

Government of India & Government of The Netherlands



DHV CONSULTANTS &
DELFT HYDRAULICS
with HALCROW, TAHAL,
CES, ORG & JPS

HIS Groundwater Training Specifications

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Introduction

This document provides an overview of training for staff involved in managing and operating a Hydrological Information System for groundwater. 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

Groundwater Hydrometry – Data Collection

ToT - 1: Basic skills

Target group:	Candidate in-house GW trainers (G-10)
Provider during HP:	RGI in co-operation with Consultant
Location:	Raipur
Duration:	3 days for training skills + time required for selected technical topics
Remarks:	Three courses completed. Requests for additional deliveries forwarded to RGI.
Consultant:	S. Jagota / H. Wittenberg / K. S. Mani

Objective:	After this course, the participants are able to <ul style="list-style-type: none">• develop and manage in-house training courses• effectively present, guide exercises and facilitate discussions• apply GW data collection practices
Admission qualifications:	<ul style="list-style-type: none">• data collection experience• communicative personality, interest in training
Training methods:	Lectures, exercises, discussions
Equipment/software used:	All basic observation instruments
Provider after HP:	
Contact person:	

Program

Day 1	09.30	Registration & introduction on course objectives
	10.30	Lecture: Objectives & attributes of ground water hydrometry
	11.00	Discussion: Effect of hydrological cycle on the ground water movement
Day 2	14.00	Discussion: Essential elements in the designing of piezometer
	09.30	Discussion: Design of monitoring network
Day 3	14.00	Discussion: Optimisation of monitoring network
	09.30	Discussion: Survey to identify aquifers & lithological characteristics
Day 4	10.30	Discussion: Recording drilling activities for preparation of well log
	11.00	Demonstration & exercise: Survey to identify aquifers
	15.30	Demonstration & exercise: Recording observations of drilling activities
	09.30	Lecture: Methods for aquifer parameter evaluation
Day 5	11.00	Discussion: Methods & equipment for conducting primary yield test
	14.00	Demonstration & exercise: Primary yield test
	09.30	Discussion: Procedure for conducting pumping test
Day 6	11.00	Demonstration & exercise: Pumping test
	09.00	Discussion: training needs & organisation development
Day 7	09.30	Exercise: needs analysis in an organisation
	10.00	Lecture: matching training demand with supply
	10.30	Discussion: training development cycle, step by step
	14.00	Discussion: training management areas
	14.30	Exercise: define trainers' role and tasks in HP
	15.00	Overview: communication skills
	15.30	Self assessment: presentation skills
	15.45	Exercises: presentation skills
	17.00	Summary & tips: presentation skills
	17.15	Feedback: video playback of days recording
	Day 8	09.00
09.15		Lecture: elements of skills training
09.30		Exercises: skills training
12.45		Summary and tips: skills training
14.00		Lecture: overview of discussion techniques
14.15		Self assessment: discussion skills
14.45		Exercises: open inventory discussion
15.45		Summary & tips: open inventory discussion technique
16.00		Exercises: focused discussion / questioning
16.45		Summary & tips: focused discussion / questioning
17.00		Feedback: video playback of days recording

ToT - 2: Training management

Target group:	Active trainers of ToT-1 and their Training Co-ordinators. Combined sessions for SW, GW and WQ trainers preferred.
Provider during HP:	Consultant in co-operation with TC
Location:	In States and CGWB/RGI
Duration:	3 days
Remarks:	First round completed. TCs will facilitate similar sessions on a regular
Consultant:	S. Jagota / R. L. Qazi / H. Wittenberg

Objective:	After this course, the participants are able to solve ongoing problems in training development, management and communication
Admission qualifications:	Earlier HP training practice.
Training methods:	Lectures, exercises, discussions
Equipment/software used:	N.A.
Provider after HP:	First round by Consultant. Subsequent regular training management meetings by Training Coordinator.

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	

Groundwater data collection

Target group: Observers: G-1, G-2
Provider during HP: In-house trainers
Location: In-office, local institutes and sites
Duration: 10 days
Remarks:
Consultant: K. S. Mani

Objective: After this course, the participants are able to

-

Admission qualifications:

-

Training methods: Lectures, exercises, discussions

Equipment/software used:

Provider after HP:

Program

Day 1	09.30	Registration & introduction on course objectives
	10.30	Lecture: Objectives & attributes of ground water hydrometry
	11.00	Discussion: Effect of hydrological cycle on the ground water movement
	14.00	Discussion: Essential elements in the designing of piezometer
Day 2	09.30	Discussion: Design of monitoring network
	14.00	Discussion: Optimisation of monitoring network
Day 3	09.30	Discussion: Survey to identify aquifers & lithological characteristics
	10.30	Discussion: Recording drilling activities for preparation of well log
	11.00	Demonstration & exercise: Survey to identify aquifers
	15.30	Demonstration & exercise: Recording observations of drilling activities
Day 4	09.30	Lecture: Methods for aquifer parameter evaluation
	11.00	Discussion: Methods & equipment for conducting primary yield test
	14.00	Demonstration & exercise: Primary yield test
Day 5	09.30	Discussion: Procedure for conducting pumping test
	11.00	Demonstration & exercise: Pumping test
	16.00	Evaluation & valedictory

DWLR installation, trouble shooting and maintenance

Target group: DWLR operators and supervisors: G-1, G-2, G-3)

Provider during HP: Suppliers

Location: In-office and sites

Duration: 2 days

Remarks: As per procurement contract

Consultant: B. Blok

Objective: After this course, the participants are able to

- operate the model supplied
- troubleshoot minor problems
- identify and communicate the problems to the vendor

Admission qualifications: •

Training methods: Lectures, exercises, discussions

Equipment/software used:

Provider after HP:

Contact person:

Program

Day 1

Pre lunch

Introduce the DWLR function

Display the DWLR components and specifications

- Pressure sensor
- Datalogger
- Batteries

Explain the tests and calibrations carried out on DWLR components

Explain the various Manuals and Guidelines

Explain the Acceptance Tests carried

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

Day 1

Post lunch

Demonstrate Field Test execution

- All Units Test Programme
- Single Unit Test Programme

Demonstrating the Interpretation of test results

Day 2

Demonstrate and practice installation procedure

Demonstrate tests carried out during routine downloading of data

Demonstrate preventive maintenance steps

Training specifications

Groundwater Hydrometry – Data Entry and Processing

ToT - 3: DWLR data validation and data handling

Target group:	Selected in-house trainers from ToT-1 (G-10) and RGI faculty
Provider during HP:	RGI
Location:	Raipur, Madhya Pradesh
Duration:	5 days
Remarks:	First round delivered by Consultant and selected guest faculty
Consultant:	K. A. S. Mani

Objective:	After this course, the participants are able to <ul style="list-style-type: none">• train GW staff to take decision on DWLR data collection frequency & interpretation of the data
Admission qualifications:	<ul style="list-style-type: none">• Participation in ToT-1, ToT-2 and active as in-house GW trainer• Participants to bring DWLR data from their respective States/ Regions
Training methods:	Lectures, exercises, discussions
Equipment/software used:	Computer (one per), MS Office, GWDES, Surfer & customised software prepared by the consultant
Provider after HP:	Rajiv Gandhi National Ground Water training & Research Institute
Contact person:	????

Program

Day 1

- 09.00 Opening
- 09.15 HP and HIS context
- 09.30 Introduction to High Frequency Water Level Monitoring (HFWLM)
- 10.30 Identification of areas to be prioritised for HFWLM (Coastal, over exploited, canal command etc)
- 11.30 Instrument for carrying out HFWLM (DWLR Type)
- 12.00 Components of DWLR
- 14.00 Working with GWDES, import of DWLR data, generation of composite hydrographs

Day 2

- 09.00 Validation of hydrographs:
 - Superposing rainfall hydrographs, irrigation applications and pumping events on the water level hydrographs for consistency checks.
- 11.00 Comparing hydrographs of sparse and high frequency data:
 - Study of attributes such as shape, peak, trough
 - Study of high frequency (say daily) variations and identification of daily cycle
 - Study of correlation coefficient as a function of data frequency to arrive at optimal frequency of monitoring.
 - Identifying the optimal frequency for different seasons in different geological set-ups.
- 14.00 Analysis of hydrographs using customised software

Day 3

- 09.00 Validation of water level contours:
 - Krigging: fundamentals and application to water level data
 - Comparison between contours as obtained from sparse & high frequency data
 - Optimal frequency
- 14.00 Krigging exercise (working with surfer)

Day 4

- 09.00 Impact of High Frequency data on:
 - Ground water resources assessment
 - Planning of groundwater development, conjunctive water use etc.
 - Parameter estimation
 - Understanding of recharge/ discharge phenomena
 - Designing watershed management structures
- 14.00 DWLR data interpretation and understanding the added value. Case Studies from different States

Day 5

- 09.00 Methodology of reporting DWLR interpretations
- 14.00 DWLR data analysis, generation of reports
- 16.00 Evaluation & valedictory

DWLR data validation and handling

Target group:	DWLR operators and supervisors: G-1, G-2, G-5)
Provider during HP:	In-house trainers
Location:	In-office and sites
Duration:	2 days
Remarks:	This course can be incorporated in the standard in-house GW data collection course for observers
Consultant:	K. S. Mani

Objective:	After this course, the participants are able to <ul style="list-style-type: none">• take decision on DWLR data collection frequency & interpretation of the data
Admission qualifications:	<ul style="list-style-type: none">•
Training methods:	Lectures, exercises, discussions
Equipment/software used:	
Provider after HP:	
Contact person:	

Program

	Contents	Time Min.	
Day 1	• Introduction & course objectives	90	
	• Lecture: Conventional and DWLR assisted water level monitoring (Prevalent monitoring, High Frequency Monitoring, True hydrographs)	30	
	• Lecture: Elements of DWLR (Sensors, Data logger, DRS)	60	
	• Demonstration: DWLR data down loading (Preparation, Monitoring, Data retrieval, Graphics, Manual cross check, DWLR up-keep)	180	
Day 2	• Lecture: Role of DWLR data in Ground Water Resource Estimation (Understanding recharge process, assessment of rainfall recharge by Lumped water balance).	60	
	• Lecture: Other applications of DWLR data (Conjunctive use planning, scheduling of pumpage, calibration of aquifer response models, identification of cycles). Geographical areas of priority (Coastal areas, Canal commands, over exploited areas)	60	
	• Demonstration of GWDES - 2 (Importing DWLR data, data presentation, graphics of time series, scaling, incorporating rainfall data, generating composite hydrographs)	60	
	• Exercise: Study of recharge process	30	
	• Exercise: Participants practice on the GWDES - 2 with one example data set	30	
	• Exercise: Participants repeat the exercise with five other data sets.	60	
	• Discussion session: Area specific issues	30	
	• Exercise: Participants identify ideal data sets for processing	15	
	Day 3	• Lecture: How to identify the cycles using Harmonic Analysis	30
		• Lecture: Understanding the concept of Optimal Monitoring Frequency of the DWLR	90
• Lecture: Understanding the data processing software: DWLR - ANALYST		30	
• Demonstration: Importing one set of ideal data into DWLR - ANALYST		30	
• Exercise: Participants practice on the DWLR - ANALYST with one example data set		30	
• Demonstration: How to analyse DWLR data and produce reports.		30	
• Exercise: Participants practice the analysis of DWLR data and produce reports		120	
Day 4	• Case Study I: Presentation of the analyzed data of a selected region Presentation of the supporting hydrogeological data of the same region Discussion: Identification of the Optimal Monitoring Frequency	45	
	• Case Study II: Presentation of the analyzed data of a second selected region Presentation of the supporting hydrogeological data of the same region Discussion: Identification of the Optimal Monitoring Frequency	45	
	• Exercise: Participants practice using two more data sets to analyse DWLR data and produce reports	300	
	Day 5	♦ Discussion: Optimising of High Frequency data for: GW resource assessment Planning of GW development, conjunctive water use Parameter estimation Understanding of recharge / discharge phenomenon Designing watershed management structures	180
♦ Discussion: How to report DWLR interpretations		60	
♦ Evaluation & valedictory		60	

ToT - 4: Groundwater data entry (GWDES)

Target group:	For selected in-house trainers (G-10) and RGI faculty
Provider during HP:	Consultant
Location:	In-office
Duration:	3 days
Remarks:	To date, 31 staff trained. For WQ data entry, laboratory staff has to be nominated.
Consultant:	K. S. Mani

Objective: After this course, the participants are able to

- Train staff in-house on how to enter GW data

Admission qualifications: •

Training methods: Lectures, exercises, discussions

Equipment/software used:

Provider after HP:

Contact person:

Program

Day 1

1. Registration 30 min
2. Inaugural Session 30 min
3. Status of groundwater data entry in the different agencies-Presentation by representatives of participating agencies 60 min
4. Overview of GWDES- Creating and managing user levels, work areas, customisation of basins, geology, geomorphology, lithology, data entry forms, data entry procedures, graphical presentation of data. 105min
5. Exercise –1, Customisation of pass word, login name, user levels, work areas, basins, geology, geomorphology, lithology. Fragmenting and Consolidating data base 75 min
6. Water Quality data entry module- entry of laboratory information, parameter information, sample collection information, data entry, generation of graphs, water quality diagrams and reports. 60 min
7. Group Discussions-1, DWLR data down loading procedures in the field, field validations, organising field data, maintenance and upkeep of DWLR. 75 min

Day 2

8. DWLR data transfer from palm top to PC, integrating DWLR data with GWDES, composite hydrographs, hydrographs of multiple wells, data session control. 90 min
9. Exercise –2, DWLR data import, edit data, import rainfall data generate composite hydrographs, hydrograph of multiple wells, save hydrographs, interpret hydrographs and prepare report. 105 min
10. DWLR Analyst – High frequency monitoring, spectral analysis, harmonic analysis, optimal analysis, general statistics, run analysis, auto correlogram. 75 min
11. Exercise –3, Analyse DWLR data using Analysts Software. Selection of data sets, spectral, harmonic, optimal analysis, generate statistics, identify dominant cycles, summarise the data 135 min

Day 3

12. Group discussions –2, DWLR data Analysis, optimum monitoring frequency, prevalent monitoring intervals, loss of information due to increased monitoring interval, utility of DWLR data in resource assessment computations and designing management strategies. 90 min
13. Exercise –4, Report generation- standard reports, advanced reports. Generating hydrographs-adding trend line and interpretation. Generation of well logs, composite plot of drilling data. Export water level & water quality data, prepare contour maps, 3D maps and water quality diagrams. 105 min
14. Data validation procedures- validation of locations, basins, geology, geomorphology, lithology, well design, water levels, water quality and using inter-parameter relationship. 75 min
15. Exercise –5, Validate well location, basins, geology, geomorphology, lithology, well design, water levels, water quality data. 75 min
16. Group Discussions-3, Data management, data back up, data communication. 60 min

Day 4

17. Introductions to training skills 25 min
18. The need for training 10 min
19. Change through training: Old lady – Young lady 10 min
20. Getting started with training development: *who takes the lead?* 05 min
21. The training development cycle 10 min
22. Introduction-2 05 min
23. Exercise: *self assessment - 1* 25 min
24. Guided exercises (round 1) 20 min
25. Guided exercises (round 2) 20 min
26. Main (6) elements of presentation skills1 20 min
27. Exercise: (round 3) 45 min
28. Main (6) elements of presentation skills2 15 min
29. Icebreaker - *Buzz game* 15 min
30. Exercise: *self assessment* 20 min
31. Introduction *Inventory method* 05 min
32. Guided exercises (round 1) 20 min
33. Guided exercises (round 2) 45 min
34. Tips 15 min
35. Video review 60 min

Day 5

36. Icebreaker - *Volley ball* 15 min
37. Exercise: how to process new information in a training (text analysis) 45 min
38. Introduction-3 10 min
39. Guided exercises (round 1) 20 min
40. Tips: skills training 05 min
41. Guided exercises (round 2) 15 min
42. Guided exercises (round 3) 30 min
43. More tips: skills training 10 min
44. Exercise: training method v/s objective 30 min
45. Conclusions 15 min
46. Exercise: *Finale for everything learned* 15 min
47. Exercise: *Finale for everything learned* 120 min
48. *Formal & questionnaire based* 45 min

GW data entry (GWDES)

Target group:	Data entry staff
Provider:	In-house data entry trainers
Location:	In-house
Duration:	3 days + On the Job coaching
Remarks:	
Consultant:	PC Niak, K A S Mani,

Content / objective: After this course, the participants are able to
(syllabus on opposite page)

- Enter data in the GWDES software

Admission qualifications:

- Computer skills

Training methods: Lectures, exercises, discussions

Equipment/software used:

Program

Day 1

- | | | |
|----|--|--------|
| 1. | Registration | 30 min |
| 2. | Inaugural Session | 30 min |
| 3. | Status of groundwater data entry in the different Regions / Districts -Presentation by representatives | 60 min |
| 4. | Overview of GWDES- Creating and managing user levels, work areas, customisation of basins, geology, geomorphology, lithology, data entry forms, data entry procedures, graphical presentation of data. | 105min |
| 5. | Exercise –1, Customisation of pass word, login name, user levels, work areas, basins, geology, geomorphology, lithology. Fragmenting and Consolidating data base | 75 min |
| 6. | Water Quality data entry module- entry of laboratory information, parameter information, sample collection information, data entry, generation of graphs, water quality diagrams and reports. | 60 min |
| 7. | Group Discussions-1, DWLR data down loading procedures in the field, field validations, organising field data, maintenance and upkeep of DWLR. | 75 min |

Day 2

- | | | |
|-----|--|---------|
| 8. | DWLR data transfer from palm top to PC, integrating DWLR data with GWDES, composite hydrographs, hyhydrographs of multiple wells, data session control. | 90 min |
| 9. | Exercise –2, DWLR data import, edit data, import rainfall data generate composite hydrographs, hydrograph of multiple wells, save hydrographs, interpret hydrographs and prepare report. | 105 min |
| 10. | DWLR Analyst – High frequency monitoring, spectral analysis, harmonic analysis, optimal analysis, general statistics, run analysis, auto correlogram. | 75 min |
| 11. | Exercise –3, Analyse DWLR data using Analysts Software. Selection of data sets, spectral, harmonic, optimal analysis, generate statistics, identify dominant cycles, summarise the data | 135 min |

Day 3

- | | | |
|-----|--|---------|
| 12. | Group discussions –2, DWLR data Analysis, optimum monitoring frequency, prevalent monitoring intervals, loss of information due to increased monitoring interval, utility of DWLR data in resource assessment computations and designing management strategies. | 90 min |
| 13. | Exercise –4, Report generation- standard reports, advanced reports. Generating hydrographs- adding trend line and interpretation. Generation of well logs, composite plot of drilling data. Export water level & water quality data, prepare contour maps, 3D maps and water quality diagrams. | 105 min |
| 14. | Data validation procedures- validation of locations, basins, geology, geomorphology, lithology, well design, water levels, water quality and using inter-parameter relationship. | 75 min |
| 15. | Exercise –5, Validate well location, basins, geology, geomorphology, lithology, well design, water levels, water quality data. | 75 min |
| 16. | Group Discussions-3, Data management, data back up, data communication. | 60 min |

&

Additional Several days of on-the-job coaching

Groundwater data analysis-*stocktaking*

Target group:	Data processing staff
Provider during HP:	Consultants & In-house trainers
Location:	
Duration:	2-3 days
Remarks:	First round delivered by Consultant and selected guest faculty
Consultant:	Dr. D K Dutt, Dr. K. A. S. Mani and Mr. P C Niak

Objective:	After this course, the participants are able to <ul style="list-style-type: none">• assess the quality of data entered and find data gaps
Admission qualifications:	<ul style="list-style-type: none">• Participants to bring DWLR data from their respective States/ Regions
Training methods:	Lectures, exercises, discussions
Equipment/software used:	Computer (one per), MS Office, GWDES, Surfer & customised software prepared by the consultant
Provider after HP:	Rajiv Gandhi National Ground Water training & Research Institute
Contact person:	

Program

Day 1

	Registration -	10.00 to 10.30 hrs
	Inaugural Session	10.30 to 11.00 hrs
1	Introduction to work plan and tasks for the 1 st session	11.00 to 11.30 hrs
2	Exercise 1-14	11.30 to 13.00 hrs
	Lunch Break	13.00 to 14.00 hrs
3	Review of forenoon session task, explanation of after noon session tasks	14.0 to 15.00 hrs
4	Exercise 15 -17	15.00 to 17.00 hrs

Day 2

1	Review of previous day afternoon session task, explanation of fore noon session tasks	10.00 - 11.00 hrs
2	Exercise 18 –20	11.00 - 13.00 hrs
3.	Lunch Break	13.00 to 14.00 hrs
4	Working with DWLR analyst - Lecture	14.00 to 15.30 hrs
5	Exercise-21	15.45 to 17.00 hrs
6	Feed back and Conclusions	17.00 to 17.30 hrs

GIS and Remote Sensing appreciation

Target group:	State DPC Manager (G-12) and CGWB
Provider during HP:	Institute for Remote Sensing, Anna University
Location:	Chennai
Duration:	3 days
Consultant:	Dr K S Mani

Objective:	After this course, the participants are able to: <ul style="list-style-type: none">• Identify situations where remote sensing & GIS can be applied to GW studies.• Specify the type of remote sensing data to be purchased
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Admission qualifications: Post graduate in Hydrogeology

Training methods: Lectures, demonstrations, exercises, discussions

Equipment/software used:

Provider after HP: Institute for Remote Sensing, Anna University

Contact person: Dr. A R Santa Kumar, Director

Program

- Day 1**
- 1 Registration & introduction on course objectives
 - 2 Lecture: Introduction to Remote Sensing
 - 3 Demo & Exercise: Remote Sensing tools
 - 4 Demo & Exercise: Remote Sensing applications – an overview
 - 5 Lecture: Status of Remote Sensing application in India.
 - 6 Demo & Exercise: Remote Sensing satellites & Multi-spectral sensors
- Day 2**
- 1 Lecture: Remotely sensed data & methods of interpretation
 - 2 Demo & Exercise: Preparation of Remotely sensed data sets for application
 - 3 Lecture: Introduction to Digital image processing
 - 4 Demo & Exercise: Pre – processing & image enhancement techniques
 - 5 Lecture: Interpretation of image processing data
 - 6 Demo & Exercise: Application of interpreted data in exploration / management
- Day 3**
- 1 Lecture: Introduction to GIS & its utility in GW studies
 - 2 Demo & Exercise: Methods for transforming maps into digital formats
 - 3 Demo & Exercise: Organization of themes as layered information
 - 4 Demo & Exercise: Data base creation in GIS
 - 5 Demo & Exercise: Application of GIS in interpretation of GW resources
 - 6 Field visit: Remote Sensing & GIS center
 - 7 Course evaluation & valedictory

Remote Sensing applications in ground water data processing

Target group:	GW GIS experts: Regional & District DPC Managers (G-7, G-9)
Provider during HP:	Institute for Remote Sensing, Anna University
Location:	Chennai
Duration:	10 days
Remarks:	
Consultant:	Dr K S Mani

Objective:	After this course, the participants are able to optimise the remote sensing capability of the ground water application software
Admission qualifications:	Post graduate in Hydrogeology with good knowledge of computer application
Training methods:	Lectures, exercises, discussions
Equipment/software used:	
Contact person:	Dr. A R Santa Kumar, Director

Program

- Day 1**
- 1 Registration & introduction on course objectives
 - 2 Lecture: Introduction to Remote Sensing
 - 3 Demo Remote Sensing tools
 - 4 Demo Remote Sensing applications – an overview
 - 5 Lecture: Status of Remote Sensing application in India.
 - 6 Demo Remote Sensing satellites & Multi-spectral sensors
- Day 2**
- 1 Lecture: Principles of Aerial photography
 - 2 Lecture: Remotely sensed data & methods of interpretation
 - 3 Exercise: Visual interpretation of Aerial photographs / satellite imagery
 - 4 Exercise: Stereoscopic interpretation of Aerial photos
- Day 3**
- 1 Lecture: Introduction to Digital image processing
 - 2 Demo : Preparation of remotely sensed data sets for GW application
 - 3 Lecture: Pre – post processing of digital image & image enhancement techniques
 - 4 Demo: Pre – processing & image enhancement techniques
- **Day 4**
- 1 Lecture: Hydrogeological & geomorphological mapping using RS data
 - 2 Lecture: Morphometric analysis
 - 3 Exercise: Pre – processing, image enhancement & image classification
- **Day 5**
- 1 Exercise: Delineating lineaments, water bodies, abandoned river channels, irrigated areas, forests etc.
 - 2 Exercise: Application of Remote Sensing techniques in GW resources assessment
- **Day 6**
- 1 Lecture: Introduction to principles of Global Positioning System (GPS)
 - 2 Lecture: Different types of GPS
 - 3 Demo Functions of GPS
- **Day 7**
- 1 Exercise: Using Remote Sensing techniques in coastal GW management
 - 2 Exercise: Using Remote Sensing techniques in integrated Water shed management planning
- **Day 8 & 9**
- Mini project work including field work
- **Day 10**
- 1 Exercise: Post field correction and final mapping.
 - 2 Panel discussion
 - 3 Course evaluation & valedictory

GIS data sets quality control and quality assurance

Target group:	GW GIS experts: Regional & District DPC Managers (G-7, G-9)
Provider during HP:	Consultant
Location:	State / Regional data centre
Duration:	04 days
Remarks:	It is requested that during these training sessions nominated officials should be free from their routine assignments so as to enable them maximum concentration
Consultant:	Mr. Luv Sharma

Objective:	After this course, the participants are able to - evaluate quality of the GIS data sets supplied by the vendor
Admission qualifications:	Post graduate in Hydrogeology with good knowledge of computer application
Training methods:	Lectures, exercises, discussions
Equipment/software used:	One computer (Pentium III, 128 MB RAM, 20 GB HDD, 17" or 19" colour monitor, key board and mouse) loaded with Data Automation Kit (DAK), Arcview, and 3D Analyst. LCD projector
Course fee:	Rs 12,500 per person (incl. daily transport, fields trips, equipment use, handouts, snacks, lunches)
Board & lodging:	Included in course fee and arranged by IRS
Contact person:	Dr. A R Santa Kumar, Director

Program

	Timings	Coverage
Day 1	10.30 – 12.30 hrs.	Introduction to GIS and maps.
	14.30 – 17.00 hrs.	Introduction to use of GIS software available.
Day 2	10.30 – 12.30 hrs.	Loading of GIS data sets in available GIS software
	14.30 – 17.00 hrs.	Practical exposure to use of data sets.
Day 3	10.30 – 12.30 hrs.	Introduction to QC/QA parameters.
	14.30 – 17.00 hrs.	Practical Exposure of QC /QA parameters on GIS data sets received.
Day 4	10.30 – 12.30 hrs.	Practical Exposure of QC /QA parameters on GIS data sets received.
	14.30 – 17.00 hrs.	Introduction to preparation of QC/QA report and course evaluation.

Groundwater data processing (for GEMS end users & administrators)

Target group:	State and Regional DPC Managers (G-12, G-7), Hydro-geologists (G-6, G-9, G-11), Assistant Hydrogeologists ((G-5), and RGI faculty
Provider during HP:	Software supplier (TIL)
Location:	All State / Region GW Data Centres
Duration:	15 days
Remarks:	
Consultant:	
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Objective:	After this course, the participants are able to <ul style="list-style-type: none">• Install and use GEMS software for preparing reports of raw / processed GW data.
Admission qualifications:	<ul style="list-style-type: none">• Basic knowledge of Windows OS, MS Office, Database concepts
Training methods:	Demonstrations, exercises, discussions
Equipment/software used:	1 PC per participant with GEMS software installed
Provider after HP:	
Contact person:	

Program

S No	Sessions	Duration In Hrs.
1	<p>Introduction</p> <p>1 Course objective – introduction to client server technology 2 Introduction to GEMS software 3 Process flow diagram of GEMS 4 Basic software – Oracle, MapInfo, SPSS & Vertical Mapper; integration of basic software in GEMS</p>	4
2	<p>GEMS</p> <p>1 Overview of GEMS, components of GEMS 2 Explanation to GEMS opening Screen – tool bar, Menu, Navigation, Conversion calculator 3 Data entry in GEMS Creating / entering well data Artificial recharge structure data Static hydromet data Dynamic data Water quality analysis data 4 Ground water assessment 5 Surface geophysical Data Entry – data entry, plots 6 Data validation 7 Working on GIS 8 Report generation in GEMS 9 Administration and master maintenance User creation and management Installation of GEMS Setting parameters, GIS map setting Masters and User levels Secondary data validation Backup & restore Data Transfer Troubleshooting and software upgradation</p>	45
3	<p>GIS – MapInfo Basic</p> <p>1 Introduction to MapInfo 2 Layers 3 Thematic Maps 4 Introduction to Raster Images 5 Filtering Data 6 Creating layout for printing 7 Introduction to Vertical Mapper 8</p>	12
4	<p>Introduction to R2V and EasiPace</p>	12
5	<p>SPSS</p> <p>1 Introduction to SPSS 2 Entering and reading data 3 Variable view sheet 4 Creating charts</p>	6
6	<p>Basic Oracle</p> <p>1 Introduction to DBMS 2 Oracle as DBMS 3 Querying DataBase Tables 4 Ordering the result 5 Join and relationships 6 Function & Procedure 7 Working with Tables 8 Oracle Architecture 9 Index creation 10 Data Base Administration 11 Managing Users 12 Performance tuning</p>	12
7	<p>Evaluation</p>	

GW data processing (for GEMS software maintenance)

Target group: State and Regional DPC Managers (G-12, G-7), Hydro-geologists (G-6, G-9, G-11), Assistant Hydrogeologists ((G-5), and RGI faculty

Provider during HP: Software supplier

Location: State / Region data centres

Duration: 15 days

Remarks:

Consultant:

Objective: After this course, the participants are able to

- Troubleshoot routine hardware / software problems
- Communicate nature of problem to suppliers

Admission qualifications:

- Basic knowledge of Windows OS, database concepts and networking techniques

Training methods: Demonstrations, exercises, discussions

Equipment/software used:

Provider after HP:

Contact person:

Program

S No	Sessions	Duration in Days
1	<i>Windows</i> 1 Introduction to Windows 2000 2 Managing users 3 System Auditing 4 Performance Tuning 5 Directory services 6 Directory services Infrastructure 7 Network Infrastructure	3
2	<i>Oracle</i> 1 Oracle Data Base Administration 2 Basic Oracle commands 3 Database and Instances 4 Logical structure of Database 5 Schema and Schema Objects 6 Physical data structure 7 Concept on index & creation process 8 Start-up and Shutdown 9 Back-up and Recovery process 10 Planning for back-up and causes of system failure 11 Creating & Managing users 12 Performance tuning of database	5
3	<i>MapInfo</i> Basic MapInfo Techniques	1
4	<i>GEMS</i> 1 Basic software 2 GEMS Administration	5
5	<i>SPSS</i> Overview of SPSS	1
6	<i>Evaluation</i>	

GW data processing software (GEMS) Training of trainers

Target group:	State and Regional DPC Managers (G-12, G-7), Hydro-geologists (G-6, G-9, G-11), Assistant Hydrogeologists (G-5), and RGI faculty
Provider during HP:	CGWB and Consultant
Location:	CGWB Faridabad
Duration:	15 days
Remarks:	1 PC (with facility to install GEMS software) per participant
Consultant:	Dr. K A S Mani, Mr. PC Niak, Mr. S Sanghal,
Objective:	After this course, the participants are able to train colleagues / subordinates - <ul style="list-style-type: none">• how to install GEMS software• how to enter data• how to process data so as to prepare GW reports (tabular/maps)
Admission qualifications:	<ul style="list-style-type: none">• Participants should be familiar with the basic skill of using – GEMS, Oracle, SPSS, MapInfo, Vertical Mapper
Training methods:	Demonstrations, exercises, discussions
Equipment/software used:	One (1) PC per participant with GEMS software
Provider after HP:	CGWB
Contact person:	Mr. Santosh Kumar Sharma

Program

Session title	Topics	Duration (Min.)
Introduction	Course objective/s	10
	Introduction to GEMS	30
	Components of GEMS	120
	How to install GEMS: (Demo) Installation of GEMS (Practice)	15 30
Preparing to work with	Understanding the Toolbar, menu, navigation, conversion calculator.. (Demo)	60
GEMS	Setting of machine parameters, GIS map setting, masters, user levels, login and password, database connection, security (Demo)	60
	Setting computer for water quality parameters (Demo)	20
	Using trainer data set (Practice)	120
Data entry in GEMS	Entering Well data: Creation of new well, entry of basic and sp. Details, log data, pump test data, lithology, drilling data etc... (Demo)	60
	Using trainer data set (Practice)	60
	Artificial recharge structure data (Demo)	20
	Using trainer data set (Practice)	30
	Hydromet data (static and dynamic) (Demo)	60
	Using trainer data set (Practice)	60
	Water level data entry (Demo)	15
	Using trainer data set (Practice)	20
	Water Quality analysis result entry (Demo)	45
	Using trainer data set (Practice)	60
	GEC (resource assessment) data entry (Demo)	90
	Using trainer data set (Practice)	90
	Import of DWLR data	45
	Using trainer data set (Practice)	30
	Import of other instrumented data	30
	Using trainer data set (Practice)	30
	Surface geophysical data entry	90
	Using trainer data set (Practice)	60
	Data Validation	Using Data Validation checks
Working on GIS	Conversion of GIS maps to Map info format (Demo)	45
	Using trainer data set (Practice)	60
Data analysis	Generation of hydrograph	20
	Using trainer data set (Practice)	30
	Cross section	30
	Using trainer data set (Practice)	30
	Fence diagram	45
	Using trainer data set (Practice)	60
	Statistics	120
	Using trainer data set (Practice)	120
	Contouring	45
	Using trainer data set (Practice)	60
Report generation using GEMS	Understanding the concept of reporting using GEMS and its features	20
	Litholog including method of customisation of symbols	30
	Using trainer data set (Practice)	45
	Grainsize analysis and graph	10
	Using trainer data set (Practice)	20
	Bore hole data reports	90
	Using trainer data set (Practice)	120
	Investigation reports	90
	Using trainer data set (Practice)	60
	Water quality reports	60
	Using trainer data set (Practice)	90
	Water Quality Diagrams	30
	Using trainer data set (Practice)	45
	Forecasting Reports	20
	Using trainer data set (Practice)	45
	Event Reports	15
Using trainer data set (Practice)	20	
Generation of Adhoc report	30	
Using trainer data set (Practice)	45	

Session title	Topics	Duration	
Report generation using GEMS	GW monitoring reports	60	
	Using trainer data set (Practice)	120	
	Artificial Recharge report	20	
	Using trainer data set (Practice)	20	
	Geophysical reports	45	
	Using trainer data set (Practice)	60	
	GEC reports	60	
	Using trainer data set (Practice)	120	
	GW year book generation	15	
	Using trainer data set (Practice)	20	
Support and safety measures	Backup/restore	60	
		Practice	90
	Data transfer	60	
		Practice	120
	Secondary data validation	90	
		Practice	120
	Data approval	60	
		Practice	120
	Data extract/consolidation	25	
		Practice	20
	Import data from GWDES	30	
		Practice	30
	Data movement from DPC to DSC	60	
		Practice	120
Procedure for reporting problems	15		
	Practice	15	
Routine maintenance of software	30		
	Practice	30	
Procedure for upgrading of software	15		
	Practice	15	
Trainer skills	Introductions-1	25 min	
	The need for training	10 min	
	Change through training: Old lady – Young lady	10 min	
	Getting started with training development: <i>who takes the lead?</i>	05 min	
	The training development cycle	10 min	
	Introduction-2	05 min	
	Exercise: <i>self assessment - 1</i>	25 min	
	Guided exercises (round 1)	20 min	
	Guided exercises (round 2)	20 min	
	Main (6) elements of presentation skills 1	20 min	
	Exercise: (round 3)	45 min	
	Main (6) elements of presentation skills 2	15 min	
	Icebreaker - <i>Buzz game</i>	15 min	
	Exercise: <i>self assessment</i>	20 min	
	Introduction <i>Inventory method</i>	05 min	
	Guided exercises (round 1)	20 min	
	Guided exercises (round 2)	45 min	
	Tips	15 min	
	Video review	60 min	
	Icebreaker - <i>Volley ball</i>	15 min	
	Exercise: how to process new information in a training (text analysis)	45 min	
	Introduction-3	10 min	
	Guided exercises (round 1)	20 min	
	Tips: skills training	05 min	
	Guided exercises (round 2)	15 min	
	Guided exercises (round 3)	30 min	
	More tips: skills training	10 min	
Exercise: training method v/s objective	30 min		
Conclusions	15 min		
Exercise: <i>Finale for everything learned</i>	15 min		
Exercise: <i>Finale for everything learned</i>	120 min		
Evaluation	<i>Formal & questionnaire based</i>	45 min	

Training specifications

HIS management and IT

HIS operationalisation (GW)

Target group:	(Minimum all districts under one region / division) All Regional level HIS staff: State Sub-div. Managers (S-6), State Div. Managers (S-9), Data collection staff
Provider during HP:	In house trainers
Location:	Region / division
Duration:	1-2 days
Remarks:	Designed as per training requirements identified during HYMOS coaching programme
Consultant:	Dr. D K Dutt, Dr. K A S Mani and Mr. P C Niak

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 (Match with training needs, as observed during HIS coaching and organisation assessments)

Day 1	Groundwater Monitoring network in the Regions / Districts – an overview; Introduction to Hydrological Information System	45 min
	Route Maintenance of network station – Annual Inspections, review of piezometer sites, observation wells, protective cover, platform, validating water level measurements, checking for siltation and obstructions in piezometers	45 min
	Maintenance of piezometers – over – pumping, pumping tests, development, flushing, jetting, hydrofracturing	120 min
	O & M system (Staff, periodicity, inspection formats, funds, spares and reporting procedures)	120 min
Day 2	DWLR- Instrument details, installation procedures, operationalisation, monitoring frequency, downloading frequency, data retrieval, data organisation, data transfer to PC, integration of data with GWDES	90 min
	Validating DWLR data, routine Maintenance of DWLR, stocking of spares, procedures for reporting DWLR problems, role of vendor	90 min
	Water quality monitoring network – Base line, trend, surveillance. Water Quality sampling procedures – sampling pumps, treatment, labelling transport, preservation	90 min
	Field analysis of water quality samples, laboratory analysis, data compilation, reporting, water quality data interpretations	45 min
Day 3	GWDES – software installation, data entry, data organisation, data validation, generation of reports, data backup	90 min
	DWLR – ANALYST analysis of DWLR data, optimum water level monitoring frequency	90 min
	Data communication procedures, schedule of data flow from different districts, medium of data transfer, data integration and validations. Data exchange between State and Central Agencies	90 min
	Hydrology Data Users Group – HDUG session	30 min

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
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Objective:	After this course, the participants are able to <ul style="list-style-type: none">• Build relationships• Solve problems
Admission qualifications:	<ul style="list-style-type: none">• 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:	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:	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:	
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
Name of institute/provider:	NWA
Contact person:	

Program

SQL Server 2000 Concept, Tools and Administration

Topics Covered

Day 1	Introduction System Architecture Understanding Databases SQL server SQL server Agent ODBC
Day 2	Windows Tools SQL Server Enterprise Manager Query Analyzer Client Network Utility
Day 3	Windows Tools MS DTC Administrative Console SQL Server Profiler
Day 4	SQL Server Performance Monitor
Day 5	Command-Line Tools The osql and isql Utilities Starting SQL server from Command Line
Day 6	Microsoft English query The Domain Editor
Day 7	Administering Administration Alerts Jobs Analyzing Operations Logs DBCC
Day 8	Optimizing SQL Server Optimizing Databases Partitioning Data Optimizing Tables Optimizing Queries Index Tuning
Day 9	Security Architecture Users, Groups and Roles NT Users and Groups Roles
Day 10	SQL Server users and Groups Users Permissions Grant Revoke Deny Backup/Restore
<i>Visual Studio (VB, VID)</i>	
Day 11	History & Features Advantages Versions & Components Overview of Windows Overview of VB Environment Setting up the VB Environment Forms Controls & Labels Setting Project Properties Command Buttons The Frame Control Inserting Images The ListBox Control Combo Box Menus Creating an Executable
Day 12	Events Overview Event Procedures Form & Control Events Variables Scope of Variables Variable Declarations Naming Variables & Relational Operators Operator Precedence Constants

Visual Studio (VB, VID)

	Topics Covered
Day 12	The Variant Data Type
Contd.	Arrays
	User-Defined Types
	If, Else and Elself 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
Day 14	The Data Grid
	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
Day 15	Global Error Handler
	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

Day 16

Topics Covered**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
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
Creating a Style
Frames
Modifying Frame Sets
Modifying Frames
QuickTime
Track Editor
Playing and Testing
Outline Editor
Inserting Items
Adding Attributes
Source Editor
Formatting
Syntax Highlighting
Syntax Checking
Browser Sets
GoLive Actions
Date & Time stamp
Alerts
CSS Fix
GoLive
Actions with Floating Boxes
Advanced Actions

Web Tools

Day 19 & 20 contd.

Topics Covered

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

Day 23

Topics covered**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:	
Provider after HP:	NWA
Contact person:	CE NWA

Program

Data Customisation

Topics Covered

Introduction

Installation and demonstration

Import

Export

Customization of attributes

Meta data

Catalogue

Day 1

DRF and Dissemination of Data

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 / GWDPDS

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

Day 5

Metadata tuning from different DSC's by
exchange process

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.

Day 6

Updation of Metadata via Email / FTP/ CD

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

Day 9

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
Hands-on training for DSC user and staff

Day 10

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 - HIS Data Storage Centre Operations

Target group:	Data Storage Centre Managers: 11 [one per state (S-12), except Maharashtra (S-12 + G-12) and Karnataka (S-12+ G-12)] NWA (2), NIH (2) and NIC (1)
Provider during HP:	Consultant / Suppliers
Location:	NWA DSC
Duration:	16 working days
Remarks:	
Consultant:	S Sangal / R L Qazi / R Varma

Objective:	After this course, the participants are able to Train colleagues and subordinates in DSC operations Advocate customisation of features Identify future DSC requirements
Admission qualifications:	Computer literate
Training methods:	Demonstrations, exercises, discussions
Equipment/software used:	
Provider after HP:	NWA
Contact person:	CE, NWA, Pune

Program

Data Customisation

	<i>Topics Covered</i>
Day 1	Introduction Installation and demonstration Installation troubleshooting Hands-on training for DSC user and staff
Day 2	Import Export Customization of attributes Meta data Catalogue DRF and Dissemination of Data Backup Archival MIS Accounting Utilities Audit Trails Tuning Trouble shooting
Day 3, 4, 5	Import / Export Operation of DSC Software Import/Export Module to/from SWDES /GWDES / HYMOS / Water Quality / IMD / GWDPDS Objects Import / Export Temporary Import /Export Print Format Module / Excel Format Hands-on training for DSC user and staff
Day 6	Import / Export Operation of DSC Software Mapping the Import and export structures Hands-on training for DSC user and staff
Day 7	Meta data Module of DSC software Generation of Metadata Additional / Incremental Metadata Metadata tuning from different DSC's by exchange process Updation of Metadata via Email / FTP/ CD Replication, Synchronization of Metadata Hands-on training for DSC user and staff
Day 8	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 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
Day 9	Catalogue Module Creating GIS interface for offline and online catalogue Checking of catalog integrity Hands-on training for DSC user and staff
Day 10	DRF and Dissemination of Data using DSC Software DRF Generation Data Distribution according to DRF Data Distribution according to Web based queries, CD Queries. 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

Day 11

Topics Covered

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

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 <ol style="list-style-type: none">1. Troubleshoot hardware & software problems2. Carry out preventive maintenance3. Back-up data4. Write computer program as per organisational needs
Admission qualifications:	Post graduate diploma in computer application
Training methods:	Lectures, exercises, discussions
Equipment/software used:	
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
4	File System Management	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
		Introduction to File system		30 min
5	Printer Management	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
		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	Practice the steps demonstrated	150 min. 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 <ul style="list-style-type: none">• connect computer hardware• prepare letters and simple reports• tabulate information• use maintenance software
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Admission qualifications:

Training methods:	Lectures, exercises, discussions
Equipment/software used:	MSWindows, MSOffice, printing, file management, viruses etc.
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.	Repeat the procedure of log-in and quit	30 min.
		2. Different Platforms	Explain what is Client – Server Architecture Advantages of Client – Server Architecture Types of Client – Server Architecture; new models introduced		40 min.
		3. How to get Started	Explain different versions & implementations of Oracle Demonstrate Log-in Procedure		30 min.
		4. Creating structure	Explain Languages (DDL, DML, DCL) Description of different objects Data types Different objects Demonstrate how to - Create a Table (e.g. Student, Mark sheet, Employee, Payslip) Explain information on a pre-prepared test table		120 min.
				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	Explain need and application of SQL	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.
		2. Using Structured Query Language	Demonstrate how to Fetch data Retrieve specific data with required fields Explain concept of keys View the data in different orders		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	<p>Explain and demonstrate</p> <p>Select Query using multiple tables. Set Theory (Union, Intersect)</p>	<p>Carry out the exercise by</p> <p>Joining of two tables with a single select statement. Fetch the common data from related tables Fetch distinct data from related table</p>	180 min
			<p>Advanced objects (View, Type, Copy of Table)</p>	<p>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</p>	120 min.
			<p>Access to table by different users.</p>	<p>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</p>	60 min.
			<p>Explain & demonstrate</p> <p>Multiple ways to insert data in table Add / Modify Fields in Table Created</p>	<p>Follow procedure demonstrated to</p> <p>Add the fields in all the tables created (Add fields and change data type/width of field in each table) Add data to table</p>	90 min.
<p>Normalisation Rules</p> <p>Modify the data in table (update statement)</p>	<p>Update data in given tables with or without criteria</p>	45 min.			
<p>Commit, Rollback and Save point Concept</p> <p>Remove Data from Table with criteria</p>	<p>Give Save point S1 Try to delete some data from first table</p> <p style="text-align: right;">Give Save point S2</p> <hr/> <p>Try to delete some data from first table Try to retrieve the lost data with rollback Use Commit</p>	75 min			
<p>Rename the table</p> <p>Table Deletion</p>	<p>Rename all the four tables created Delete any one table</p>	30 min.			

S. No	Session title	Contents	Trainer's activities	Participants' tasks	Duration
C	Oracle Architecture	1. Architecture Components 2. Managing Oracle Instance 3. Creating Database	Explain Objectives and provide overview Oracle Database files Other Key files Process to SQL statement Commit Procedure Demonstrate Starting and Shut Down Sharing of Instance Changing database availability Opening database in read-only mode Explain - Preparing the operating system Demonstrate Creating database Using database configuration and assistant Creating a database manually	Repeat the procedures demonstrated Repeat the procedures as demonstrated	360 min
		1. Managing control file 2. Maintaining log files	Explain Use of Control File Control file contents Multiplexing the control file Guidelines for control files Demonstrate - Obtaining information about control 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	Practice the session as demonstrated Repeat the procedures as demonstrated Repeat the procedures as demonstrated Practice the session as demonstrated	240 min

S. No	Session title	Contents	Trainer's activities	Participants' tasks	Duration
C	Oracle Architecture	1. Managing rollback segments 2. Maintaining tables 3. Managing roles and user	Explain - Rollback Segments Demonstrate - Using and creating segments Discuss - Maintaining, obtaining and planning rollback segments Explain - Objectives, overview of oracle data types Demonstrate Creating tables Controlling spaces used by table Retrieve table information Demonstrate Creating Altering, dropping user and roles Assigning roles Control availability of roles	Practice the session as instructed 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	150 min.
		1. Managing Privileges 2. Phenomenon of Object Privileges	Explain - System Privileges Demonstrate Granting system privileges Password file authentication Displaying and revoking system privileges Explain - Objectives and overview Demonstrate Granting object privileges Displaying object privileges Revoking and Auditing object privileges Viewing Object Privileges	Practice the session as instructed Repeat the procedures as demonstrated	90 min.

S. No	Session title	Contents	Trainer's activities	Participants' tasks	Duration
D	Visual Basic	Tools, Events, Codings	Introduction - Advantage and types of front end		45 min.
			Explain Design and Run Time interface Concept of Object and Tools		75 min.
			Demonstrate Properties of Objects	Get familiarised with objects See the Properties of Objects at design time	120 min.
			Working with Codes and events Variable declaration and different scopes	Change the same property at run time with different events Declare the variables and use them in codes	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

Support training

PG course on basic hydrology

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.
Hydrometeorological Data	Maps and atlas Rainfall Climatology of India Observation of hydrometeorological 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 injection 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 Availability & 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

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	Hydrologic Information System – I
1600 Hrs-1630 Hrs	Tea
1630 Hrs-1800 Hrs	Hydrologic 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 Availability & 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 Availability & 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 Availability & yield Analysis – III

Day 9

0930 Hrs-1100 Hrs Rainfall- Runoff Modelling
1100 Hrs-1130 Hrs Tea
1130 Hrs-1300 Hrs Water Availability & 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 Flood 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-1730 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:	
<hr/>	
Objective:	After this course, the participants are able to <ul style="list-style-type: none">• 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	<ul style="list-style-type: none"> Show the booting procedure 	<ul style="list-style-type: none"> Repeat booting procedure as instructed 	15 min.
		2. Using Windows 95/98 objects - Desktop, icons, taskbar	<ul style="list-style-type: none"> Explain/ Demonstrate the following- Mouse operations 	<ul style="list-style-type: none"> Allowed time to familiarize themselves with mouse operations 	15 min.
			<ul style="list-style-type: none"> Arrange icons 	<ul style="list-style-type: none"> Rearrange desktop icons 	15 min.
			<ul style="list-style-type: none"> Load programs 	<ul style="list-style-type: none"> Load programs using Start Menu e.g. Calculator, Windows Explorer 	10 min.
			<ul style="list-style-type: none"> Switching between applications 	<ul style="list-style-type: none"> Switch between 2 or more loaded applications 	10 min.
			<ul style="list-style-type: none"> Resizing windows 	<ul style="list-style-type: none"> Resize any loaded application 	10 min.
			<ul style="list-style-type: none"> Show usage of Control Panel 	<ul style="list-style-type: none"> Load Control Panel 	
			<ul style="list-style-type: none"> ➤ Install/configure Printers 	<ul style="list-style-type: none"> ➤ Follow procedure instructed to install and configure a printer 	30 min.
			<ul style="list-style-type: none"> ➤ Change Display settings 	<ul style="list-style-type: none"> ➤ Change the background, appearance and resolution of the screen 	30 min.
			<ul style="list-style-type: none"> ➤ Change Regional Settings 	<ul style="list-style-type: none"> ➤ Change the date format and language setting to US/UK english 	15 min.
3. Using Windows explorer	<ul style="list-style-type: none"> How to shut down Windows 95/98 	<ul style="list-style-type: none"> Follow the Shut Down/Restart procedure 	10 min.		
	<ul style="list-style-type: none"> Explain/Demonstrate the following: 	<ul style="list-style-type: none"> Load Windows Explorer 			
	<ul style="list-style-type: none"> ➤ Create folders 	<ul style="list-style-type: none"> ➤ Create 2 new folders named f1, f2 	15 min.		

S. No.	Session title	Contents	Trainer's activities	Participants' tasks	Duration
			<ul style="list-style-type: none"> ➤ Create files / Recognize files types ➤ Rename, copy, move and delete files ➤ Restore files from recycle bin ➤ Create shortcuts ➤ Format / scan disks ➤ Find files / folders ➤ Take backup of files/folders 	<ul style="list-style-type: none"> ➤ Move to folder f1 and create a word document file named CV.doc ➤ Copy CV.doc file to folder f2 ➤ Copy CV.doc to folder f1 and rename it as CV1.doc ➤ Move CV1.doc to folder f2 ➤ Delete CV.doc from folder f2 ➤ Restore CV.doc from recycle bin ➤ Create a shortcut to file CV1.doc on the desktop ➤ Format the floppy disk ➤ Scan/ Defragment the hard disk ➤ Find CV.doc in the hard disk ➤ Backup CV.doc to floppy disk 	<p>20 min.</p> <p>10 min.</p> <p>10 min.</p> <p>10 min.</p> <p>10 min.</p> <p>10 min.</p> <p>20 min.</p> <p>15 min.</p> <p>30 min.</p> <p>20 min.</p> <p>10 min.</p>

S. No.	Session title	Contents	Trainer's activities	Participants' tasks	Duration
B	Zippping / Unzipping files & folders	<ol style="list-style-type: none"> 1. Install Winzip 2. Using zipping software 	<ul style="list-style-type: none"> • Explain different compression formats • Demonstrate zipping/ unzipping procedure 	<ul style="list-style-type: none"> • Install Winzip • Compress the folder f1 • Uncompress the above created file to folder f2 	45 min.
C	Working in MS Word	<ol style="list-style-type: none"> 1. Introduction to Word processing 2. Creating / Opening a document 3. Identifying buttons on toolbars 4. Saving a Document 5. Editing a document 	<ul style="list-style-type: none"> • Explain the concept of Word processing • Demonstrate creating / opening a document • Explain terminology- Toolbars, buttons, menus & menu options • Demonstrate Customizing toolbar • Explain File naming convention • Demonstrate saving procedure • Demonstrate how to <ul style="list-style-type: none"> ➤ Highlight/Select text ➤ Cut, Copy & Paste ➤ Drag & Drop ➤ Undo & Redo 	<ul style="list-style-type: none"> • Create a new document • List all toolbar buttons and menu options in new document. Title the list as L1 • Save the new document as self name in folder F1 • Save the same document on floppy disk • Close the document and open the one saved on hard disk • Follow the procedures <ul style="list-style-type: none"> ➤ 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 	10 min. 5 min. 45 min. 30 min. 90 min.

S. No.	Session title	Contents	Trainer's activities	Participants' tasks	Duration
		6. Formatting a document	<ul style="list-style-type: none"> ➤ Find and replace ➤ Check spelling & grammar • Demonstrate how to set/create <ul style="list-style-type: none"> ➤ Font, line & paragraph spacing ➤ Styles ➤ Bullet & numbering ➤ Border & shading ➤ Text alignment ➤ Page break/ Section break ➤ Table of contents 	<ul style="list-style-type: none"> ➤ Find all occurrences of word 'Print' ➤ Replace the word 'Save' with 'Saving...' in whole document ➤ Check the whole document for spelling & grammar mistakes • Follow the procedures & change <ul style="list-style-type: none"> ➤ Font, line & paragraph spacing ➤ Styles ➤ Bullet & numbering ➤ Border & shading ➤ Text alignment ➤ Also insert Page break/ Section break and table of contents 	90 min.
		7. Printing a document	<ul style="list-style-type: none"> • Demonstrate header/footer command, Print Preview and print procedure 	<ul style="list-style-type: none"> • Follow the procedure and set different layout & footer for each page. Print the document 	30 min.
		8. Additional features/ tools	<ul style="list-style-type: none"> • Demonstrate how to <ul style="list-style-type: none"> ➤ Create/ Format tables ➤ Use Mail merge ➤ Insert files & pictures ➤ Insert drawing objects & Text Box ➤ Insert objects – Equation editor, Organization chart etc. 	<ul style="list-style-type: none"> • Follow the procedure <ul style="list-style-type: none"> ➤ Prepare CV using table in a new document ➤ Create a new data source/ address book and forward the CV covering letter to all the listed addresses ➤ Insert the file with list L2 at the end of the document ➤ Follow procedure and insert any picture, drawing & other objects 	120 min. 90 min.
		9. Exercises and advanced features	<p>Demonstrate features Explain Exercises Check Results Demonstrate Solutions</p>	<p>Perform exercises</p>	1 day

S. No.	Session title	Contents	Trainer's activities	Participants' tasks	Duration
D	Working in MS Excel	<ol style="list-style-type: none"> 1. Introduction to Spread Sheet/ Worksheet terms 2. Starting Excel, creating, opening & navigating worksheets 3. Saving workbook 4. Modifying the worksheet 5. Formatting data/ Worksheet 	<ul style="list-style-type: none"> • Explain the concept of Spread Sheet • Explain different worksheet terms • Demonstrate creating/ opening navigating between worksheets • Demonstrate saving procedure • Demonstrate the following <ul style="list-style-type: none"> ➤ 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 <ul style="list-style-type: none"> ➤ Create/Enter and use formulas ➤ Use AutoFill to copy formulas ➤ Use absolute cell references in formulas ➤ Use functions • Demonstrate how to change <ul style="list-style-type: none"> ➤ Format ➤ Text Wrapping ➤ Alignment ➤ Orientation ➤ Font ➤ Border 		<p>30 min.</p> <p>30 min.</p> <p>20 min.</p> <p>15 min.</p> <p>180 min.</p> <p>120 min.</p>

S. No.	Session title	Contents	Trainer's activities	Participants' tasks	Duration
		6. Printing a workbook	<ul style="list-style-type: none"> • Demonstrate the following <ul style="list-style-type: none"> ➤ Set header/footer ➤ Change page setup ➤ Print preview ➤ Print procedure 		60 min.
		7. Creating/Formatting Charts	<ul style="list-style-type: none"> • <i>Demonstrate how to</i> <ul style="list-style-type: none"> ➤ Create/ Modify charts ➤ Format chart elements ➤ Change chart type ➤ Print charts 		90 min.
		8. Additional tools/ features	<ul style="list-style-type: none"> • <i>Demonstrate/Explain how to</i> <ul style="list-style-type: none"> ➤ Sort data ➤ Filter data ➤ Freeze cells ➤ Arrange windows ➤ Split worksheets 		180 min.
		9. Exercises	<p>Explain the exercise Demonstrate final solution</p>		240 min.
E	Working with MS Binder	1. Introduction to Binder	<ul style="list-style-type: none"> • Introduction to Binder 		20 min.
		2. Creating/ opening & Saving Binder	<ul style="list-style-type: none"> • Demonstrate how to create, open and save the binder 		20 min.
		3. Adding/ Deleting and duplicating sections in a binder	<ul style="list-style-type: none"> • Demonstrate how to add, delete and duplicate sections in a binder 		60 min.
		4. Using binder page setup	<ul style="list-style-type: none"> • 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 2. Introduction/ Maintenance of Web browsers and World Wide Web (WWW) 3 Introduction/ Use of Electronic Email	<ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> ➤ Compose a mail ➤ Send a mail to single/ multiple recipient/s ➤ Read an email ➤ Know that email has arrived ➤ Create / Maintain Address book 		30 min. 60 min. 120 min. 120 min.
G	Installation of Windows 95/98	1. Formatting the hard disk in MS-DOS 2. Enabling CD-drive through DOS 3. Copying the cab files to hard disk 4. Installation of Windows 95/98 5. Re-installation of Windows	<ul style="list-style-type: none"> • Introduce & demonstrate formatting procedure • Demonstrate the copying procedure • Explain & demonstrate installation procedure • Repeat step-by-step installation procedure 	<ul style="list-style-type: none"> • Exercise : Follow the formatting procedure 	180 min.
H	Installation of MS Office97	1. Installation / re-installation of MS Office 97	<ul style="list-style-type: none"> • Explain & demonstrate installation procedure • Repeat step-by-step installation procedure 	<ul style="list-style-type: none"> • Practice the installation procedure 	45 min. 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	<ul style="list-style-type: none"> ➤ Explain & demonstrate installation procedure ➤ Repeat step-by-step installation procedure 	Practice the installation procedure	20 min.
					45 min
		2. Virus updates			45 min
J	Backup Procedures Maintenance of logbooks Virus Scan and other scheduled activities		<ul style="list-style-type: none"> ➤ Explain & demonstrate Backup procedure, Maintenance of logbooks, Virus Scan, other scheduled activities 		4 hours
K	Backup procedures		Explain & demonstrate how to - <ol style="list-style-type: none"> 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 <ul style="list-style-type: none">• 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

S. No.	Session title	Contents	Trainer's activities
3.	Working with MS Access	<p>1. Introduction to Databases/ MS Access</p> <p>2. Working with tables in MS Access</p> <p>3. Working with queries</p>	<ul style="list-style-type: none"> • Explain the concept of databases • Introduction to MS Access • Introduce the contents of database • Demonstrate how to create tables <ul style="list-style-type: none"> ➤ Field name ➤ Data type ➤ Field description ➤ Field properties • Demonstrate different methods to create a table <ul style="list-style-type: none"> ➤ Data sheet view ➤ Design view ➤ Table wizard ➤ Import table ➤ Link table • Demonstrate how to enter data in a table • Explain the following types of queries <ul style="list-style-type: none"> ➤ Select query ➤ Action query ➤ Cross-tab query • Demonstrate different methods to create a query <ul style="list-style-type: none"> ➤ Design view ➤ Simple query wizard ➤ Cross tab query wizard • Demonstrate how to <ul style="list-style-type: none"> ➤ Sort/ Group data in a query ➤ Specify criteria ➤ Accept parameters

S. No.	Session title	Contents	Trainer's activities
8.	Working with MS-PowerPoint	<ol style="list-style-type: none"> 1. Introduction to concept of presentations 2. Creating as new PowerPoint presentation 3. Saving a presentation 4. Editing a presentation 5. Formatting a presentation 6. Viewing a presentation 7. Additional tools/ features 	<ul style="list-style-type: none"> • Explain the concept of presentation • Demonstrate how to create a new presentation • Demonstrate saving procedure • Demonstrate how to <ul style="list-style-type: none"> ➤ Add a new slide ➤ Delete a slide ➤ Change sequence of different slides • Explain/ Demonstrate how to change <ul style="list-style-type: none"> ➤ Slide layouts ➤ Change fonts ➤ Text alignment ➤ Background colour ➤ Design templates • Demonstrate different methods to view a PowerPoint file <ul style="list-style-type: none"> ➤ Slide view ➤ Outline view ➤ Slide sorter view ➤ Notes page view ➤ Slide show • Demonstrate how to <ul style="list-style-type: none"> ➤ Set slide transition ➤ Set animation & sound effects using custom animation

S. No.	Session title	Contents	Trainer's activities
9.	Working with MS Outlook	1. Introduction to MS Outlook 2. Working with MS Outlook	<ul style="list-style-type: none"> • <i>Introduction to MS Outlook</i> • <i>Demonstrate how to</i> <ul style="list-style-type: none"> ➤ 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.	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	<ul style="list-style-type: none"> • 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
11.	Internet Technologies	1.Introduction to Internet 2. Introduction/ Maintenance of Web browsers and World Wide Web (WWW) 3 Introduction/ Use of Electronic Email	<ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> ➤ Compose a mail ➤ Send a mail to single/ multiple recipient/s ➤ Read an email ➤ Know that email has arrived ➤ Create / Maintain Address book

S. No.	Session title	Contents	Trainer's activities
12.	Installation of Windows 95/98	5. Formatting the hard disk in MS-DOS 6. Copying the cab files to hard disk 7. Installation of Windows 95/98	<ul style="list-style-type: none"> • Introduce & demonstrate formatting procedure • Demonstrate the copying procedure • Explain & demonstrate installation procedure • Repeat step-by-step installation procedure
13.	Installation of MS Office97	1. Installation of MS Office 97	<ul style="list-style-type: none"> • Explain & demonstrate installation procedure • Repeat step-by-step installation procedure
14.	Installation of anti-virus software (McAfee / Norton)	1. Installation of Anti virus software	<ul style="list-style-type: none"> • Explain & demonstrate installation procedure • Repeat step-by-step installation procedure
15.	Backup procedures	4.	Explain & demonstrate how to - <ul style="list-style-type: none"> • Install and configure backup utility • Scheduling backups • Transferring backup on external media like floppy, CD Drive