Installation & maintenance of staff gauge
	3	Evaluation

ToT-3: A/DWLR, BOCW and sediment sampling

Target group:	Selected in-house trainers of ToT-1 (S-8)
Provider during HP:	CW&PRS
Location:	Kharakwasla, Pune and sites
Duration:	10 days
Consultant:	V. Dharma Rao / B.Blok

Objective:	After this course, the participants are able to train observers on the operation and maintenance of DWLRs and bank operated cable ways, and carry out sediment sampling.
Admission qualifications:	Active as recognised in-house trainer (ToT-1)
Training methods:	Lectures, exercises, discussions
Equipment/software used:	
Provider after HP:	CW&PRS
Contact person:	DIRECTOR, CW & PRS

Program

Day 1	1	Introduction & course objectives
	2	Lecture: Water level measurement & types of instrumentation
	3	Discussion: Elements of DWLR (sensors, data logger, enclosure, cable, DRS)
	4	Discussion: Data logger (Micro processor, clock, digitiser, memory, software)

Day 2	1	Lecture: DWLR accuracy (linearity, hysteresis, accuracy, resolution etc)
	2	Lecture: DWLR pressure sensor (mode of use, accuracy, calibration etc)
	3	Lecture: DWLR bubbler (mode of use, accuracy, calibration, maintenance etc)
	4	Lecture: DWLR shaft encoder (mode of use, accuracy, calibration etc.)
	5	Lecture: DWLR electromechanical
	6	DWLR demonstrations
	7	Exercises: participants practice useage, calibration & maintenance

Day 3	1	Demonstration: DWLR data logger (program, digitisation, clock, memory, etc.)
	2	Exercise: participants practice handling of data logger
	3	Lecture: DWLR additional aspects (cable, air pressure, civil works, connectors, enclosure, water proofing, submerged segment, above water, temperature, humidity, shock, vibration)
	4	Demonstration: at DWLR installation
	5	Demonstration: DWLR DRS (preparation, monitoring, data retrieval, graphics, tables, present value)
	6	Exercise: Participants practice on DRS

Day 4	1	Demonstration: DWLR Software (data exchange with DRS, user interface, data conversion, data export, data presentation, graphics of time series, scaling, axes, display of tables)
	2	Exercise: Participants practice on the software
	3	Demonstration: DWLR data (processing, storage, levelling, zero test, functional test, accuracy test, documentation, glossary)
	4	Exercise: Participants practice with example data

Day 5	1	Hydrometry with bank operated cable ways
	2	
	3	

Day 6	1	Hydrometry with bank operated cable ways
	2	
	3	

Day 7	1	Hydrometry with bank operated cable ways
	2	
	3	

Day 8	1	Hydrometry with bank operated cable ways
	2	
	3	

Day 9	1	Sediment sampling
	2	
	3	

Day 10	1	Sediment sampling
	2	
	3	
	4	Course evaluation & valedictory

A/DWLR installation, introduction and trouble shooting

Target group: Selected Observers, Supervisors A.E.'s and Equipment Managers (S-2, S-3, S-7)

Provider during HP: Suppliers

Location: Sub-divisions and sites

Duration: 2 days

Remarks:

Consultant: B.Blok

Objective: After this course, the participants are able to
-

Admission qualifications:
-

Training methods: Lectures, exercises, discussions

Equipment/software used:

Program

Day 1   Understanding differences between conventional and DWLR assisted water level monitoring

Introduce the DWLR function

Technical specification for DWLR

Display and explain the DWLR components and specifications
-   -Pressure sensor
-   -Datalogger
-   -Batteries
-   -Data retrieval device

Explain the various Manuals and Guidelines

Acceptance Tests programme
-   Demonstrate the Functionality Tests
-   -Visual Inspection
-   -User tests
-   Demonstrate the Accuracy Tests
-   -Accuracy tests on clock
-   -Accuracy tests on pressure measurement
-   Demonstrate the pressure sensor tests:
-   -Zero stability test
-   -Scale test
-   -Scale stability test
-   Demonstrate the overall DWLR performance test
-   -Autonomy
-   -Fitness for environment
-   -Functionality
-   -Calibration
-   -Stability
-   -Reproducibility
-   -Back up power
-   -clock accuracy, zero stability test

Day 2   Demonstrate Field Test execution

Demonstrating the Interpretation of test results

Demonstrate and practice installation procedure
-   -Inspection
-   -Installation requirements
-   -Step by step practice of installation procedure
-   -Logging control
-   -Viewing and retrieval of data
-   -data handling
-   -interpretation of data

Day 3   Demonstrate tests carried out during routine downloading of data

Demonstrate and practice maintenance procedure
-   -cleaning of sensor
-   -protection of DWLR housing unit
-   -changing the Battery
-   -trouble shooting & frequently asked questions

A/DWLR operations and maintenance

Target group:	Selected Observers (S-2) and Heads of Station (S-3), AE's, Equipment Manager
Provider during HP:	In-house trainers, as trained at CW&PRS
Location:	Sub-divisions and sites
Duration:	3 days
Consultant:	V. Dharma Rao / B.Blok

Objective:	After this course, the participants are able to •
Admission qualifications:	•
Training methods:	Lectures, exercises, discussions
Equipment/software used:	

Program

Day 1	1	Introduction & course objectives
	2	Lecture: Water level measurement & types of instrumentation
	3	Discussion: Elements of DWLR (sensors, data logger, enclosure, cable, DRS)
	4	Discussion: Data logger (Micro processor, clock, digitiser, memory, software, batteries)
	5	Demonstration: at DWLR installation
	6	Demonstration: DWLR pressure sensor bubbler, shaft encoder & electromechanical calibration & maintenance
Day 2	1	Lecture: DWLR accuracy (linearity, hysteresis, accuracy, resolution, repeatability, stability, noise)
	2	Lecture: DWLR pressure sensor, bubbler & shaft encoder (principle, mode of use, accuracy, calibration, maintenance, pro's & con's)
	3	Lecture: DWLR electromechanical (principle, mode of use, accuracy, calibration, maintenance, pro's & con's)
	4	Exercise: Participants practice calibration & maintenance
	5	Demonstration: DWLR data logger (program, digitisation, clock, memory, power)
	6	Exercise: Participants practice handling of data logger
Day 3	1	Lecture: DWLR additional aspects (cable, air pressure, civil works, connectors, enclosure, water proofing, submerged segment, above water, temperature, humidity, shock, vibration)
	2	Demonstration: DWLR DRS (preparation, monitoring, data retrieval, graphics, tables, present value)
	3	Exercise: Participants practice on DRS
	4	Demonstration: DWLR Software (data exchange with DRS, user interface, data conversion, data export, data presentation, graphics of time series, scaling, axes, display of tables)
	5	Exercise: Participants practice on the software
	6	Demonstration: DWLR data (processing, storage, levelling, zero test, functional test, accuracy test, documentation, glossary)
	7	Exercise: Participants practice with example data
	8	Evaluation & valedictory.

BOCW introduction and trouble shooting

Target group: Selected Observers (S-2), Supervisors (S-3), AE's, and
                           Equipment Managers (S-7)

Provider during HP: Supplier

Location: Sub-divisions and sites

Duration: 3 days

Remarks:

Consultant: B.Blok

Objective: After this course, the participants are able to
                           •

Admission qualifications: •

Training methods: Lectures, exercises, discussions

Equipment/software used:

Provider after HP:

Contact person:

Program

Day 1   1
                    2
                    3
                    4

Day 2   1
                    2
                    3
                    4

BOCW operations and maintenance

Target group:	Selected Observers (S-2) and Heads of Station (S-3)
Provider during HP:	In-house trainers, as trained at CW&PRS
Location:	Sub-divisions and sites
Duration:	3 days
Remarks:	
Consultant:	V. Dharma Rao / B.Blok

Objective:	After this course, the participants are able to •
Admission qualifications:	•
Training methods:	Lectures, exercises, discussions
Equipment/software used:	
Course fee:	Per person Rs. (incl. daily transport, fields trips, equipment use, handouts, snacks, lunches)
Board & lodging:	Per person per night Rs. (at institute's facilities, including breakfast and dinner) Or: Arranged by participants
Provider after HP:	
Contact person:	

Program

Day 1   1
2
3
4

Day 2   1
2
3
4

Day 3   1
2
3
4

ToT: Refresher - introduction of O&M procedures

Target group:	In-house trainers, trained at NWA
Provider during HP:	NWA faculty and Consultants
Location:	NWA Pune
Duration:	10 days
Remarks:	
Consultant:	R L Qazi / H Chowdhary

Objective: After this course, the participants are able to
- conduct in-house training
- ensure continuity of data collection as a HIS activity

Admission qualifications:
-

Training methods: Lectures, exercises, discussions

Equipment/software used:

Provider after HP:

Contact person:

Program

Day 1   1 Registration / Inauguration
2 Introduction to Hydrological Information System (HIS)
3 Principles of optimisation of Network including site selection
4 O & M of River Gauging Stations

Day 2   1 DWLR's – installation, O & M procedures, including demonstration
2 DWLR's – Collection, retrieval, organisation & transfer of data
3 Sediment sampling
4 Inspection procedure for Meteorological Stations

Day 3   1 O & M of Meteorological Stations including routine maintenance
2 Maintenance norms for RG & Meteorological
3 Validation Procedure of IMD – Hydrometeorology
4 Bank Operated Cable-way System operations

Day 4   1 WQ Sampling and Analysis
2 Maintenance norms for WQ labs and equipment
3 Visit to WQ Lab level II

Day 5   1 Field inspection & Audits, reporting formats
2 Primary and secondary validations
3 Checking of field data and validation
4 Data organisation & management

Day 6   1 Protocol & HDUG – concept, ToR, Uses etc.
2 Visit to IMD, Pune
3 Visit to IMD, Pune

Day 7   Field Visit – Hydrometry, HIS data collection site

Day 8   Field Visit – Hydrometry, HIS data collection site

Day 9   Field Visit – Hydrometry, HIS data collection site

Day 10   1 Discussion
2 Evaluation and feedback

Introduction to O&M procedures

Target group:	Section / Sub Div and Divisional staff
Provider during HP:	In-house Trainers
Location:	In-house Divisional offices
Duration:	4-5 Days
Remarks:	
Consultant:	R L Qazi / H Chowdhary

Objective:	After this course, the participants are able to
	• Carry out operation and maintenance of site equipment and data collection works as per SW Manual.
Admission qualifications:	•
Training methods:	Lectures, exercises, discussions
Equipment/software used:	
Provider after HP:	
Contact person:	

Program

Day 1	1 Registration / Inauguration
	2 Introduction to Hydrological Information System (HIS)
	3 Principles Network planning including site selection
	4 O & M of River Gauging Stations
Day 2	1 DWLR's – installation, O & M procedures, including demonstration
	2 DWLR's – Collection, retrieval, organisation & transfer of data
	3 Sediment sampling
Day 3	1 O & M of Meteorological Stations including routine maintenance
	2 Maintenance norms for RG & Meteorological stations
	3 Bank Operated Cable-way System operations
Day 4	1 WQ Sampling and Analysis
	2 Maintenance norms for WQ Level I labs and equipment
	3 Field inspection & Audits, reporting formats
	4 Protocols in HIS
Day 5	1 Visit and demo at meteorological station (FCS)
	2 Visit and demo at RG site
	3 Discussions & Evaluation

Training specifications

Surface Water Hydrometry Data Collection Special Operations

Acoustic Doppler Current Profiler: introduction

Target group:	Research institute Staff
Provider during HP:	Suppliers
Location:	Local
Duration:	10 days
Remarks:	
Consultant:	B.Blok

Objective:	After this course, the participants are able to • handle the equipment • understand the test / calibration requirements
Admission qualifications:	•
Training methods:	Exercises, discussions
Equipment/software used:	ADCP
Provider after HP:	
Contact person:	

Program

Session 1	Introduction	
	ADP Components, Terminology, and sampling – naming conventions and terms used and a general description of ADP sampling strategies.	
Session 2	Getting Started	
	General instructions for collecting data with ADP	
Session 3	Command Interface with ADP	
	Communication with ADP, command format, options and output data format	
Session 4	Compass / Tilt Sensor operation	
	Procedures	
Session 5	ADP Hardware	
	Description of ADP electronics, cables, connectors, internal jumper/switch, instructions for accessing system components	
Session 6	Operational Considerations	
	Procedures, maintenance and troubleshooting	
Session 7	Autonomous deployment	
	Instructions	
Session 8	ADP optional features	
	Descriptions	
Session 9	Discussion -	
	Technical and operational limitations	
Session 10	Course evaluation	

Acoustic Doppler Current Profiler: operations

Target group:	Designated research institutes
Provider during HP:	Suppliers
Location:	Local
Duration:	07 days
Remarks:	
Consultant:	B.Blok

Objective:	After this course, the participants are able to • handle the equipment • understand the test / calibration requirements
Admission qualifications:	•
Training methods:	Exercises, discussions
Equipment/software used:	ADCP
Provider after HP:	
Contact person:	

Program

Day 1   1   Introduction & System Overview
                  2   Principles of operation
                            Basic Doppler measurement theory
                            Beam Geometry and orientation
                            Depth Cell spacing
                            Instrument Co-ordinate System & Calibration
                            Side-Lobe Interference
                  3   River Surveyor ADP – specification and features with a case study

Day 2   1   Hydrological application – using ADCP
                  2   Hydrological application – graphical plots

Day 3   1   Field Demonstration
                  2   ADCP Equipment set-up
                  3   Hands-on field training on ADCP equipment

Day 4   1   Hands-on field training on ADCP equipment continued

Day 5   1   River Surveyor ADCP software – data acquisition / programming
                  2   River Surveyor ADCP software – data analysis / playback

Day 6   1   Hands-on training on data review and post processing of field data
                  2   Discussion on test results, technical & operational limitations of ADCP

Day 7   1   Introduction to River Surveyor ADCP optional configurations
                  2   Evaluation

Bathymetric survey: operations & equipment trouble shooting

Target group: Designated research institutes

Provider during HP: Supplier

Location: States of Madhya Pradesh and Tamil Nadu

Duration: 2-3 days

Remarks:

Consultant: R K Vishwanath / B.Blok

Objective: After this course, the participants are able to
- handle the equipment
- troubleshoot minor problems
- detect and communicate type of problem to vendor

Admission qualifications:
-

Training methods: lectures, demonstrations, exercises, discussions

Equipment/software used: IBS equipment & boat

Provider after HP:

Contact person:

Program

Day 1 09:00 – 10:00 Hrs. Registration
10:00 – 10:10 Hrs. Introduction to IBS
10:10 – 10:30 Hrs. Development of IBS under Hydrology Project
10:30 – 11:00 Hrs. Bathymetric Survey – A Modern Approach
11:00 – 11:45 Hrs. Quality Assurance
11:45 – 12:00 Hrs. Tea/Coffee break
12:00 – 12:30 Hrs. Features of IBS Software
12:30 – 13:30 Hrs. Case Study Sedimentation survey of Gangapur Reservoir
13:30 – 14:30 Hrs. Lunch Break
14:30 – 15:30 Hrs. DGPS in hydrographic survey
15:30 – 15:45 Hrs. Tea/coffee break
15:45 – 16:45 Hrs. Transportation, launching and retrieval of survey boat
16:45 – 17:00 Hrs. Open discussion and conclusions

Day 2 09:30 – 13:30 Hrs. Explanation of IBS equipment and demonstration of survey in water
body (lake etc.)
13:30 – 14:30 Hrs. Lunch hour
14:30 – 16:30 Hrs. Demo of launching and retrieval of survey boat
16:30 – 17:00 Hrs. Open discussion and conclusion

Training specifications
Surface Water Hydrometeorology Data Collection

Data collection at rainfall stations

Target group:	Observers at rainfall stations (selected S-2 and M-1)
Provider during HP:	Local IMD office
Location:	Local IMD office, institutes and sites. Gujarat observers go to Pune. Arrangements for local training pursued.
Duration:	Certified IMD courses 5 days
Remarks:	
Consultant:	None

Objective:	After this course, the participants are able to •
Admission qualifications:	•
Training methods:	Lectures, exercises, discussions
Equipment/software used:	
Provider after HP:	Local IMD office

Program

Day 1
1
2
3
4

Day 2
1
2
3
4

Data collection at full climatic stations

Target group:	Supervisors at full climatic stations (selected S-3 and M-2)
Provider during HP:	IMD
Location:	Pune
Duration:	3 - 4 weeks for certified courses at IMD
Remarks:	
Consultant:	None

Objective:	After this course, the participants are able to
	•
Admission qualifications:	•
Training methods:	Lectures, exercises, discussions
Equipment/software used:	
Provider after HP:	
Contact person:	

Program

Day 1   1
2
3
4

Day 2   1
2
3
4

Day 3   1
2
3
4

Training specifications

Surface Water Hydrometry Data Entry and Processing

ToT – 4: SW data entry

Target group:	Selected data entry staff (S-5, S-10), NIH and NWA faculty
Provider during HP:	Consultant
Location:	NWA - Pune
Duration:	4 - 5 days
Remarks:	Delivery upon finalisation and full de-bugging of SWDES.
Consultant:	H. Chowdhary

Objective:	After this course, the NIH and CTU faculty and state trainers are in the position to implement future ToTs and conduct direct staff training in SWDES.
Admission qualifications:	•
Training methods:	Lectures, exercises, discussions
Equipment/software used:	SWDES software
Provider after HP: **Contact persons:**	

Program
Day 1

1   Objectives of SWDES courses & experiences with SWDES   60 min
- Objectives of SWDES training courses
  - Phase I of SWDES courses
  - SWDES coverage in Basic HYMOS courses
  - Proposed Phase II of SWDES courses
  - ToT on SWDES & its objectives
- Participants experiences with SWDES - Introduction
  - Does SWDES match the expectations of the users?
  - What is good about it?
  - What are practical difficulties with SWDES
  - What further improvements can be made to it?
  - Is SWDES training effective in its present form?
    - Split in 3 Groups, choose leader
    - Discuss and compile the answers to the five questions
    - Present the views of the groups individually
- Draw & present common ideas

2   Overview of latest SWDES   60 min
- Station categorisation
- X-section data
- Consolidation & fragmentation
- Climatic and water level forms – Graphs
- Flow measurement – Add buttons
- Data validation

        Lunch Break 60 min

3   Contents of SWDES training & its delivery   60 min
- SWDES training course contents
- SWDES training program
- SWDES training equipment & procedure
- SWDES training tips
- Participants' views on contents & delivery - Introduction
  - Course contents
  - What must be SWDES course duration
  - More tips on training
  - SWDES group tasks
    - Split in 3 Groups & choose leader
    - Discuss and compile the answers to the four questions
    - Present the views of the groups individually
    - Draw & present new ideas

4   Static/semi-static information   60 min
- Tips for options on station, series, CM, RL of gauge zero, X-section
- Hands-on-practice
- Discussions

5   Master Information   60 min
- Tips for options on master information
- Hands on practice
- Discussions

Day 2

1   Rainfall   60 min
- Tips for options on rainfall
- Hands on practice
- Discussions

2   Climatic data   60 min
- Tips for options on rainfall
- Hands on practice
- Discussions

3   Water level & stage-discharge data   60 min
- Tips for options on rainfall
- Hands on practice
- Discussions

        Lunch Break 60 min

4   Primary validation   60 min
- Demo of new validation options
- Hands-on-practice
- Discussions

5   Export of data to secondary module   60 min
- Demo of new export options
- Hands-on-practice
- Demo of new import options
- Discussions

6	Consolidation, fragmentation & version upgradation	60 min
	▪ Demo of consolidation & fragmentation	
	▪ Hands-on-practice	
	▪ Demo of version upgradation	
	▪ Hands-on-practice	

Day 3

1	Backup and data compression	60 min
	• Guidelines for backup SWDES data	
	• Demo of data compression	
	• Hands-on-practice	
2	SWDES installation	60 min
	• Important points for SWDES instalation	
	• Run-time and Non run-time version	
	• Hands-on-practice	
	• Discussions	
	Lunch Break	60 min

Communication skills sessions

1	Introductions-1	30 min
2	The need for training	10 min
3	Change through training: Old lady – Young lady	15 min
4	Getting started with training development: *who takes the lead*?	05 min
	Lunch Break	60 min
5	The training development cycle	15 min
6	Cycle highlights: *Training objectives*	10 min
7	Cycle highlights: *evaluation by trainers (curriculum development checklist)*	10 min
8	Introduction-2	10 min
9	Exercise: *self assessment - 1*	20 min
10	Guided exercises (round 1)	20 min
11	Guided exercises (round 2)	20 min
	Tea Break	15 min
12	Main (6) elements of presentation skills	20 min
13	Guided exercises (round3)	20 min
14	Video review	30 min

Day 4

1	Icebreaker - *Buzz game*	15 min
2	Exercise: *visual aids* (round 4)	60 min
3	Main (6) elements of presentation skills	20 min
4	Introduction-3	10 min
5	Exercise: how to process new information in a training (text analysis)	60 min
6	Guided exercises (round 1)	30 min
	Lunch Break	60 min
7	Tips: skills training	05 min
8	Demonstration: skills training	15 min
9	Guided exercises (round 2)	30 min
10	Guided exercises (round 3)	60 min
	Tea Break	15 min
11	More tips: skills training	10 min
12	Guided exercises (round 4)	20 min
13	Video review	60 min

Day 5

1	Icebreaker - *Volley ball*	20 min
2	Exercise: *self assessment*	30 min
3	Introduction *Inventory method*	10 min
4	Guided exercises (round 1)	20 min
	Tea Break	15 min
5	Guided exercises (round 2)	30 min
6	Tips	15 min
7	Conclusions	15 min
8	Exercise: training method v/s objective	20 min
9	Management areas	30 min
10	Announcement: *Finale for everything learned*	10 min
	Lunch Break	60 min
11	Exercise: *Finale for everything learned*	120 min
	Tea Break	15 min
12	Evaluation: *Formal & questionnaire based*	45 min

SW data entry

Target group:	Data entry operators (S-4) and candidate in-house trainers
Provider during HP:	In-house trainers & Consultant
Location:	In-office
Duration:	5 days
Remarks:	
Consultant:	H. Chowdhary

Objective:	After this course the participants are in the position to operate the SWDES.
Admission qualifications:	Familiarity with MS Windows and basic computer operations
Training methods:	Lectures, exercises, discussions
Equipment/software used:	

Program

Day 1
    09.30   Registration and inauguration
    10.30   Lecture: HIS concept, SW data processing plan
    12.00   Demo: Overview of SWDES
    14.00   Exercise: Setting up SWDES Work-areas
    15.30   Exercise: Entry of station characteristics
    16.30   Exercise: Entry of series characteristics

Day 2
    09.30   Exercise: Entry & validation of rainfall data (I)
    10.30   Exercise: Entry & validation of rainfall data (II)
    12.00   Exercise: Entry & validation of rainfall data (III)
    14.00   Exercise: Entry of Semi-static data (I)
    15.30   Discuss: Questions & doubts
    16.30   Exercise: Entry & validation of water level data (I)

Day 3
    09.30   Exercise: Entry & validation of water level data (II)
    10.30   Exercise: Entry of Semi-static data (II)
    12.00   Exercise: Entry & validation of Flow Measurement data (I)
    14.00   Exercise: Entry & validation of Flow Measurement data (II)
    15.30   Discuss: Questions & doubts
    16.30   Exercise: Entry & validation of Flow Measurement data (III)

Day 4
    09.30   Exercise: Entry & validation of Summary Stage-discharge Data
    10.30   Exercise: Entry & validation of Sediment-discharge Data
    12.00   Exercise: Entry & validation of Climatic Data (I)
    14.00   Discuss: Questions & doubts
    15.30   Visit to local data centre

Day 5
    09.30   Exercise: Entry & validation of Climatic Data (II)
    10.30   Exercise: Entry & validation of Climatic Data (III)
    12.00   Exercise: Entry of master information
    14.00   Exercise: User profile
    15.30   Exercise: Data transfer
    16.30   Discuss: Questions & doubts

Day 6
    09.30   Lecture: Database concepts
    10.30   Lecture: SWDES database structure
    12.00   Exercise: Installation of SWDES
    14.00   Exercise: Back-up procedures
    15.30   Discuss: Questions & doubts
    16.30   Evaluation & valedictory

This program is used by the Consultant and is valid for a formal and centralised training set-up. When this course is delivered in-house, the same topics would be covered but probably spread over a few calendar weeks.

Target group:	NIH / NWA / CWPRS faculty and selected data processing staff from states and CWC
Provider during HP:	Consultant
Location:	Roorkee
Duration:	
Remarks:	
Consultant:	H. Chowdhary

Objective:	After this course, the participants are able to
	• Conduct training for the state agency staff
	• Perform the help desk task
Admission qualifications:	•
Training methods:	Lectures, exercises, discussions
Equipment/software used:	PC's (one per participant) with HYMOS installed
Provider after HP:	NIH / NWA / CWPRS faculty
Contact person:	CE, NWA

Program

Day 1
1 Registration & inauguration
2 HIS Concepts & SW Data Processing Plan
3 Overview of HYMOS & SWDES
4 Working with HYMOS
5 Defining Stations
6 Defining Data Series

Day 2
1 Working with SWDES
2 Entry of Rainfall Data
3 Primary Validation of Rainfall Data
4 Secondary Validation of Rainfall Data
5 Discussion
6 Correction and Completion of Rainfall Data

Day 3
1 Defining catchments and using Map Layers
2 Compilation of Rainfall Data (I)
3 Compilation of Rainfall Data (II)
4 Analysis of Rainfall Data
5 Reporting on Rainfall Data
6 Discussions

Day 4
1 Entry of Climatic Data
2 Primary Validation of Climatic Data
3 Secondary Validation of Climatic Data
4 Correction/completion of Climatic Data
5 Visit to local data center

Day 5
1 Analysis of Climatic Data
2 Reporting on Climatic Data
3 Discussions
4 Entry of Water Level Data
5 Primary Validation of Water Level Data
6 Secondary Validation of Water Level Data (I)

Day 6
1 Secondary Validation of Water Level Data (II)
2 Correction and Completion of Water Level Data
3 Discussions
4 Entry of Flow Measurement Data (I)
5 Entry of Flow Measurement Data (II)
6 Discussions

Day 7
1 Primary Validation of Flow Measurement Data
2 Establishing Stage-discharge Rating Curve (I)
3 Establishing Stage-discharge Rating Curve (II)
4 Establishing Stage-discharge Rating Curve (III)
5 Discussion
6 Establishing Stage-discharge Rating Curve (IV)

Day 8
1 Establishing Stage-discharge Rating Curve (V)
2 Establishing Stage-discharge Rating Curve (VI)
3 Discussions
4 Establishing Stage-discharge Rating Curve (VII)
5 Local visit

Day 9
1 Validation of Rating Curve
2 Extrapolation of Rating Curve (I)
3 Extrapolation of Rating Curve (II)
4 Secondary validation of Stage-discharge Data
5 Discussions
6 Computation of Discharge Data

Day 10	1	Secondary Validation of Discharge Data
	2	Compilation of Discharge Data
	3	Analysis of Discharge Data
	4	Reporting on Discharge Data
	5	Discussions
	6	Organisation of Temporary Databases
Day 11	1	Installation of HYMOS
	2	Organisation of HYMOS Program Files (I)
	3	Database Concepts
	4	Organisation of HYMOS Database Files (II)
	5	Backup Procedures
	6	Discussions
Day 12	1	Generation of Map Layers
	2	Organising Data Processing Work
	3	Raw and Processed Data Sets
	4	Import of SWDES Data
	5	Import of ASCII Data
	6	Transfer of Data Between Two Centres

One day Training course development
How to produce training modules

How to manage training
Plan your own training delivery

Two days Guided exercises in presentation skills
Guided exercises in practices sessions
Guided exercises in discussion techniques
Application exercise: running your own training programme
ToT Course evaluation

One/two months Post-training assignment – 1: Software familiarization
Post-training assignment – 2: Module production
Post-training assignment – 3: Detailed HYMOS training preparations
Post-training assignment – 4: Participation in HP coaching programme

ToT program (part 1): basic HYMOS and training skills
NOTE: Lectures notes will be provided as reader for the participants, one month prior to the start of the course. Having studied this reader would reduce the time spent on lecturing. Instead, shorter questions & answer and discussion sessions will be held, to confirm whether participants have absorbed what they studied. The following daily schedule has as yet to be worked out.

Basic SW data processing with HYMOS-4

Target group:	Data processing staff and managers: Assistant Hydrologists in Sub-divisions and Divisions (S-5), State Sub-division Manager (S-6), State Division Manager (S-9), Hydrologists (S-10), State DPC manager (S-11)
Provider during HP:	HYMOS trainers team
Location:	NWA, Pune and NIH Roorkee
Duration:	10 days
Remarks:	
Consultant:	H. Chowdhary

Objective:	After this course, the participants are able to • operate the HYMOS software for processing HIS data
Admission qualifications:	•
Training methods:	Lectures, exercises, discussions
Equipment/software used:	
Provider after HP:	HYMOS trainers team
Contact person:	CE NWA, Pune

Program

Day 1	1	Registration & inauguration
	2	HIS Concepts & SW Data Processing Plan
	3	Overview of HYMOS & SWDES
	4	Working with HYMOS
	5	Defining Stations
	6	Defining Data Series
Day 2	1	Working with SWDES
	2	Entry of Rainfall Data
	3	Primary Validation of Rainfall Data
	4	Secondary Validation of Rainfall Data
	5	Discussion
	6	Correction and Completion of Rainfall Data
Day 3	1	Defining catchments and using Map Layers
	2	Compilation of Rainfall Data (I)
	3	Compilation of Rainfall Data (II)
	4	Analysis of Rainfall Data
	5	Reporting on Rainfall Data
	6	Discussions
Day 4	1	Entry of Climatic Data
	2	Primary Validation of Climatic Data
	3	Secondary Validation of Climatic Data
	4	Correction/completion of Climatic Data
	5	Visit to local data center
Day 5	1	Analysis of Climatic Data
	2	Reporting on Climatic Data
	3	Discussions
	4	Entry of Water Level Data
	5	Primary Validation of Water Level Data
	6	Secondary Validation of Water Level Data (I)
Day 6	1	Secondary Validation of Water Level Data (II)
	2	Correction and Completion of Water Level Data
	3	Discussions
	4	Entry of Flow Measurement Data (I)
	5	Entry of Flow Measurement Data (II)
	6	Discussions
Day 7	1	Primary Validation of Flow Measurement Data
	2	Establishing Stage-discharge Rating Curve (I)
	3	Establishing Stage-discharge Rating Curve (II)
	4	Establishing Stage-discharge Rating Curve (III)
	5	Discussion
	6	Establishing Stage-discharge Rating Curve (IV)
Day 8	1	Establishing Stage-discharge Rating Curve (V)
	2	Establishing Stage-discharge Rating Curve (VI)
	3	Discussions
	4	Establishing Stage-discharge Rating Curve (VII)
	5	Local visit
Day 9	1	Validation of Rating Curve
	2	Extrapolation of Rating Curve (I)
	3	Extrapolation of Rating Curve (II)
	4	Secondary validation of Stage-discharge Data
	5	Discussions
	6	Computation of Discharge Data
Day 10	1	Secondary Validation of Discharge Data
	2	Compilation of Discharge Data
	3	Analysis of Discharge Data
	4	Reporting on Discharge Data
	5	Discussions
	6	Organisation of Temporary Databases
Day 11	1	Installation of HYMOS
	2	Organisation of HYMOS Program Files (I)
	3	Database Concepts
	4	Organisation of HYMOS Database Files (II)
	5	Backup Procedures
	6	Discussions
Day 12	1	Generation of Map Layers
	2	Organising Data Processing Work
	3	Raw and Processed Data Sets
	4	Import of SWDES Data
	5	Import of ASCII Data
	6	Transfer of Data Between Two Centres
	7	Evaluation & Valedictory

Advanced SW data processing with HYMOS-4

Target group:	Data processing staff and managers: Assistant Hydrologists in Divisions (S-5), State Division Manager (S-9), Hydrologists (S-10), State DPC Managers (S-11)
Provider during HP:	HYMOS trainers team
Location:	NWA, Pune and NIH Roorkee
Duration:	10 days
Consultant:	H. Chowdhary

Objective:
After this course, the participants are able to
- analyse, interpret and report the HIS data

Admission qualifications:
-

Training methods:
Lectures, exercises, discussions

Equipment/software used:

Provider after HP:

Contact person:

Program

Day 1	Session 1	Registration Inauguration
	Session 2	Statistical Analysis - Basic Concepts
	Session 3	Exercise – 1
	Session 4	Frequency Curves & Duration Curves
	Session 5	Statistical Properties
	Session 6	Linear Correlation
Day 2	Session 7	Exercise – 2
	Session 8	Probability Concepts – I
	Session 9	Probability Concepts – II
	Session 10	Exercise – 3
	Session 11	Univariate & Multivariate Distributions
	Session 12	Moments and Moment Generating Function
Day 3	Session 13	Derived Distributions
	Session 14	Exercise – 4
	Session 15	Theoretical Distribution Functions – I
	Session 16	Exercise – 5
	Session 17	Theoretical Distribution Functions – II
	Session 18	Exercise – 6
Day 4	Session 19	Theoretical Distribution Functions – III
	Session 20	Exercise – 7
	Session 21	Theoretical Distribution Functions - IV
	Session 22	Parameter Estimation-1
	Session 23	Exercise – 8
	Session 24	Parameter Estimation and Confidence Limits
Day 5	Session 25	Exercise – 9
	Session 26	Hypothesis Testing
	Session 27	Statistical Tests
	Session 28	Exercise -10
	Session 29	Goodness of Fit Tests
	Session 30	Exercise -11
Day 6	Session 31	Regression Analysis
	Session 32	Estimation of Regression Coefficients
	Session 33	Exercise – 12
	Session 34	Multiple Linear Regression - I
	Session 35	Multiple Linear Regression – II
	Session 36	Exercise – 13
Day 7	Session 37	Introduction to Sacramento Model
	Session 38	Model Explanation – Land Phase
	Session 39	Estimation of Parameters
	Session 40	Input Requirement
	Session 41	Introduction & Input Preparation (Case Study I)
	Session 42	Model Application (Case Study I)
Day 8	Session 43	Model Explanation – Channel Phase
	Session 44	Estimation of Parameters
	Session 45	Introduction & Input Preparation (Case Study II)
	Session 46	Input Preparation (Case Study II)
	Session 47	Model Application (Case Study II)
	Session 48	Model Application (Case Study II)
Day 9	Session 49	Estimation of Areal Rainfall – I
	Session 50	Estimation of Areal Rainfall – II
	Session 51	Exercise – 14
	Session 52	Analysis of Rainfall Data – I
	Session 53	Analysis of Rainfall Data – II
	Session 54	Exercise – 15
Day 10	Session 55	HTML Reports in HYMOS – I
	Session 56	HTML Reports in HYMOS – II
	Session 57	New Features in SWDES
	Session 58	New Features in HYMOS
	Session 59	Evaluation
	Session 60	Valedictory

Hydro-meteorology: networks, data processing and applications

Target group:	Central and State hydrologists (S-10)
Provider during HP:	IMD
Location:	Pune
Duration:	2 weeks
Remarks:	
Consultant:	S. D. S. Abbi

Objective:	After this course, the participants are able to ●
Admission qualifications:	●
Training methods:	Lectures, case studies, demonstrations, guided practice
Equipment/software used:	
Provider after HP:	
Contact person:	

Program (as discussed with IMD May 1999)

Day 1
1 Lecture: Importance of the HP and its application in meteorology
2 Lecture: Rainfall as natural resource and organisational set-up in India
3 Lecture: Climate of India and climatic changes
4 Lecture: The hydrological cycle and water balance studies

Day 2
1 Lecture and case studies: Flood and drought studies in India
2 Lecture and case studies: Meteorological data collection, validation, processing and storage

Day 3
1 Lecture and demonstration: computerized data processing and HYMOS
2 Hands-on practice in meteorological data processing with HYMOS

Day 4
1 Lecture: Designing rain gauge networks (incl. AR and FCS) for hydrological purposes
2 Lecture: Inspection procedures of Ars and FCSs
3 Practice: network design in a river basin

Day 5
1 Statistical meteorological data studies (incl. Return Period Analysis) and its application for PMP estimation
2 Practice and case study

Day 6
1 Lectures and case studies: Design storm studies, including storm selection, areal rainfall estimation, depth-area-duration analysis, transportation, maximization leading to PMP estimation

Day 7
1 Lecture and case study: Rainfall-run-off relation, quantitative precipitation
2 Lecture and case study: Forecasts and flood forecasting
3 Lecture and case study: Flood estimation for design purposes

Day 8
PMP estimation:
1 Practice: small river basins
2 Practice: large river basins

Day 9
Weather forecasting:
1 Lecture: latest techniques
2 Lecture and demonstration: instrumentation
3 Lecture and examples: communication
4 Lecture and examples: disaster warning systems

Day 10
Developments in the States:
1 Each State and Central agency presents specific features of hydro-meteorological provisions in their area, and questions for discussion.
2 Plenary discussion with expert forum.

Training specifications
HIS management and IT

HIS operationalisation training (SW)

Target group:	(Minimum two divisions) Divisional level HIS staff: State Sub-div. Managers (S-6), State Div. Managers (S-9), Data collection staff
Provider during HP:	In house trainers
Location:	Divisions
Duration:	2-3 days
Remarks:	Designed as per training requirements identified during HYMOS coaching programme
Consultant:	Mr. R L Qazi

Objective:	During and after these sessions, the participants are able to
	• Discuss site specific cases
	• Share solutions applied at location
Admission qualifications:	•
Training methods:	Lectures, exercises, discussions
Equipment/software used:	
Provider after HP:	Central and State Agencies
Contact person:	HIS managers

Program Contents defined as per training needs identified during HYMOS coaching

Day 1
1. Registration, Inauguration, Introduction on HIS (*Its importance*)
2. Introduction to Hydrometeorology – SRG, ARG (Operations & Maintenance)
3. Hydrometeorology – FCS (Operations & Maintenance)
4. Interactive session – specific field examples / case studies.

Day 2
1. Hydrometry operations – Gauge sites, River gauging
2. Hydrometry operations – Gauge sites, River gauging – contd.
3. Hydrometry operations – BOCW
4. Silt & Sedimentation operations
5. Interactive session – specific field examples / case studies.

Day 3
1. WQ operations – Importance, sampling, analysis
2. A/DWLR operations
3. Data entry and primary validation operations – SWDES
4. HDUG
5. Interactive session – staffing / training needs.

HIS management practices – *personal effectiveness*

Target group:	State / Central HIS Managers
Provider during HP:	Consultant
Location:	State / Region
Duration:	2 – 3 days
Remarks:	Designed and matched as per requirements identified
Consultant:	S Jagota, R Varma

Objective:	After this course, the participants are able to • Build relationships • Solve problems
Admission qualifications:	• Be able to empathise
Training methods:	Discussions, exercises, case studies
Equipment used:	Exercise material, trainer equipment
Course fee:	Per person Rs. (incl. daily transport, fields trips, equipment use, handouts, snacks, lunches)
Board & lodging:	Per person per night Rs. (at institute's facilities, including breakfast and dinner) Or: Arranged by participants
Provider after HP:	NWA
Contact person:	R B Walimbe

Program

	Time	**Session**
Day 1	10:00 – 10:45 hrs.	Introduction 1 course objectives & programme description
	10:45 – 11:00 hrs.	Tea break
	11:00 – 11:15 hrs.	Introduction 2 HIS & NWP
	11:15 – 11:30 hrs.	Introduction 3 Harvard method
	11:30 – 12:00 hrs.	Self analysis
	12:00 – 13:00 hrs.	Self analysis - exercise
	13:00 – 14:00 hrs.	Lunch Break
	14:00 – 14:30 hrs.	Harvard method – Thumb rule 1
	14:30 – 15:15 hrs.	Problem solving – exercise 1: "case study"
	15:15 – 15:30 hrs.	Tea break
	15:30 – 16:00 hrs.	Problem solving – exercise 1: "case study continued"
	16:00 – 16:15 hrs.	Harvard Method – Thumb rule 1 - Tips
	16:15 – 17:00 hrs.	Problem solving – exercise 2: "developing own case"
Day 2	10:00 – 10:15 hrs.	Icebreaker
	10:15 – 10:30 hrs.	Recap – Harvard method
	10:30 – 10:45 hrs.	Introduction Harvard method – Thumb rule 2
	10:45 – 11:15 hrs.	Searching for interests – exercise 1
	11:15 – 11:30 hrs.	Tea break
	11:30 – 12:00 hrs.	Searching for interests – exercise 2
	12:00 – 12:30 hrs.	Harvard Method – Thumb rule 2 (simulation)
	12:30 – 13:00 hrs.	Searching for interests – exercise 3
	13:00 – 14:00 hrs.	Lunch Break
	14:00 – 17:00 hrs.	Searching for interests – exercise 3 (continued)
	15:30 – 15:45 hrs.	Tea break
	15:45 – 17:00 hrs.	Searching for interests – exercise 3 (continued)
Day 3	10:00 – 10:15 hrs.	Icebreaker
	10:15 – 10:30 hrs.	Recap – Harvard method
	10:30 – 11:30 hrs.	Introduction Harvard method – Thumb rule 3
	11:30 – 11:45 hrs.	Tea break
	11:45 – 12:45 hrs.	Applying creativity – exercise (part 1
	12:45 – 14:00 hrs.	Lunch Break
	14:00 – 14:15 hrs.	Harvard method – Thumb rule 4
	14:15 – 14:30 hrs.	Harvard method – Thumb rule 5
	14:30 – 15:00 hrs.	Harvard method – summary & questions
	15:30 – 15:45 hrs.	Tea break
	15:00 – 15:30 hrs.	Evaluation: Formal & questionnaire based

HIS Data Storage Centre software introduction

Target groups:

1. Data Storage Centre Managers / Head of HIS: one per state (S-12), except Maharashtra (S-12 + G-12) and Karnataka (S-12+ G-12)
2. Data Centre Managers / Head of HIS CWC (1+ 5) and CGWB (1+ 9)
3. NWA (2), NIH (2) and NIC (1)
4. HIS High Level Committee in MoWR

Provider: Suppliers

Location: DSC - NWA

Duration: 28 working days in two consecutive rounds of 15 and 13

Remarks:

Consultant: S Sangal / R L Qazi

Objective: After this course, the participants are able to
- Maintain the database
- Deploy the web site and utilise GIS effectively
- Further enhance the DSC software

Admission qualifications:
- Computer literate

Training methods: Demonstrations, exercises, discussions

Equipment/software used:

Name of institute/provider: NWA

Contact person:

Program

Visual Studio (VB, VID)	Topics Covered
Day 12	■ Events
	■ Overview Event Procedures
	■ Form & Control Events
	■ Variables
	■ Scope of Variables
	■ Variable Declarations
	■ Naming Variables & Relational Operators
	■ Operator Precedence
	■ Constants
	■ The Variant Data Type
	■ Arrays
	■ User-Defined Types
	■ If, Else and ElseIf Statements
	■ Select Case Statements
Day 13	■ Procedures
	■ Creating & Calling Procedure
	■ Sub Main
	■ Functions
	■ Parameters/Arguments
	■ Call by Reference
	■ Built-in Functions
	■ Methods
	■ What is a Dialog Box?
	■ Message Box
	■ Input Box Dialog
	■ Common Dialog
	■ Building a Custom Dialog
	■ Methods of Getting Data
	■ Universal Data Access
	■ ADO Data Control
	■ Setting up an ODBC Data source
	■ Using the Data Control
	■ Data List Control
	■ The Data Grid
Day 14	■ The Recordset Property & Data Control Events
	■ Order of Events
	■ Adding Features
	■ Deleting Data
	■ Canceling Changes
	■ Data Validation
	■ The Error Event
	■ Displaying Records
	■ Finding Records
	■ Overview of MDI
	■ Adding a Project to MDI
	■ Positioning the Project
	■ Listing open Child Windows
	■ Right Mouse Click Menu
	■ Unloading an MDI Application
	■ Stepping Through Code
	■ Setting Break Points
	■ Adding Watch Variables
	■ Debug.Print
	■ Visual Basic Errors
	■ Adding our own Error Handling
	■ Error Object
	■ Listing the Errors
	■ OnError Resume Next
	■ The Resume Statement
	■ The Call Stack
	■ Global Error Handler
Day 15	■ Using ADO Objects
	■ Properties & Methods of the Connection Object
	■ Properties & Methods of the Recordset Object
	■ Recordset Types
	■ Creating a Data Entry form Using ADO
	■ Error Handling
	■ Multi-User Concepts
	■ Data Environment
	■ Data View Window
	■ Query Designer window
	■ SQL Editor
	■ Database Diagram Window
	■ Visual Data Manager

Web Tools	*Topics Covered*
Day 16	**Cold Fusion**

- Introducing ColdFusion
- ColdFusion Application Manager
- CFML Basics
- Processing Forms
- ColdFusion and Databases
- Querying the Database
- Working with Databases
- State Management
- Reusing Templates
- Error and Exception Handling
- CF Script
- User-Defined Functions
- Working with the Local File System
- Drawing Graphs and Charts
- Introduction to XML

Day 17

- Internet Protocols
- CFX API
- Cascading Stylesheets, JavaScript and Dynamic HTML
- IE 5+ Rich-Client Functionality
- Macromedia Flash Component Kit for ColdFusion
- Advanced Administration
- Scheduling Tasks
- Archive Management
- ColdFusion Best Practices
- Application Architecture
- Common ColdFusion Development Mistakes
- Optimizing Performance
- Clustering and Load Balancing
- Security

Day 18 *Dreamweaver*

- Define a local site.
- Edit information about an existing site.
- Set the properties of a document.
- Modify text properties in a document by using the Property inspector.
- Inserting an image with specified requirements in a document.
- Inserting a rollover in a document.
- Inserting a Flash movie/button in a document.
- Inserting Flash text in a document.
- Modify the properties of a Flash object by using the Property inspector.
- Inserting audio files in a document.
- Inserting assets in a document by using the Assets panel.
- Page Layout and Design.
- Identify the tasks that conform to the page layout guidelines in a specified situation.
- Create a CSS style sheet.
- Define styles in a CSS style sheet by using the CSS Styles panel.
- Inserting a table in a document.
- Modify table properties by using the Property inspector.
- Create a page layout by using Layout View.
- Create layers.
- Set layer properties by using the Property inspector.
- Create a frameset.
- Set frame properties by using the Property inspector.
- Navigation and Behavior
- Create links between documents by using the Property inspector.
- Create a navigation bar.
- Attach a specified behavior to a page element.
- Modify the behavior attached to an element by using the Behavior panel.
- Testing and Publishing
- Create a specified report on a site.
- Generate a browser compatibility report.
- Display the broken links on a site.
- Set up a remote site.
- Transfer files between a local site and a remote site.
- Synchronize the files on a local site and a remote site.

Web Tools

Day 19 & 20   *Topics Covered*

GoLive

- Getting Started
- Creating a New Site
- Exploring the Site
- Adding Media
- Building a Simple Page
- Importing Text
- Formatting Text
- Styles
- Aligning Text
- Horizontal Rules
- Spacers
- Font Sets
- Font Set Editor
- Line Breaks
- Font Sizes
- Layout Grids
- Advanced Layout
- Grid Options
- More On Grids
- Adding Images
- Adding Color
- Creating a New Page
- Linking Two Pages
- Preview a Page
- Preview in a Browser
- Images
- Adding Images
- Alternative Text
- Labels
- Adjusting Image Size
- Web Graphic Formats
- Portable Network
- Graphics
- Tables
- Creating a Table
- Forms
- Introduction
- Setting up the Form
- New Text Fields
- Colour
- Colour Palette
- Apple Colour Tab
- Windows Colours
- Web Colours
- Site Colours
- Floating Boxes
- Floating Boxes Intro
- Stylesheets
- Introduction
- Creating a Style
- Frames
- Introduction
- Modifying Frame Sets
- Modifying Frames
- QuickTime
- Introduction
- Track Editor
- Playing and Testing
- Outline Editor
- Introduction
- Inserting Items
- Adding Attributes
- Source Editor
- Introduction
- Formatting
- Syntax Highlighting
- Syntax Checking
- Browser Sets
- GoLive Actions
- Introduction
- Date & Time stamp
- Alerts
- CSS Fix

Web Tools	*Topics Covered*
Day 19 & 20 contd.	**GoLive**

- Actions with Floating Boxes
- Advanced Actions
- Preloading Images
- Custom Actions
- Using Dynamic Components
- Combining Components with Actions.

Day 21 & 22   **DHTML Animation**

- Introduction
- Non - Linear
- Animation
- Random Animation
- Recording Animation
- Paths
- Controlling Stacking
- Order
- Controlling Visibility
- Exploring the Timeline
- Editor
- Adding Actions
- Combining Actions with the Timeline
- Actions without Floating Boxes
- Floating Box Controller
- Multiple Scenes
- Adding a Play Sound
- Action
- Web Database
- The HTML tab
- Adding HTML tags
- Adding HTML attributes
- The CSS tab
- XML tab
- Building and Maintaining Web Sites
- Introduction
- Gathering resources
- Creating the index page
- Adding components
- Stationery pages
- Deelish page (Part 1)
- Deelish page (Part 2)
- Creating the catalog page
- Using the Link Inspector
- Working with Orphan files
- Adding Existing Files
- Creating a dynamic popup menu
- Adding a table of contents
- The Site tab
- Changing all references
- Spell checking and Find / Replace
- Adding an external style sheet
- Uploading and testing Synchronization
- Uploading to the World Wide Web
- New from FTP
- Web download
- URL Filters
- Stripping tags and Exporting Sites
- Multiserver settings

Security, Encryption and RedHat Linux	*Topics covered*
Day 23	**VPN, PGP Encryption and AntiVirus**

- Overview of VPN Concepts
- Overview of Intel VPN Netstructure 3110
- Overview of Firewall Concepts
- Introduction to PGP Desktop security tools
- Installation and Configuration of PGP
- Introduction to AntiVirus concepts
- Introduction to NAI McAfee Antivirus tools
- Installation and configuration of NAI McAfee Antivirus tools
- File, Mail & Disk Encryption.
- Personal IDS & Firewall.
- Scanning Files for viruses.

Security, Encryption and RedHat Linux	*Topics covered*

Day 24   **ARCServe Administration**

- Introduction to ARCServe Manager, Back up and Restore operations, Open File Administration
- Configuration of different agents
- Configuration of backup and restore operations.
- Configuration of alert services

Day 25   **Linux**

- Introduction to Linux
- Installation and Configuration
- System Administration

Advanced GIS

Day 26

- Creating a Project (create a Geoworkspace)
- Introduction to projection systems and co-ordinate systems
- Registration concepts
- Feature Class definition and editing of Feature classes
- Vectorization and editing of vector maps

Day 27

- Building of Query and Editing Query
- GIS Analysis tools (Overlays, thematics, buffers etc.)
- Using Warehouses to connect to data (Access, Arc/Info, Arc View, Map Info, AutoCAD etc data sources)

Day 28

- Placing a north arrow and a scale bar
- Preparing Map Windows for Plotting
- Printing the Layout Windows
- Fundamentals of Web GIS
- Creating a web GIS project
- Setting the web GIS project in IIS
- Concepts of various objects to achieve functionalities

HIS Data Storage Centre Operations

Target group:	• Data Storage Centre Managers / Head of HIS: one per state (S-12), except Maharashtra (S-12 + G-12) and Karnataka (S-12+ G-12) • Data Centre Managers / Head of HIS CWC (1+ 5) and CGWB (1+ 9) • NWA (2), NIH (2) and NIC (1) • HIS High Level Committee in MoWR
Provider during HP:	Suppliers
Location:	State DSC / NWA DSC
Duration:	10 working days
Remarks:	
Consultant:	S Sangal / R L Qazi

	After this course, the participants are able to • Run the DSC software • Import data from DPC's • Disseminate data to users • Maintain the database
Objective:	• Computer literate
Admission qualifications:	Demonstrations, exercises, discussions
Training methods:	Lectures, exercises, discussions
Equipment/software used:	
Course fee:	Per person Rs. (incl. daily transport, fields trips, equipment use, handouts, snacks, lunches)
Board & lodging:	Per person per night Rs. (at institute's facilities, including breakfast and dinner)
Provider after HP:	Or: Arranged by participants NWA, Pune
Contact person:	CE, NWA, Pune

Program

Data Customisation	Topics Covered
	Introduction

- Installation and demonstration
- Import
- Export
- Customization of attributes
- Meta data
- Catalogue
- DRF and Dissemination of Data

Day 1

- Backup
- Archival
- MIS
- Accounting
- Utilities
- Audit Trails
- Tuning
- Trouble shooting

Import / Export Operation of DSC Software

- Import/Export Module to/from SWDES /GWDES / HYMOS / Water Quality / IMD / GWDPS

Day 2, 3, 4

- Objects Import / Export
- Temporary Import /Export
- Print Format Module / Excel Format
- Hands-on training for DSC user and staff

Meta data Module of DSC software

- Generation of Metadata
- Additional / Incremental Metadata
- Metadata tuning from different DSC's by exchange process

Day 5

- Updation of Metadata via Email / FTP/ CD
- Replication, Synchronization of Metadata
- Hands-on training for DSC user and staff

Catalogue Module

- Generation of Catalog
- Catalogue update in owner DSC
- Online combined Catalogue
- Creation of CD with Search Engine
- Catalog Transfer to/from DSC's.
- Updation of Metadata via Email / FTP/ CD

Day 6

- Maintenance of Catalog
- Selective Replacement / Pupation
- Catalog Print Option
- Catalog Export to Word and Excel Format
- Web Based Catalog Browser with Search.
- Version Control
- Hands-on training for DSC user and staff

DRF and Dissemination of Data using DSC Software

- DRF Generation
- Data Distribution according to DRF
- Data Distribution according to Web based queries, CD Queries.

Day 7

- Authenticated Data Distribution
- Receipt and Acknowledge of DRF
- DRF Reminder / Close / Schedule Functions
- Data Distribution by Volume, Type of Data (Accounting)
- Hands-on training for DSC user and staff

System Management

Backup Procedures in DSC Software (ARCServe 2000)

- Introduction to Backup Systems
- Incremental Backup
- Complete Backup
- Selection and De-selection
- Backup Scheduling
- Backup Administration Tool

Day 8

- Offline and Online Backup
- Hands-on training for DSC user and staff

Archival of data to / from DSC Database

- Archiving based on Date / Months / Year / Groups / Region / Type
- Archiving Complete Archive based on Date
- Selection and De-selection option
- Offline and Online Archives
- Hands-on training for DSC user and staff

Data Customisation	*Topics Covered*

MIS / User Accounting Module
- Generation of MIS Data
- Dissemination of MIS Data to authenticated Users
- Creating and maintaining Users Logs
- Accounting for MIS Data
- Reports generation on MIS Data

Day 9
- Generating Graphs on MIS Data
- Hands-on training for DSC user and staff

Utilities
- Report Designer
- Graph Designer
- Query Designer
- Hands-on training for DSC user and staff

Audit Trails
- Based on Admin
- Based on DPC Activities
- Based on DSC Activities
- Based on HDU Activities
- Hands-on training for DSC user and staff

User Access Controls
- Adding Users / Permissions
- Delete Users / Permissions
- Pre defined Reports
- Hands-on training for DSC user and staff

Tuning
- Data Deletion module
- House Keeping Module

Day 10
- Hands-on training for DSC user and staff

Trouble shooting
- General Database Administration
- Application Error Guide
- Hands-on training for DSC user and staff

PGP Administration and AntiVirus Administration
- Introduction to PGP Desktop security tools
- Installation and Configuration of PGP
- Introduction to AntiVirus concepts
- Introduction to NAI McAfee Antivirus tools
- Installation and configuration of NAI McAfee Antivirus tools
- File, Mail & Disk Encryption.
- Personal IDS & Firewall.
- Scanning Files for viruses.
- Hands-on training for DSC user and staff

Discussions and Evaluation

Training of Trainers – WISDOM HIS Data Storage software

Target group:
- Data Storage Centre Managers: 6 -CWC, 2 - CGWB, 8 - [one per state SW, except Orissa], 3 – [one per state GW agency of Maharashtra, Orissa and Karnataka]
- NWA (2), NIH (1) and NIC (1)

Provider during HP: Consultant / Suppliers

Location: NWA

Duration: 16 working days

Remarks:

Consultant: S Sangal / R L Qazi / R Varma / M/s ROLTA

Objective: After this course, the participants are able to
- Train collegues and suborinates in DSC operations
- Advocate customisation of features
- Identify future DSC requirements

Admission qualifications:
- Computer literate

Training methods: Demonstrations, exercises, discussions

Equipment/software used:

Course fee: Per person   Rs.
(incl. daily transport, fields trips, equipment use, handouts, snacks, lunches)

Board & lodging: Per person per night   Rs.
(at institute's facilities, including breakfast and dinner)

Or: Arranged by participants
Provider after HP: NWA

Contact person: CE NWA

Program

System Management	*Topics Covered*

Day 11 **Backup Procedures in DSC Software (ARCServe 2000)**
- Introduction to Backup Systems
- Incremental Backup
- Complete Backup
- Selection and De-selection
- Backup Scheduling
- Backup Administration Tool
- Offline and Online Backup
- Hands-on training for DSC user and staff

Archival of data to / from DSC Database
- Archiving based on Date / Months / Year / Groups / Region / Type
- Archiving Complete Archive based on Date
- Selection and De-selection option
- Offline and Online Archives
- Hands-on training for DSC user and staff

Data Customisation

Day 12 **MIS / User Accounting Module**
- Generation of MIS Data
- Dissemination of MIS Data to authenticated Users
- Creating and maintaining Users Logs
- Accounting for MIS Data
- Reports generation on MIS Data
- Generating Graphs on MIS Data
- Hands-on training for DSC user and staff

Utilities
- Report Designer
- Graph Designer
- Query Designer
- Hands-on training for DSC user and staff

Day 13 **Audit Trails**
- Based on Admin
- Based on DPC Activities
- Based on DSC Activities
- Based on HDU Activities
- Hands-on training for DSC user and staff

User Access Controls
- Adding Users / Permissions
- Delete Users / Permissions
- Pre defined Reports
- Hands-on training for DSC user and staff

Tuning
- Data Deletion module
- House Keeping Module
- Hands-on training for DSC user and staff

Trouble shooting
- General Database Administration
- Application Error Guide
- Hands-on training for DSC user and staff

PGP Administration and AntiVirus Administration
- Introduction to PGP Desktop security tools
- Installation and Configuration of PGP
- Introduction to AntiVirus concepts
- Introduction to NAI McAfee Antivirus tools
- Installation and configuration of NAI McAfee Antivirus tools
- File, Mail & Disk Encryption.
- Personal IDS & Firewall.
- Scanning Files for viruses.
- Hands-on training for DSC user and staff

Trainer skills

Day 14 Introductions-1
- The need for training
- Change through training: Old lady – Young lady
- Getting started with training development: who takes the lead?
- The training development cycle
- Cycle highlights: Training objectives
- Cycle highlights: evaluation by trainers (curriculum development checklist)

Introduction-2
- Exercise: self assessment - 1
- Guided exercises (round 1)
- Guided exercises (round 2)
- Main (6) elements of presentation skills
- Guided exercises (round3)
- Video review

Trainer skills

Day 15
- Icebreaker - Buzz game
- Exercise: visual aids (round 4)
- Main (6) elements of presentation skills

Introduction-3
- Exercise: how to process new information in a training (text analysis)
- Guided exercises (round 1)
- Tips: skills training
- Demonstration: skills training
- Guided exercises (round 2)
- Guided exercises (round 3)
- More tips: skills training
- Guided exercises (round 4)
- Video review

Day 16
- Icebreaker - Volley ball
- Exercise: self assessment

Introduction Inventory method
- Guided exercises (round 1)
- Guided exercises (round 2)
- Tips
- Conclusions
- Exercise: training method v/s objective
- Management areas
- Announcement: Finale for everything learned
- Exercise: Finale for everything learned

- Evaluation: Formal & questionnaire based

IT Level 3 – *Computer systems management*

Target group: Information technology experts (I -1).

Provider during HP: Local computer training institutes

Location: Local

Duration: 3 days + at least 60 coaching days during one calendar year

Remarks: Per State/Region, one small crew of IT experts could act as mobile team, serving computer users at various places.

Consultant: I. Malik

Objectives: After this course, the participants are able to
1. Troubleshoot hardware & software problems
2. Carry out preventive maintenance
3. Back-up data
4. Write computer program as per organisational needs

Admission qualifications: Post graduate diploma in computer application

Training methods: Lectures, exercises, discussions

Equipment/software used:

Course fee: Per person   Rs.
(incl. daily transport, fields trips, equipment use, handouts, snacks, lunches)

Board & lodging: Per person per night   Rs.
(at institute's facilities, including breakfast and dinner)
Or: Arranged by participants

Provider after HP: Local computer training institutes

Please note that this session plan should be customized keeping the needs of the agency and advancements in the IT industry in mind. Customization may also be required to provide proper focus on certain agency specific issues

Session plan

S. No	Session Title	Trainer's activities	Participants tasks	Duration
1	EDP Concepts	Provide basic history of computing		10 min
		Explain – Basics of languages machine language, assembly language, bits and bytes, higher level languages, utilities, write some simple commands		20 min
		Discuss current state of technology and future expectations		30 min
2	Inside the PC (Hardware & Assembling)	Using a sample system mother board - explain types components		15 min
		Explain CPU types, speed comparisons Requirement and significance of cache memory PC memory, types of memory System bus and slot types		60 min
		Demonstrate - HDD/FDD/connections	Follow the procedure demonstrated	15 min
		Explain VGA controllers Power supply; wattage		15 min
		Disseminate & demonstrate use of CD-ROM drive. Explain dos and don'ts	Follow the procedure demonstrated	15 min
		Using a sample- explain LAN adapter Keyboards		10 min
		Demonstrate Mouse features & types of Mouse	Follow the procedure demonstrated	05 min
		Using a sample- explain Serial ports Parallel ports		15 min
		Explain & demonstrate Connectivity using RS232 Palmtop	Practice connecting palmtop to desktop	20 min.
		Demonstrate System Assembly (Class room demonstration)	Follow procedure for assembling the cards and components outside the cabinet	90 min
		Discuss External factors – supply etc.		30 min.
		Explain - differences that can be expected between different BIOS's Demonstrate - Working with System BIOS(Enabling / Disabling F D Drives)	Repeat the procedure - Do default setup and optimal setup. Disabling of floppy drives. Setting of Passwords. Locating Hard disk type.	60 min

S. No	Session Title	Trainer's activities	Participants tasks	Duration

3	Installation of Operating System	Explain –
		     Features of Windows98,
		     Windows NT and Windows 2000 - server and client / other variants
		     Basic features of DOS
				60 min

		Issue checklist & demonstrate - Preparing for Installation	Follow procedure as per checklist	15 min
		Explain - Minimum Hardware Requirement		15 min
		Demonstrate – How to determine HDD (Using F disk) Partitions	Follow and practice	10 min
		Explain and demonstrate – How to determine File System Type		10 min
		Explain– How to determine whether to Join Domain or Workgroup, be PDC or BDC		15 min

		Demonstrate –
		     Installation Windows98 & 2000
		     Installing software from CDROM
		     Running Setup.exe
		     Regional settings
			Follow procedure and practice	75 min

		Explain and demonstrate –
		     Computer name and Passwords
		     Choosing Windows components
		     Configuring Network Components
		     Selecting DHCP Options
				90 min

		Explain
		     DHCP Overview
		     How a DHCP Clients discovers DHCP Server
		     How a Client obtains IP lease & renews
		     DHCP Server & Scopes
				45 min

		Explain & demonstrate –
		     Completing Installation
		     Logging on to Windows
		     IP address, WINIPCFG, Ping, others
			Follow procedure and practice	120 min

4	File System Management	Introduction to File system		30 min

		Explain & demonstrate–
		     Microsoft supported File systems
		     Comparison between FAT, FAT32, NTFS
		     NTFS Compression & security features
		     Planning Directory structure
		     Planning & implementing Shared folders
		     Dealing with shared folder permissions
		     Transferring files across systems
				90 min

5	Printer Management	Explain - Basic Printer concepts		15 min
		Demonstrate – Adding printers	Follow the procedure to install printer	30 min

		Demonstrate –
		     Printer Software
		     Connecting to printers
		     Managing Printers
		     Selecting Port
		     Scheduling
		     Sharing a printer on the network
		     Connecting to a network printer
		     Assigning permissions to printers
		     Configuring device settings
			Repeat each procedure as demonstrated	120 min

S. No	Session Title	Trainer's activities	Participants tasks	Duration
6	Networking Essentials	Explain – Introduction to Networks Transmission medium Co-axial, Twisted pair, fibre-optic, others; connectors Topologies Protocols & Standards The OSI Reference model The TCP/IP Model, Function & IP Addressing Elements of Network (hub, switch, router, bridge, etc.) FTP		180 min
7	Installing add-on components	Demonstrate - Installing SCSI cards	Practice the steps demonstrated	15 min.
		Discuss – UPS Smart UPS UPS communication		45 min.
		Explain – Tape / CD-R/W Scanners		60 min.
8	Configuring hardware and software	Explain significance & demonstrate – Interrupts & I/O Addresses Resolving conflicts Setting options		150 min.
			Practice the steps demonstrated	60 min.
9	Loading Software	Supervise hands on practice session on how to load common, specific application software	Practice the steps as instructed	90 min
10	Schedules	Explain – Schedules for application software housekeeping and maintenance using example schedules Discuss and fine tune schedules with participants		45 min.
11	Backups	Explain importance & concepts of Planning Backup strategies - data / programs Demonstrate methods using available device	Practice the steps demonstrated	45 min
12	Updates	Explain - safety measures and precautions to be taken Discuss & prepare list of measures and precautions Demonstrate – Loading of new versions of software	Practice the steps demonstrated	60 min
13	Version Conflicts	Explain - safety measures and precautions to be taken Discuss & prepare list of measures and precautions Demonstrate – Upgrading data file and other versions	Practice the steps demonstrated	45 min
14	Transfer of data	Demonstrate – Scheduled transfer of data from offices upwards	Practice the steps as instructed	45 min
15	Internet	Introduction to Internet		15 min
16	Connecting to Internet	Explain– Minimum Hardware requirements ISP account Software(Browsers)		45 min
		Demonstrate – Dial up TCP/IP essentials	Practice the steps demonstrated	60 min
17	Browsers	Explain & demonstrate Loading procedure Configuring	Follow procedure and practice	90 min
18	Advanced features	Explain, discuss & demonstrate how to initiate Netmeeting	Follow procedure and practice	30 min

S. No	Session Title	Trainer's activities	Participants tasks	Duration
19	Modem	Discuss connectivity issues		60 min
20	ISDN, leased lines, NICNET etc	Explain		30 min
21	E-mail	Explain – What is e-mail Protocols SMTP IMAP POP		90 min.
		Explain & demonstrate – How to configure Outlook express as a front end user Using Outlook express	Practice the steps demonstrated	120 min.
22	Troubleshooting	Discuss & enumerate – PC-Problems – Power related BIOS errors Examining POST Partition table Boot sector Dynamic Link Libraries and Virtual Device Driver and Missing file errors (Both OS and Application software) TSR problems Hanging problems Poorly Terminated problems Faulty software Printer : Laser / Inkjet / others Basic Testing Advanced testing Networking – Client / Server / Wiring Display drivers etc.		540 min.
23	File Management	Explain – Advanced explorer features Directory structures Folder definitions User levels User permissions File secondary names		60 min
24	Backup, Restore & Recovery	Explain and demonstrate - Installing & Configuring Backup Devices	Follow procedure and practice	60 min
		Explain using examples – Tape Drives Backup Philosophy		30 min
		Demonstrate – CD-R/W Drives Using FDDs as Backup Devices Using Network Servers as Backup Storage Planning Backup Schedules Backing up files on to Devices Restoring Data		120 min.
		Conduct Exercise on - Backup & recovery Explore Recovery Process		90 min.

S. No	Session Title	Trainer's activities	Participants tasks	Duration
25	Performance, Computer Viruses	Explain session objective and provide overview		20 min
		Discuss issues downgrading performance of a System		30 min
		Explain & demonstrate – Using SCANDISK, DEFRAG Dealing with Virtual memory(Swap files) Scheduling Disk cleanup Computer Viruses Definition of Virus Types of Viruses How Does a Virus work Vaccination against viruses Steps for Prevention Installing Anti-Virus software Updating Virus definition engines from Internet	Follow procedure and practice	330 min.
26	Manuals	Explain importance & facilitate preparation of – How to create and update Instruction manual How to create and update Troubleshooting manual		45 min
27	Installation logistics	Discuss, compare with current availability, define – Power requirements Lighting requirements AC requirements Furniture requirements Other logistics		75 min.
28	Record keeping & vendor co-ordination	Discuss, define system per participant, finalize – Problem reporting register Contact Information Scheduled activities		60 min
29	Planning	Explain & facilitate in – Scheduling tasks Defining procedures Consumables Planning Annual Maintenance Contract - essentials, clauses, normal practices Handling / routine care		270 min
30	Wrap up / Course evaluation			120 min.

IT Level 4 – *Oracle DBA / VB Programming Basics computer skills*

Target group:	I-1, I-2 SW & GW domains; S-10, S-11; SWQ:- Q-8. GW:- G-9, G-10, G-11. GWQ:- Q-7
Provider during HP:	Local computer training institutes
Location:	Local
Duration:	10 days
Remarks:	Does not include hydrology topics
Consultant:	

Objective:	After this course, the participants are able to
	• connect computer hardware
	• prepare letters and simple reports
	• tabulate information
	• use maintenance software
Admission qualifications:	
Training methods:	Lectures, exercises, discussions
Equipment/software used:	MSWindows, MSOffice, printing, file management, viruses etc.
Course fee:	Rs per person (incl. equipment use, handouts, snacks)
Board & lodging:	As applicable
Provider after HP:	Local computer training institutes

Please note that this session plan should be customized keeping the needs of the agency and advancements in the IT industry in mind. Customization may also be required to provide proper focus on certain agency specific issues

S. No	Session title	Contents	Trainer's activities	Participants' tasks	Duration
A	DBMS Concepts / Intro to Structured Query Language	1. Concepts	Explain what is a Database, difference between DBMS & RDBMS & different RDBMS software available.		30 min.
		2. Different Platforms	Explain what is Client – Server Architecture Advantages of Client – Server Architecture Types of Client – Server Architecture; new models introduced Explain different versions & implementations of Oracle		40 min.
		3. How to get Started	Demonstrate Log-in Procedure	Repeat the procedure of log-in and quit	30 min.
		4. Creating structure	Explain Languages (DDL, DML, DCL) Description of different objects Data types Different objects		120 min.
			Demonstrate how to- Create a Table (e.g. Student, Mark sheet, Employee, Payslip) Explain information on a pre-prepared test table	Follow the procedure demonstrated to create Tables (Student, Mark sheet, Employee, Payslip) Take the Fields as instructed	60 min.
B	Structured Query Language	1. Introduction 2. Using Structured Query Language	Explain need and application of SQL Demonstrate how to Fetch data Retrieve specific data with required fields Explain concept of keys View the data in different orders	Repeat the steps demonstrated using different tables by Using Select statements. Using 'Where' Clause in the select statements. Arranging the selected data in the ascending or descending order.	20 min. 120 min.
			Explain & demonstrate use of functions (Floor, Ceil, Round, Length, Substr, Upper, Lower, Initcap, Lpad, Rpad…..)	Repeat the steps demonstrated using different tables	90 min.
			Demonstrate how to Aggregate functions.(Sum, Avg, Max, Min, Count)	Use aggregate functions in select statements in the table provided	60 min.
			Group with criteria Use Alias	As demonstrated, exercise Group by using of Alias in the select statements.	45 min.
			Explain & demonstrate the use of constraints (Check, Not Null, Default, Primary Key, Foreign Key)	Insert constraints in the tables provided	40 min.
			Explain & demonstrate Pivot tables		20 min.

S. No	Session title	Contents	Trainer's activities	Participants' tasks	Duration
B	Structured Query Language (contd.)	3. Advanced Features	Explain and demonstrate Select Query using multiple tables. Set Theory (Union, Intersect)	Carry out the exercise by Joining of two tables with a single select statement. Fetch the common data from related tables Fetch distinct data from related table	180 min
			Advanced objects (View, Type, Copy of Table)	Create a View and A Copy of table and see the difference Create a type and then use it with table Try to enter data in the table created	120 min.
			Access to table by different users.	Provide insert and update right to another user on any two tables Assign delete and update rights to another user for rest of the two tables	60 min.
			Explain & demonstrate Multiple ways to insert data in table Add / Modify Fields in Table Created	Follow procedure demonstrated to Add the fields in all the tables created (Add fields and change data type/width of field in each table) Add data to table	90 min.
			Normalisation Rules Modify the data in table (update statement)	Update data in given tables with or without criteria	45 min.
			Commit, Rollback and Save point Concept Remove Data from Table with criteria	Give Save point S1 Try to delete some data from first table Give Save point S2	75 min
				Try to delete some data from first table Try to retrieve the lost data with rollback Use Commit	
			Rename the table Table Deletion	Rename all the four tables created Delete any one table	30 min.

S. No	Session title	Contents	Trainer's activities	Participants' tasks	Duration

C	Oracle Architecture	1. Architecture Components	Explain
			    Objectives and provide overview
			    Oracle Database files
			    Other Key files
			    Process to SQL statement
			    Commit Procedure
					360 min

		2. Managing Oracle Instance	Demonstrate
			    Starting and Shut Down
			    Sharing of Instance
			    Changing database availability
			    Opening database in read-only mode
				Repeat the procedures demonstrated	

		3. Creating Database	Explain - Preparing the operating system
			Demonstrate
			    Creating database
			    Using database configuration and assistant
			    Creating a database manually
				Repeat the procedures as demonstrated	

		1. Managing control file	Explain
			    Use of Control File
			    Control file contents
			    Multiplexing the control file
			    Guidelines for control files
			Demonstrate - Obtaining information about control files
				Practice the session as demonstrated	240 min

		2. Maintaining log files	Explain
			    Objectives and overview
			    Using online redo files
			    LGWR log switches and check point
			Demonstrate
			    archive command
			    Archiving redo log files
			    Obtaining log
			Explain - controlling log switches and check points
			Demonstrate
			    multiplexing and maintaining members and groups
			    relocating and renaming online redo log files
			    dropping online redo log groups and members
			Explain - planning online redo logs
			Facilitate discussion on trouble shooting
			Demonstrate - Using log miner
				Repeat the procedures as demonstrated
				
				Repeat the procedures as demonstrated
				
				Practice the session as demonstrated	

S. No	Session title	Contents	Trainer's activities	Participants' tasks	Duration
C	Oracle Architecture	1. Managing rollback segments	Explain - Rollback Segments Demonstrate - Using and creating segments Discuss - Maintaining, obtaining and planning rollback segments		150 min.

		2. Maintaining tables	Explain - Objectives, overview of oracle data types
			Demonstrate
			    Creating tables
			    Controlling spaces used by table
			          Retrieve table information
				Practice the session as instructed	

		3. Managing roles and user	Demonstrate
			    Creating Altering, dropping user and roles
			    Assigning roles
			    Control availability of roles
				Repeat the procedures as demonstrated
				Exercise –
				Create a rollback segment
				Create tables and then assign spaces
				Create users
				Grant roles to user
				Revoke rights of user	

		1. Managing Privileges	Explain - System Privileges
			Demonstrate
			    Granting system privileges
			    Password file authentication
			    Displaying and revoking system privileges
				Practice the session as instructed	90 min.

		2. Phenomenon of Object Privileges	Explain - Objectives and overview
			Demonstrate
			    Granting object privileges
			    Displaying object privileges
			    Revoking and Auditing object privileges
			    Viewing Object Privileges
				Repeat the procedures as demonstrated	

S. No	Session title	Contents	Trainer's activities	Participants' tasks	Duration
D	Visual Basic	Tools, Events, Codings	Introduction - Advantage and types of front end Explain Design and Run Time interface Concept of Object and Tools Demonstrate Properties of Objects Working with Codes and events Variable declaration and different scopes	 Get familiarised with objects See the Properties of Objects at design time Change the same property at run time with different events Declare the variables and use them in codes	45 min. 75 min. 120 min. 120 min.
		Advanced Components	Explain & demonstrate Active X and windows common Controls Picture box Image control Scrollbar OLE Object Calendar Flexgrid Treeview Other controls	 Use all the controls See the properties & coding as demonstrated	180 min.
		Data Controls	Explain ODBC Connectivity Difference between data, Remote and ADO controls Connecting control with database Demonstrate Connecting all the previous control with database Creating Toolbars, Status bar and Menu bar Create Multiple user Application with help of Flexgrid controls	 Create DSN Files for all the database installed on your system Use Tools to fetch data from database Use ADO data control (Oracle) Create menu based application Create pop-up menu for efficiency Create a multiple data entry application and practice the concepts of Flexgrid & data grid Create Navigation button (first, next ,previous, last) Create database buttons (add, save, update, delete)	90 min. 75 min. 90 min. 240 min.
		Reporting	Demonstrate Data Report for efficient reporting, How to use Aggregates and insert controls	 Produce a Report on student and their marks using tables available in database	240 min.

Training specifications

Target group:

Provider during HP: NIH

Location: Roorkee

Duration:

Remarks: Includes hydrology topics along with HIS

Consultant:

Objective: After this course, the participants are able to
- Have a better understanding of Hydrology subject
- Analyse hydrological information from available data

Admission qualifications:

Training methods: Lectures, exercises, discussions

Equipment/software used:

Course fee: Rs   per person   (incl. equipment use, handouts, snacks)

Board & lodging: As applicable

Provider after HP: Local computer training institutes

Topics covered

Introduction to Basic Hydrology	Introduction- hydrology and its components
	Water resources
	Water resources requirement
	Water resource assessment
	Water balance
	Hydrological problems with particular reference to peninsular India
	General applications of hydrology
Stream Flow Data	Network design
	Maps and atlas
	Water level measurements
	Stream-flow measurements
	Preliminary processing of water level and stream-flow data- graphical view
	Secondary processing of stream-flow and water level data- GD relationship etc.
Hydrometereological Data	Maps and atlas
	Rainfall
	Climatology of India
	Observation of hydrometeorlogical parameters
	Design of raingauge networks
	Processing of rainfall data
	Rain storms analysis - DD and DAD analysis
	Intensity-duration-frequency relationship
	Evaporation and evapo-transpiration
Use of Nuclear Hydrology in project planning & monitoring	Introduction
	Radioactivity
	Application of environmental isotopes in hydrology
	Nucleonic instrumental techniques in hydrology
	Non-conventional techniques for measurement of discharge in streams
	- Selection of measurement reach
	- Tracer injunction technique
	- Quantity of radio active tracers
	- Sampling techniques
Application of Remote Sensing & GIS	Introduction
	Remote sensing and GIS technique
	Over view of hydrologic applications of RS and GIS technique
	Applications in land use-cover and soil mapping
	Application for flood plain mapping
	Applications in watershed characterisation
Importance of Water Quality and Water Quality Parameters	Importance of water quality
	Hydrological considerations in water quality
	Water quality parameters
	Sampling techniques
	Water analysis
	Recording and processing of data
	River water quality
	Lake water quality
	Groundwater quality
	Sediment data
Drainage Basin Characteristics	Introduction
	Types of watersheds
	Quantitative characteristics of drainage basins
	Classification of streams
	Flood plains
	Sub-surface aspects of watershed characteristics
	Climatic characteristics
	Land-use characteristics
Time Series Analysis	Introduction
	Definition of time series
	Components of hydrologic time series
	Steps in time series modelling
	Applicability of time series models

Topics covered

Hydrologic Abstractions	Introduction
	Evaporation
	Transpiration
	Evapo-transpiration
	Interception
	Depression storage
	Infiltration
Water Availablity & yield Analysis	Introduction
	Procedures for water availability analysis
	Estimation for available water resources
	Volumetric rainfall-runoff relationship
	Flow-duration curves for gauged catchments
	Regional flow-duration curves
Statistical and probabilistic methods in hydrology	Introduction
	Definitions of some important statistical terms
	Sample statistics
	Standard errors of sample statistics
	Graphical presentation of group data
	Statistics using group data
	Flood frequency analysis
	Probability distributions
	Simple linear regression
	Multiple linear regression
Rainfall- Runoff Modelling	Introduction
	General data requirement
	Classification of deterministic models
	Model calibration and validation
	Uncertainties in hydrological modelling
	Some commonly used deterministic hydrologic models and their applications
Water Balance Studies	Introduction
	Water balance equation
	Methods of computation of main water balance components
	Typical water balance studies
Ground Water Data	Introduction
	Groundwater maps
	Groundwater balance
	Collection of pump test data and determination of aquifer parameters
	Processing of GW data
Flood Estimation by UH technique	Introduction
	Design storm
	Empirical formulae and their limitations
	Development and application of UH techniques
	Flood routing- reservoir and channel routing
	Design flood estimation for large catchments
	Design flood estimation using regional UH approach
	Flood frequency analysis
	Design Flood estimation using regional flood frequency analysis
Hydrology of Extremes	Introduction
	Characteristics of flood
	Structural measures of flood control
	Non-structural measures of flood control
	Characteristics of drought
	Quantification of hydrological aspect of drought
	Drought management
Operational Hydrology	Introduction
	Reservoir operation
	Reservoir water balance
	River flow forecasting - flood and low-flow

Program

Day 1	*Topics*
0930 Hrs-1000 Hrs	Registration
1000 Hrs-1100 Hrs	Inauguration
1100 Hrs-1130 Hrs	Tea
1130 Hrs-1300 Hrs	Introduction to Basic Hydrology
1300 Hrs-1430 Hrs	Lunch
1430 Hrs-1600 Hrs	Climatology of Rainfall in India
1600 Hrs-1630 Hrs	Tea
1630 Hrs-1800 Hrs	Stream Flow Data

Day 2	
0930 Hrs-1100 Hrs	Stream Flow Data- II
1100 Hrs-1130 Hrs	Tea
1130 Hrs-1300 Hrs	Stream Flow Data-III
1300 Hrs-1430 Hrs	Lunch
1430 Hrs-1600 Hrs	Hydrometereological Data
1600 Hrs-1630 Hrs	Tea
1630 Hrs-1800 Hrs	Use of Nuclear Hydrology in project planning & monitoring

Day 3	
0930 Hrs-1100 Hrs	Hydrometereological Data - II
1100 Hrs-1130 Hrs	Tea
1130 Hrs-1300 Hrs	Use of Nuclear Hydrology in project planning & monitoring – II
1300 Hrs-1430 Hrs	Lunch
1430 Hrs-1600 Hrs	Application of Remote Sensing & GIS
1600 Hrs-1630 Hrs	Tea
1630 Hrs-1800 Hrs	Use of Nuclear Hydrology in project planning & monitoring – III

Day 4	
0930 Hrs-1100 Hrs	Importance of Water Quality and Water Quality Parameters
1100 Hrs-1130 Hrs	Tea
1130 Hrs-1300 Hrs	Application of Remote Sensing & GIS - II
1300 Hrs-1430 Hrs	Lunch
1430 Hrs-1600 Hrs	Hydroloogic Information System – I
1600 Hrs-1630 Hrs	Tea
1630 Hrs-1800 Hrs	Hydroloogic Information System – II

Day 5	
0930 Hrs-1100 Hrs	Drainage Basin Characteristics
1100 Hrs-1130 Hrs	Tea
1130 Hrs-1300 Hrs	Collection & Processing of Water Quality Data
1300 Hrs-1430 Hrs	Lunch
1430 Hrs-1600 Hrs	Application of Remote Sensing & GIS – III
1600 Hrs-1630 Hrs	Tea
1630 Hrs-1800 Hrs	NIH Visit

Day 6	
0930 Hrs-1100 Hrs	Time Series Analysis
1100 Hrs-1130 Hrs	Tea
1130 Hrs-1300 Hrs	Hydrologic Abstractions
1300 Hrs-1430 Hrs	Lunch
1430 Hrs-1600 Hrs	GW Quality – A case study of water quality in National Capital Region (New Delhi)
1600 Hrs-1630 Hrs	Tea
1630 Hrs-1800 Hrs	Tutorial & Lab Work on Water Quality

Day 7	
0930 Hrs-1100 Hrs	Time Series Analysis –II
1100 Hrs-1130 Hrs	Tea
1130 Hrs-1300 Hrs	Hydrologic Abstractions – II
1300 Hrs-1430 Hrs	Lunch
1430 Hrs-1600 Hrs	Water Availablity & yield Analysis
1600 Hrs-1630 Hrs	Tea
1630 Hrs-1800 Hrs	Surface Water & Ground Water Quality

Program

Day 8

0930 Hrs-1100 Hrs	Time Series Analysis –III
1100 Hrs-1130 Hrs	Tea
1130 Hrs-1300 Hrs	Water Availablity & yield Analysis – II
1300 Hrs-1430 Hrs	Lunch
1430 Hrs-1600 Hrs	Statistical and probabilistic methods in hydrology
1600 Hrs-1630 Hrs	Tea
1630 Hrs-1800 Hrs	Water Availablity & yield Analysis – III

Day 9

0930 Hrs-1100 Hrs	Rainfall- Runoff Modelling
1100 Hrs-1130 Hrs	Tea
1130 Hrs-1300 Hrs	Water Availablity & yield Analysis – IV
1300 Hrs-1430 Hrs	Lunch
1430 Hrs-1600 Hrs	Water Balance Studies
1600 Hrs-1630 Hrs	Tea
1630 Hrs-1800 Hrs	Ground Water Data

Day 10

0930 Hrs-1100 Hrs	Statistical and probabilistic methods in hydrology - II
1100 Hrs-1130 Hrs	Tea
1130 Hrs-1300 Hrs	Rainfall- Runoff Modelling –II
1300 Hrs-1430 Hrs	Lunch
1430 Hrs-1600 Hrs	Reservoir routing
1600 Hrs-1630 Hrs	Tea
1630 Hrs-1800 Hrs	Flood Estimation by UH technique

Day 11

0930 Hrs-1100 Hrs	Flood Frequency Analysis –I
1100 Hrs-1130 Hrs	Tea
1130 Hrs-1300 Hrs	Design Storm-I
1300 Hrs-1430 Hrs	Lunch
1430 Hrs-1600 Hrs	Flood Estimation by UH techniques-II
1600 Hrs-1630 Hrs	Tea
1630 Hrs-1800 Hrs	Design Storm-II

Day 12

0930 Hrs-1100 Hrs	Flood Frequency Analysis –II
1100 Hrs-1130 Hrs	Tea
1130 Hrs-1300 Hrs	Hydrology of Extremes
1300 Hrs-1430 Hrs	Lunch
1430 Hrs-1600 Hrs	Hydrology of Extremes – II
1600 Hrs-1630 Hrs	Tea
1630 Hrs-1800 Hrs	Ground Water Data

Day 13

0930 Hrs-1100 Hrs	Flood Frequency Analysis –III
1100 Hrs-1130 Hrs	Tea
1130 Hrs-1300 Hrs	Statistical and probabilistic methods in hydrology - III
1300 Hrs-1430 Hrs	Lunch
1430 Hrs-1600 Hrs	Hydrology of Extremes – II
1600 Hrs-1630 Hrs	Tea
1630 Hrs-1800 Hrs	Flood Estimation by UH techniques –III

Day 14

0930 Hrs-1100 Hrs	Food Estimation by UH techniques-IV
1100 Hrs-1130 Hrs	Tea
1130 Hrs-1300 Hrs	Hydrology of Extremes – III
1300 Hrs-1430 Hrs	Lunch
1430 Hrs-1600 Hrs	Channel Routing
1600 Hrs-1630 Hrs	Tea
1630 Hrs-1800 Hrs	Design Flood Estimation

Day 15

0930 Hrs-1100 Hrs	Operational Hydrology
1100 Hrs-1130 Hrs	Tea
1130 Hrs-1300 Hrs	Operational Hydrology – II
1300 Hrs-1430 Hrs	Lunch
1430 Hrs-1600 Hrs	Evaluation
1600 Hrs-1700 Hrs	Valedictory
1700 Hrs-17300 Hrs	Tea

IT Level 1 – *Basic computer skills*

Target group:	Novice computer users
Provider during HP:	Local computer training institutes
Location:	Local
Duration:	One week
Remarks:	Does not include hydrology topics
Consultant:	

Objective: After this course, the participants are able to
- connect computer hardware
- prepare letters and simple reports
- tabulate information
- use maintenance software

Admission qualifications:	
Training methods:	Lectures, exercises, discussions
Equipment/software used:	MSWindows, MSOffice, printing, file management, viruses etc.
Course fee:	Rs per person (incl. equipment use, handouts, snacks)
Board & lodging:	As applicable
Provider after HP:	Local computer training institutes

Please note that this session plan should be customised keeping the needs of the agency and advancements in the IT industry in mind. Customisation may also be required to provide proper focus on certain agency specific issues.

S. No.	Session title	Contents	Trainer's activities	Participants' tasks	Duration
A	Familiarize and use Windows 95/98	1. Starting Windows 95 / 98	• Show the booting procedure	• Repeat booting procedure as instructed	15 min.
		2. Using Windows 95/98 objects - Desktop, icons, taskbar	• Explain/ Demonstrate the following- Mouse operations	• Allowed time to familiarize themselves with mouse operations	15 min.
			• Arrange icons	• Rearrange desktop icons	15 min.
			• Load programs	• Load programs using Start Menu e.g. Calculator, Windows Explorer	10 min.
			• Switching between applications	• Switch between 2 or more loaded applications	10 min.
			• Resizing windows	• Resize any loaded application	10 min.
			• Show usage of Control Panel	• Load Control Panel	
			➢ Install/configure Printers	➢ Follow procedure instructed to install and configure a printer	30 min.
			➢ Change Display settings	➢ Change the background, appearance and resolution of the screen	30 min.
			➢ Change Regional Settings	➢ Change the date format and language setting to US/UK english	15 min.
			• How to shut down Windows 95/98	• Follow the Shut Down/Restart procedure	10 min.
		3. Using Windows explorer	• Explain/Demonstrate the following:	• Load Windows Explorer	
			➢ Create folders	➢ Create 2 new folders named f1, f2	15 min.

S. No.	Session title	Contents	Trainer's activities	Participants' tasks	Duration
			➢ Create files / Recognize files types	➢ Move to folder f1 and create a word document file named CV.doc	20 min.
			➢ Rename, copy, move and delete files	➢ Copy CV.doc file to folder f2	10 min.
				➢ Copy CV.doc to folder f1 and rename it as CV1.doc	10 min.
				➢ Move CV1.doc to folder f2	10 min.
				➢ Delete CV.doc from folder f2	10 min.
			➢ Restore files from recycle bin	➢ Restore CV.doc from recycle bin	10 min.
			➢ Create shortcuts	➢ Create a shortcut to file CV1.doc on the desktop	20 min.
			➢ Format / scan disks	➢ Format the floppy disk	15 min.
				➢ Scan/ Defragment the hard disk	30 min.
			➢ Find files / folders	➢ Find CV.doc in the hard disk	20 min.
			➢ Take backup of files/folders	➢ Backup CV.doc to floppy disk	10 min.

S. No.	Session title	Contents	Trainer's activities	Participants' tasks	Duration
B	Zipping / Unzipping files & folders	1. Install Winzip 2. Using zipping software	• Explain different compression formats • Demonstrate zipping/ unzipping procedure	• Install Winzip • Compress the folder f1 • Uncompress the above created file to folder f2	45 min.
C	Working in MS Word	1. Introduction to Word processing	• Explain the concept of Word processing		10 min.
		2. Creating / Opening a document	• Demonstrate creating / opening a document	• Create a new document	5 min.
		3. Identifying buttons on toolbars	• Explain terminology- Toolbars, buttons, menus & menu options • Demonstrate Customizing toolbar	• List all toolbar buttons and menu options in new document. Title the list as L1	45 min.
			• Explain File naming convention	• Save the new document as self name in folder F1	30 min.
		4. Saving a Document	• Demonstrate saving procedure	• Save the same document on floppy disk • Close the document and open the one saved on hard disk	
		5. Editing a document	• Demonstrate how to ➢ Highlight/Select text ➢ Cut, Copy & Paste ➢ Drag & Drop ➢ Undo & Redo	• Follow the procedures ➢ Select/Cut first 10 entries listed in L1 and paste them at the end of the file ➢ Select/Copy the whole document and paste on last page. Title the copied list as L2 ➢ Delete the first list L1 ➢ Use Undo command button to bring back the list L1. Use Redo command to be left with one list	90 min.

S. No.	Session title	Contents	Trainer's activities	Participants' tasks	Duration
			➢ Find and replace	➢ Find all occurrences of word 'Print'	
				➢ Replace the word 'Save' with 'Saving…' in whole document	
			➢ Check spelling & grammar	➢ Check the whole document for spelling & grammar mistakes	
		6. Formatting a document	• Demonstrate how to set/create	• Follow the procedures & change	
			➢ Font, line & paragraph spacing	➢ Font, line & paragraph spacing	90 min.
			➢ Styles	➢ Styles	
			➢ Bullet & numbering	➢ Bullet & numbering	
			➢ Border & shading	➢ Border & shading	
			➢ Text alignment	➢ Text alignment	
			➢ Page break/ Section break	➢ Also insert Page break/ Section break and table of contents	
			➢ Table of contents		
		7. Printing a document	• Demonstrate header/footer command, Print Preview and print procedure	• Follow the procedure and set different layout & footer for each page. Print the document	30 min.
		8. Additional features/ tools	• Demonstrate how to	• Follow the procedure	
			➢ Create/ Format tables	➢ Prepare CV using table in a new document	120 min.
			➢ Use Mail merge	➢ Create a new data source/ address book and forward the CV covering letter to all the listed addresses	90 min.
			➢ Insert files & pictures	➢ Insert the file with list L2 at the end of the document	60 min.
			➢ Insert drawing objects & Text Box	➢ Follow procedure and insert any picture, drawing & other objects	
			➢ Insert objects – Equation editor, Organization chart etc.		
		9. Exercises and advanced features	Demonstrate features Explain Exercises Check Results Demonstrate Solutions	Perform exercises	1 day

S. No.	Session title	Contents	Trainer's activities	Participants' tasks	Duration
D	Working in MS Excel	1. Introduction to Spread Sheet/ Worksheet terms	• Explain the concept of Spread Sheet		30 min.
			• Explain different worksheet terms		30 min.
		2. Starting Excel, creating, opening & navigating worksheets	• Demonstrate creating/ opening navigating between worksheets		20 min.
		3. Saving workbook	• Demonstrate saving procedure		15 min.
		4. Modifying the worksheet	• Demonstrate the following ➢ Rename/Move worksheets ➢ Resize rows & columns ➢ Edit cell contents ➢ Cut, copy, paste & paste special ➢ Fill series, dates, days & months using AutoFill ➢ Customize fill entries • Demonstrate how to ➢ Create/Enter and use formulas ➢ Use AutoFill to copy formulas ➢ Use absolute cell references in formulas ➢ Use functions		180 min.
		5. Formatting data/ Worksheet	• Demonstrate how to change ➢ Format ➢ Text Wrapping ➢ Alignment ➢ Orientation ➢ Font ➢ Border		120 min.

S. No.	Session title	Contents	Trainer's activities	Participants' tasks	Duration
		6. Printing a workbook	• Demonstrate the following ➢ Set header/footer ➢ Change page setup ➢ Print preview ➢ Print procedure		60 min.
		7. Creating/Formatting Charts	• *Demonstrate how to* ➢ Create/ Modify charts ➢ Format chart elements ➢ Change chart type ➢ Print charts		90 min.
		8. Additional tools/ features	• *Demonstrate/Explain how to* ➢ Sort data ➢ Filter data ➢ Freeze cells ➢ Arrange windows ➢ Split worksheets		180 min.
		9. Exercises	Explain the exercise Demonstrate final solution		240 min.
E	Working with MS Binder	1. Introduction to Binder	• Introduction to Binder		20 min.
		2. Creating/ opening & Saving Binder	• Demonstrate how to create, open and save the binder		20 min.
		3. Adding/ Deleting and duplicating sections in a binder	• Demonstrate how to add, delete and duplicate sections in a binder		60 min.
		4. Using binder page setup	• Demonstrate how to change page setup and print from binder		30 min.

S. No.	Session title	Contents	Trainer's activities	Participants' tasks	Duration
F	Internet Technologies	1. Introduction to Internet	• Explain Internet technology		30 min.
		2. Introduction/ Maintenance of Web browsers and World Wide Web (WWW)	• Explain Web browsers, WWW and demonstrate how to browse using Internet Explorer & Netscape Navigator		60 min.
			• Deleting temporary Internet files and history		
		3 Introduction/ Use of Electronic Email	• Introduce the term Electronic Mail and demonstrate how to use Outlook Express and Netscape Communicator		120 min.
			• Demonstrate how to ➢ Compose a mail ➢ Send a mail to single/ multiple recipient/s ➢ Read an email ➢ Know that email has arrived ➢ Create / Maintain Address book		120 min.
G	Installation of Windows 95/98	1. Formatting the hard disk in MS-DOS	• Introduce & demonstrate formatting procedure	• Exercise : Follow the formatting procedure	180 min.
		2. Enabling CD-drive through DOS	• Demonstrate the copying procedure		
		3. Copying the cab files to hard disk	• Explain & demonstrate installation procedure		
		4. Installation of Windows 95/98	• Repeat step-by-step installation procedure		
		5. Re-installation of Windows			
H	Installation of MS Office97	1. Installation / re-installation of MS Office 97	• Explain & demonstrate installation procedure		45 min.
			• Repeat step-by-step installation procedure	• Practice the installation procedure	120 min.

S. No.	Session title	Contents	Trainer's activities	Participants' tasks	Duration
I	Installation of anti-virus software (McAfee / Norton)	1. Installation of Anti virus software	➢ Explain & demonstrate installation procedure	Practice the installation procedure	20 min.
			➢ Repeat step-by-step installation procedure		45 min
		2. Virus updates			45 min
J	Backup Procedures Maintenance of logbooks Virus Scan and other scheduled activities		➢ Explain & demonstrate Backup procedure, Maintenance of logbooks, Virus Scan, other scheduled activities		4 hours
K	Backup procedures		Explain & demonstrate how to - 1. Install and configure backup utility 2. Scheduling backups 3. Transferring backup on external media like floppy, CD Drive		120 min.

IT Level 2 – *MS Word and MS Excel skills*

Target group: MS Office users

Provider during HP: Local computer training institutes

Location: Local

Duration: One week starters course

Remarks: Does not include hydrology topics.

Consultant: V. Jain

Objective: After this course, the participants are able to
- enter, import data in worksheets
- present data graphically
- carry out mathematical, statistical calculations

Admission qualifications:

Training methods: Lectures, exercises, discussions

Equipment/software used:

Course fee: Rs   per person (incl. equipment use, handouts, snacks)

Board & lodging: As applicable

Provider after HP: Local computer training institutes

Please note that this session plan should be customized keeping the needs of the agency and advancements in the IT industry in mind. Customization may also be required to provide proper focus on certain agency specific issues.

S. No.	Session title	Contents	Trainer's activities	Participants tasks	Duration
1.	EDP Concepts, Windows Refreshed, Word refresher	EDP Concepts	Explain • History of computing • Basics of languages • Current technology • Future enhancements		10 min. 20 min. 15 min. 15 min.
		Windows Refreshed	• Contents of windows • Operations in Windows Explorer • Change setting in Control Panel • Installation /configuration of Printers		120 min.
		Word Refreshed	• Creating/opening a document • Editing a document • Formatting a document • Advanced features/tools		180 min.
2.	MS-Excel	Introduction to Spread Sheet/ Worksheet terms Starting Excel, creating, opening & navigating worksheets Saving workbook Modifying the worksheet Formatting data/ Worksheet Printing a workbook Creating/Formatting Charts Additional tools/ features			
		Exercises	Explain the exercise Demonstrate final solution		2 days

S. No.	Session title	Contents	Trainer's activities	Participants tasks	Duration
3.	Working with MS Access	1. Introduction to Databases/ MS Access	• Explain the concept of databases • Introduction to MS Access • Introduce the contents of database		30 min.
		2. Working with tables in MS Access	• Demonstrate how to create tables ➢ Field name ➢ Data type ➢ Field description ➢ Field properties		20 min.
			• Demonstrate different methods to create a table ➢ Data sheet view ➢ Design view ➢ Table wizard ➢ Import table ➢ Link table		90 min.
			• Demonstrate how to enter data in a table		45 min.
		3. Working with queries	• Explain the following types of queries ➢ Select query ➢ Action query ➢ Cross-tab query		20 min.
			• Demonstrate different methods to create a query ➢ Design view ➢ Simple query wizard ➢ Cross tab query wizard • Demonstrate how to ➢ Sort/ Group data in a query ➢ Specify criteria ➢ Accept parameters		120 min.

S. No.	Session title	Contents	Trainer's activities	Participants tasks	Duration
		4. Working with forms	• Explain use of forms • Demonstrate different methods of creating a form ➢ Design view ➢ Form wizard • Demonstrate how to run and enter data in a form • Explain and demonstrate how to ➢ Set form properties ➢ Place controls on to form ➢ Write event procedures for controls/ forms		180 min.
		5. Working with reports	• Demonstrate different methods to create a report ➢ Design view ➢ Report wizard • Demonstrate how to ➢ Format a report ➢ Preview a report ➢ Print a report		120 min.
		6. Additional tools	• Explain/ Demonstrate how to ➢ Establish a relationship between tables ➢ Create/ use Macros ➢ Create/ use general modules ➢ Refer to external programs ➢ Use active controls ➢ Use API calls		180 min.
		7. Exercise	• Explain the exercise Demonstrate final solution		1 day

S. No.	Session title	Contents	Trainer's activities	Participants tasks	Duration
8.	Working with MS-PowerPoint	1. Introduction to concept of presentations	• Explain the concept of presentation		10 min.
		2. Creating as new PowerPoint presentation	• Demonstrate how to create a new presentation		45 min.
		3. Saving a presentation	• Demonstrate saving procedure		15 min.
		4. Editing a presentation	• Demonstrate how to ➢ Add a new slide ➢ Delete a slide ➢ Change sequence of different slides		20 min.
		5. Formatting a presentation	• Explain/ Demonstrate how to change ➢ Slide layouts ➢ Change fonts ➢ Text alignment ➢ Background colour ➢ Design templates		60 min.
		6. Viewing a presentation	• Demonstrate different methods to view a PowerPoint file ➢ Slide view ➢ Outline view ➢ Slide sorter view ➢ Notes page view ➢ Slide show		45 min.
		7. Additional tools/ features	• Demonstrate how to ➢ Set slide transition ➢ Set animation & sound effects using custom animation		45 min.

S. No.	Session title	Contents	Trainer's activities	Participants tasks	Duration
9.	Working with MS Outlook	1. Introduction to MS Outlook 2. Working with MS Outlook	• *Introduction to MS Outlook* • *Demonstrate how to* ➢ use inbox to compose / send mails to single/ multiple recipient/s ➢ Add/ Edit address book ➢ Use calendar/ contacts and tasks ➢ Use journals (work with files/ folders) ➢ Use mail merge ➢ View web pages ➢ Organise and view items in outlook		10 min. 120 min.
10.	Working with MS Binder	4. Introduction to Binder 5. Creating/ opening & Saving Binder 6. Adding/ Deleting and duplicating sections in a binder 4. Using binder page setup	• Introduction to Binder • Demonstrate how to create, open and save the binder • Demonstrate how to add, delete and duplicate sections in a binder • Demonstrate how to change page setup and print from binder		60 min.
11.	Internet Technologies	1.Introduction to Internet 2. Introduction/ Maintenance of Web browsers and World Wide Web (WWW) 3 Introduction/ Use of Electronic Email	• Explain Internet technology • Explain Web browsers, WWW and demonstrate how to browse using Internet Explorer & Netscape Navigator • Deleting temporary Internet files and history • Introduce the term Electronic Mail and demonstrate how to use Outlook Express and Netscape Communicator • Demonstrate how to ➢ Compose a mail ➢ Send a mail to single/ multiple recipient/s ➢ Read an email ➢ Know that email has arrived ➢ Create / Maintain Address book		240 min. .

S. No.	Session title	Contents	Trainer's activities	Participants tasks	Duration
12.	Installation of Windows 95/98	5. Formatting the hard disk in MS-DOS	• Introduce & demonstrate formatting procedure	• Exercise : Follow the formatting procedure	45 min.
		6. Copying the cab files to hard disk	• Demonstrate the copying procedure	• Practice the copying procedure	45 min.
		7. Installation of Windows 95/98	• Explain & demonstrate installation procedure		60 min.
			• Repeat step-by-step installation procedure	• Practice the installation procedure	120 min.
13.	Installation of MS Office97	1. Installation of MS Office 97	• Explain & demonstrate installation procedure		120 min.
			• Repeat step-by-step installation procedure	• Practice the installation procedure	
14.	Installation of anti-virus software (McAfee / Norton)	1. Installation of Anti virus software	• Explain & demonstrate installation procedure		90 min.
			• Repeat step-by-step installation procedure	• Practice the installation procedure	
15.	Backup procedures	4.	Explain & demonstrate how to - • Install and configure backup utility • Scheduling backups • Transferring backup on external media like floppy, CD Drive		120 min.