



वन महानिदेशक एवं विशेष सचिव
भारत सरकार
पर्यावरण एवं वन मंत्रालय
DIRECTOR GENERAL OF FOREST & SPL. SECY.
GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT & FORESTS

F. No 3-17/99-RT

Dated: the 15th September, 2009

To,

The Chief Secretary (All States / UT's)

Sub: - Revision of Guidelines 'Training of Foresters & Forest Guards being organized by the State Governments'-regarding.

Sir,

The forestry sector is faced with a number of new challenges due to population pressure and emerging needs of the civil society. Being a technical matter, forestry requires befitting training and human resource development of forestry personnel at all levels. While the onus for training of forestry personnel of Indian Forest Service, State Forest Service officers and Range Forest Officers is within the ambit of the Central Government, the training of other forestry personnel who are at the *cutting edge* of forestry sector i.e. the Foresters and Forest Guards has been the mandate of concerned State/UT Governments. The efficiency and effectiveness of the State Forest Department depends much on the performance level of these officials. Being the cadre controlling authority for the subordinate forest services in the states, the induction and in-service training of frontline staff of the state forest departments are being imparted by the concerned state governments in their respective forest training institutes/schools. The Ministry through a consultative process had issued detailed common guidelines for 'Training of Foresters & Forest Guards' dated 01.07.2004. The training guidelines require changes with the new emerging issues. The guidelines issued by the ministry dated 01.07.2004 have been improved in consultation with the experts of Japan International Cooperation Agency (JICA). A copy of the improved guidelines is enclosed herewith and a copy is also hosted on the RT Web page i.e., www.ifs.nic.in/rt of the ministry.

May I solicit the comments of the State Government latest by 8th October, 2009 so that the improved guidelines can be finalized at the earliest. In case no comments are received, it will be presumed that State Government is in agreement to the improved guidelines.

Yours faithfully,

(Dr. P.J. Dilip Kumar)

Encl: as above

Copy to: The Principal Chief Conservators of Forests (All States/ UT's).



जहाँ है हरियाली /
वहाँ है खुशहाली //

पर्यावरण भवन, सी.जी.ओ. कॉम्प्लेक्स, लोदी रोड, नई दिल्ली-110 003 फोन : 24361509, फैक्स : (011) 24363957
PARYAVARAN BHAWAN, CGO COMPLEX, LODHI ROAD, NEW DELHI-110 003, Ph. : 24361509 Fax : (011) 24363957, E-mail : dgfindia@nic.in

for the training of the foresters and forest guards and the state training institutions imparting such trainings.

1. Performance in training to govern seniority

It is observed that in most of the cases the foresters and forest guards' trainees are treated as in-service officials and their performance in the training course does not affect seniority. As a result many of them do not take the training seriously. On the other hand, there are a few states where the training is not considered as a part of the service and such trainees are paid monthly stipend only. This creates financial disparity and puts them to certain disadvantages over the in-service trainees. To ensure proper discipline and maintain adequate seriousness in the training programme, a provision should be made in Recruitment Rules of the state that while determining the seniority, the state will also take into account the performance during the Training. The formula for determining the seniority, shall give 100% weightage to the marks obtained in the competitive examination and 50% weightage to the marks obtained during the training. Further, during the period of training, trainees will be governed by the Training Rules of the Institution.

2. Entry point in trainings and service

It is noticed that this in-service training generally does not precede entry into the service. This creates considerable quality degradation. To bring quality improvement and proper utilization of manpower, the entry point in training, should coincide with the entry point in the service. If there is any backlog, the same could be cleared through organizing special courses and having larger batches (in the case of foresters and forest guards). In order to give importance to training the official should not be confirmed in service unless he completes his training.

3. Period of Training:

At present large variations exist in respect of duration of training of foresters and forest guards. Considering (i) contents of syllabi (ii) higher academic qualifications of Trainees and (iii) field oriented training programmes, there should be uniform duration of six months for the training of foresters and forest guards. However the duration can be shortened up to three months subject to state's training capacity, recruitment policy and refresher course to be imparted based on 6.3 etc, by adjusting the time allocated for excursions and tour days.

4. Minimum educational qualifications:

At present different minimum educational qualifications are being followed in different states. In the interest of service and efficiency, the following minimum educational qualifications should be adopted uniformly, by all the states.

Foresters - Class 10+2 pass with science.

Forest Guards - Class 10 pass or equivalent.

5. Medium of Training:

The medium of training at various levels should be as follows:

Foresters - The official language of the State and/or English.

Forest Guards - The official language of the State and/or English.

6. Training courses and course contents:

6.1 At present only induction training is imparted after direct recruitment to various levels. Quite often such induction training at lower levels (Forester, Forest Guards) is imparted several years after one joins the service. There is heavy backlog of untrained officials in many states. Therefore, induction training immediately after recruitment should be made mandatory.

6.2 It is felt that adequate emphasis for practical training is not being laid in existing curricula for forestry training. Also the course contents do not reflect the sea change that occurred in recent forestry. Hence, the revised course contents for the foresters and forest guards, by reflecting the change in forestry and giving due weightage to practicals, field exercises and study tours, is appended as Annexure I and Annexure II, respectively.

6.3 Also, in to-day's fast changing scenario, induction training alone is not sufficient to meet the changing requirements throughout ones' career. Therefore, foresters and forest guards preferably undergo the refresher courses at least once in 5 years to update their knowledge and skill. Specialized short duration courses, for those posted on specialized jobs, are also required to be conducted to improve the knowledge and skills of the officials. A list of special courses and the institutions identified is given at Annexure III.

6.4 The faculty members of Forestry Training Institutions should be imparted training under Training of Trainers (TOT) Programme. Training methodology to be imparted under TOT

GUIDELINES
FOR THE TRAINING OF FORESTERS AND FOREST GUARDS
BEING ORGANISED BY THE STATE GOVERNMENTS

Forestry Sector is faced with a number of new challenges due to population pressure and emerging needs of the civil society. To cope with the situation, there has to special focus and emphasis on the human resource development aspects at all levels. Foresters and Forest Guards are at the cutting edge of the forestry hierarchy who are always in constant touch with the people catering to their forestry related needs. They are main catalysts for implementation of the forest related rules, regulations, conservation and development activities. The efficiency and effectiveness of the State Forest Department depends much on the performance level of these officials. Training of these officials, therefore, must be of high quality and standards which can be achieved through enriching and updating the course contents as well as the training methodology keeping in view the emerging needs on the forestry sector, providing adequate facilities for the training of these personnel and modification of the training Rules accordingly. The training of these levels is an exclusive domain of the state/UT governments and they have formulated their own rules and regulations for the same.

2 It has been observed that there is no uniformity in the rules for educational qualifications for recruitment to the levels of foresters and forest guards among the states/ UTs. The qualifications for the foresters vary from high school level to intermediate level. Duration of the course also varies from six months to one year. The number of subjects covered in the training course varies from 10 to 18 in various states. Similarly, minimum educational qualifications for recruitment to the post of a forest guard varies from 6th standard to high school pass; duration of training from 3 to 11 months and the number of subjects covered in the training course vary from 3 to 10 among the various states. In a few states, a large number of foresters/forest guards are not being imparted induction training even after completion of several years of service. Such untrained officials feel constrained in discharging their duties professionally and efficiently.

3 In order to maintain uniformity and professionally train the new entrants to deal with the emerging needs/trends in forestry and wildlife, the Government of India after making necessary consultations with the State/UT governments, have formulated the following guidelines

should meet the requirements of the day in training brought by the change in role of the forest personnel, from traditional manager of a defined field to that of a facilitator and catalyst of environmental conservation, rural development and social change.

Promotion linked courses, which involve change of duties/responsibilities, should be organized from time to time.

6.5 At present there is no established time frame to review and update the existing curricula. Hence, the curricula of existing courses should be reviewed and updated at least once in every five years to meet the changing requirements. The Review Committee may start functioning during the fourth year.

7. Minimum needs of an institution for effective training:

It is felt that conditions of some of the training institutions are quite inadequate in the following aspects:

- Campus,
- Buildings,
- Faculty position,
- Vehicles,
- Equipment,
- Laboratory,
- Library,
- Other staff position,
- Incentives.

Hence, there is a strong case for improving the above mentioned aspects for strengthening of the institutions. To economize expenditure and optimize resources:

- i. The GOI are of the view that every state, instead of having a number of training institutes, may have one or two well- equipped institutions to ensure proper training.
- ii. Forester and Forest Guard training be imparted at the same school.
- iii. In view of the recent increment of women officers and having the scope of further increment of the same, at least 10% or so capacity of the hostel should be spared for women officers. The gender consideration should be applied to the amenities/facilities of other places in order to ensure the privacy for women officers.
- iv. The number of trainees per batch preferably 40 and should not exceed 60.

- v. New institute may be opened as per the norms fixed by the GOI. While opening a new institute the Director, Forest Education shall be consulted.
- vi. Such training Institute should be located at an appropriate place after careful scrutiny of various aspects like basic amenities and other infrastructural facilities. Details of requirements for a Model Institution are given at Annexure IV. The list of the Foresters and Forest Guards Training Schools/Institutions in the various states along with intake capacity of each school/institution is given at Annexure V.

8. Selection, development and incentives to trainers:

The selection procedure of trainers in different forestry training institutes needs to be given more serious considerations. Quite often those who are posted in these institutions do not possess adequate field experience. Further, the officers with right aptitude and qualifications for training are not attracted to work in such training institutions for want of adequate incentives and facilities commensurate with the high responsibilities they are entrusted as trainers. To overcome this problem, the following should be adopted:

- a. No officer until he has put in nine years of service, preferably in a field posting be considered for faculty position in any of the training Institutes. Preference may be given to those who have undergone Training of Trainers (TOT) Courses.
- b. PCCF (Training)/ CCF (Training)/ CF (Training) and Head of the Training Institutions should be associated in selection of a faculty member.
- c. The officer selected as faculty, if not already undergone Training of Trainer (TOT) course, should be sent for such course immediately.

9. Incentives

Trainer's job is quite challenging and demanding. A good trainer has not only to be academically sound but should also possess proper aptitude for the job. At present, quite often, difficulties are faced by training institutions to get suitable officers.

In the absence of adequate incentives, selection of suitable faculty is badly affected which adversely affects the quality of training imparted in the institution. Therefore, all faculty members including the Director/ Principal of the Institution, should be given an incentive of 15% of the basic pay as training allowance, as sanctioned by Government of India in the case of IGNEA and State Forest Service Colleges. The faculty should also be provided with rent-free residential government accommodation.

Course Contents for Induction Training for Foresters

Distribution of Subjects for Six Months (24 weeks) Course

1. Timing: 1) 3rd week of April –end 2nd week October, 2) 3rd week October – end 2nd week March
2. Calculation of Effective Working Days

1	Duration of the course (12 weeks)	7 days/week x 24 weeks=168 days - (1)
2	Sundays excluding tour days	16 days - (2)
3	Gazetted Holidays	7 days - (3)
4	Registration and orientation	1 day - (4)
5	Examination	10 days - (5)
6	Preparation of results	2 days - (6)
7	Passing out parade and convocation	1 day - (7)
8	Relief	1 day - (8)
9	Effective working days	(1) - {(2)+(3)+(4)+(5)+(6)+(7)+(8)} = 130 days
10	Classroom sessions	48 days
11	Excursions (Saturdays)	24 days
12	Tours Days	58 days

- Allocation of time for one classroom session: 60 minutes

3. Daily Schedule

Time	Activities
6-7 AM (Summer)	Physical Training
6.30-7.30 AM (Winter)	
8.45 AM-1 PM	Classes (with 15 min. tea break)
1-2 PM	Lunch Break
2-4 PM	Classes
5-6.30 PM (Summer)	Games
5-6 PM (Winter)	

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Subject-wise Allotment of Hours

	Subjects	Classroom Session (Theory + Practical)	Excursions (24 days)	Tour (58 days)
Basics of Forestry and FD duties				
1	General silviculture	20	1	3
2	Silviculture of trees & silvicultural systems	15	2	4
3	Regeneration methods	15	2	3
4	Forest management	5	1	3
5	Forest botany	20	3	4
6	Soil and water conservation	10	2	4
7	Soil science	5	1	3
8	Forest survey	8	1	3
9	Forest mensuration	5	1	3
10	Forest engineering	5	1	3
11	Forest utilisation	7	1	4
12	Forest law	10	1	1
13	Forest protection	10	1	3
14	Wildlife management	10	1	3
15	Office procedure and accounts	5	1	1
JFM & People participatory activities related subjects				
16	Concept of JFM	6	-	1
17	JFM Stakeholders	6	-	1
18	CBO Building	12	-	1
19	PRA	24	2	3
20	Micro Plan	24	2	4
21	Participatory Skills for Field Staff	18	-	1
Skills Common to All Subjects				
22	Computer Application	24	-	-
23	GPS	15	1	1
24	First Aid	7	-	1
	Total	286 hours	24 days	58 days

Course Contents

1. General Silviculture (20 hours), Excursions 1 day, Tour 3 days		
1. Introduction	1-1. Overview of the forests of the state 1-2. Tangible and intangible benefits of the forests 1-3. Forests and environment 1-4. Protection, production and conservation forestry	3 hours
2. Growth of trees	2-1. Various Stages of Growth • Seedling • Sapling • Pole • Tree • Crown	1 hour
3. Factors Governing Growth of Forests	3-1. Climate 3-2. Topography and aspect 3-3. Soil 3-4. Biotic factors	3 hours
4. Plant Succession	4-1. Causes and types 4-2. Climatic climax 4-3. Pre-climax 4-4. Post-climax 4-5. Edaphic climax	3 hours
5. Important Forest Types of the state	5-1. Distribution 5-2. Floristic composition	5 hours
6. Tree Classification	6-1. Dominant 6-2. Dominated 6-3. Suppressed 6-4. Dead or moribund 6-5. Diseased 6-6. Crown and canopy	2 hours
7. Tending	7-1. Definition 7-2. Need 7-3. Weeding and cleaning 7-4. Climber cutting	1 hour
8. Thinning	8-1. Mechanical thinning 8-2. Ordinary thinning • Light (A grade) • Moderate (B grade) • Heavy (C grade) • Very heavy (D grade) 8-3. Crown thinning 8-4. Selection thinning	2 hours
Field Study	During the tour and Saturday excursions, growth factors, plant succession, forest types and stages of growth will be observed.	

Annexure I

2. Silviculture of Trees & Silvicultural Systems (15 hours), Excursion 2 days, Tour 4 days		
1. Silviculture of Trees	<p>Study of the habitat, distribution, soil and climate requirements and phenology of at least 10 economically important species of the state concerned.</p> <p>A list of species is furnished.</p> <p>The state is free to add any widely occurring / grown species that does not figure in the list.</p>	10 hours
2. Silvicultural Systems	<p>2-1. High forest and coppice systems</p> <p>2-2. High forest systems</p> <p>2-3. Clear felling system</p> <p>2-4. Selection system</p> <p>2-5. Shelterwood system</p> <p>2-6. Coppice systems</p> <p>2-7. Simple coppice system</p> <p>2-8. Coppice with standard system</p>	5 hours
<i>Field Study</i>	The trainees will be shown the silvicultural systems and silviculture of such species that are met with during the tours and excursions.	

3. Regeneration Methods (15 hours), Excursion 2 days, Tour 3 days		
1. Natural Regeneration	<p>1-1. Light demanders and shade bearers.</p> <p>1-2. Natural regeneration from seed</p> <ul style="list-style-type: none"> • In clear felled areas-controlled burning • Under shelter-wood • In irregular forests. <p>1-3. Natural regeneration by coppice</p> <ul style="list-style-type: none"> • Seedling coppice • Stool coppice <p>1-4. Assisting natural regeneration</p> <ul style="list-style-type: none"> • Gap planting in barren patches • Weeding, cleaning, climber cutting and soil working • Thinning • Cultural operations • Soil and water conservation measures. 	4 hours
2. Artificial Regeneration	<p>Introduction</p> <p>Objectives</p> <ul style="list-style-type: none"> • Choice of species • Pure vs. mixed crops • Exotics vs. indigenous species • Multi-storey cropping • Use of multiple-use species • Artificial vs. natural regeneration - merits and demerits • Use of seedlings, aerial seeding, vegetative propagation and tissue culture 	4 hours

Annexure I

3. Regeneration Methods (15 hours), Excursion 2 days, Tour 3 days		
3. Nursery	<ul style="list-style-type: none"> • Seed collection and storage • Site selection and fencing • Preparation of germination and secondary beds – soil preparation. • Filling polypots • Pre-treatment of seeds, sowing of seeds in beds / dibbling seeds in polypots. • Watering regime. • Pricking out seedlings in polypots. • Culling and grading • Shifting, root-pruning and hardening • Plant protection • Maintenance of nursery register 	3 hours
4. Planting Operations	<ul style="list-style-type: none"> • Site selection • Survey and demarcation • Aligning according to spacing, staking / marking • Pitting • Transport of seedlings and planting • Manuring • Replacing casualties • Weeding and soil working • Mulching / frost protection • Tending • Thinning • Pollarding 	4 hours
<i>Field Study</i>	<p>Entire nursery and planting operations will mainly be trained through fieldwork on two consecutive Saturday excursions including documentation with:</p> <ul style="list-style-type: none"> • Nursery Journal • Plantation Journal 	

4. Forest Management (5 hours), Excursion 1 day, Tour 3 days		
1. Objectives	<ul style="list-style-type: none"> • Production (economics) • Protection (conservation) • Bio-aesthetic 	1 hour
2. Concept of normal forest, age gradation, age classes and diameter classes		
3. Current and mean annual increments		1 hour
iv. Types of rotation	<ul style="list-style-type: none"> • Physical • Silvicultural • Technical • Financial • Maximum volume production • Maximum income production 	1 hour

Annexure I

4. Forest Management (5 hours), Excursion 1 day, Tour 3 days		
v. Yield Regulation	<ul style="list-style-type: none"> • By area • By volume 	1 hour
vi. Working Plan	<ul style="list-style-type: none"> • Aim • Working circles • Felling series 	1 hour
<i>Field Study</i>	Observation of an example of Working Plan	

5. Forest Botany (20 hours), Excursion 3 days, Tour 4 days		
1. Basics	<p>1-1. Morphology</p> <ul style="list-style-type: none"> • Parts of a plant • Roots-types and functions • Stem-functions • Leaf-parts-functions • Inflorescence types • Flowers – unisexual and bisexual - parts and functions • Fruits-simple, aggregate and multiple • Seeds-dispersal-germination <p>1-2. Anatomy</p> <ul style="list-style-type: none"> • Cells and tissues • Heartwood and sap wood • Annual rings <p>1-3. Physiology</p> <ul style="list-style-type: none"> • Photosynthesis • Transpiration • Translocation • Respiration <p>1-4. Taxonomy</p> <ul style="list-style-type: none"> • Binomial nomenclature • Species, genus, family <p>1-5. Vegetative propagation</p> <p>1-6. Ecology</p> <ul style="list-style-type: none"> • Basic concepts • Eco-system • Related energy in ecological system, food chain and food web. • Ecological calamities 	15 hours (5 hours practical in laboratory)
2. Economic Botany	<ul style="list-style-type: none"> • Local names of 50 timber and NW FP species, their economic importance and uses. • Preparation of herbarium sheet for 10 important species 	5 hours
<i>Field Botany</i>	<ul style="list-style-type: none"> • During JFM fieldwork, the trainees will learn to identify the local species from the villagers and learn their local names and uses. • It is sufficient if the trainee assimilates local and common names of 50 important species. However, the course material should give the botanical names. During on the job training, RFO/DFO should teach the FG/FR the botanical names of the important species. • Identification of plants will be continued during Saturday 	

Annexure I

5. Forest Botany (20 hours), Excursion 3 days, Tour 4 days	
	excursions and tours.

6. Soil and Water Conservation (10 hours), Excursion 2 days, Tour 4 days		
1. Introduction	Concept and definition of watershed Need for SWC for forest development Watershed approach for development	1 hour
2. Hydrology	Hydrological cycle Rainfall distribution and measurement Run off Peak run off Water balance	1 hour
3. Soil Erosion	Causes Factors involved Effects of erosion Types of erosion Water and wind erosion	2 hours
4. Soil and Water Conservation Measures	Vegetative measures • Contour ploughing and cultivation • Vegetative barriers / checks Engineering measures • Contour bunding, compartmental bunding and graded bunding • Contour trenches • Contour stone walls • Earthen / nala bund. • Sunken gully pits. • Silt traps. River training • Retaining wall • Gabion wall • Revetment Check dams • Temporary • Brushwood • Boulder • Loose stone • Permanent • Masonry Combating spread of desert • Sand dune fixation • Shelterbelts Water harvesting • Percolation ponds. • Farm ponds.	4 hours
5. SWC Measures for different rainfall regions		1 hour

Annexure I

6. Soil and Water Conservation (10 hours), Excursion 2 days, Tour 4 days		
6. Gadgets and Instrument		1 hour
Field Study	Study of available SWC measures during tours/excursions.	

7. Soil Science (5 hours), Excursion 1 day, Tour 3 days		
1. Rocks and Soil	1-1. Rocks <ul style="list-style-type: none"> • Igneous • Sedimentary • Metamorphic 1-2. Soil formation <ul style="list-style-type: none"> • Physical weathering • Chemical weathering • Biological weathering 1-3. Soil profile and horizons 1-4. Soil texture, structure, water and PH 1-5. Important soil types and their properties <ul style="list-style-type: none"> • Alluvial soils • Black soils • Red soils • Lateritic soils • Desert soils • Saline soils • Alkaline soils • Acid soils 	3 hours
2. Species suitable for different soil types		2 hours
Field Study	Study of soil profile	

8. Forest Survey (8 hours), Excursion 1 day, Tour 3 days		
1. Introduction	1-1. Need for survey 1-2. Types of survey <ul style="list-style-type: none"> • Chain • Chain and compass • Plane table 	1 hour
2. Elementary geometry and trigonometry		8 hours
3. Chain and compass survey	<ul style="list-style-type: none"> • Prismatic compass-parts – handling – testing • Errors and their correction • Precautions to be observed • Testing the chain • Traverse-closed and open 	5 hours

Annexure I

8. Forest Survey (8 hours), Excursion 1 day, Tour 3 days		
	<ul style="list-style-type: none"> • Forward and backward bearing • Local attraction and its correction • Method of traverse • Recording in the field book • Plotting the survey • Closing error and adjusting it • Area calculation 	
4. Contours and map reading	<ul style="list-style-type: none"> • Definition • Methods of contouring • Instruments used • Contour intervals • Contour map reading 	1 hour
<i>Field Study</i>	Practice of chain and compass survey	

9. Forest Mensuration (5 hours), Excursion 1 day, Tour 3 days		
1. Basic Mathematics	Units of measurement of length, area, volume, weight, capacity and density under British and metric systems and their conversion factors.	1 hour
2. Girth/diameter and height measurement	<ul style="list-style-type: none"> • Breast height • Use of tape - ordinary / diameter tape and calipers and their advantages and disadvantages. • Measurement of height using altimeters. 	1 hour
3. Volume measurement	<ul style="list-style-type: none"> • Form factor • Volume of standing trees • Volume of logs using quarter girth formula • Stacked volume of firewood and use of reducing factor 	1 hour
4. Yield assessment	<ul style="list-style-type: none"> • Volume / out-turn tables • Use of wedge prism and point sampling 	1 hour
5. Enumeration of growing stock	<ul style="list-style-type: none"> • Total enumeration • Partial enumeration 	1 hour
<i>Field Study</i>	Practice	

10. Forest Engineering (5 hours), Excursion 1 day, Tour 3 days		
1. Building Materials	<ul style="list-style-type: none"> • Stone. • Bricks-size- number/M3 • Lime, cement sand and metal • Mortar • Concrete-cement - RCC 	1 hour
2. Building construction	<ul style="list-style-type: none"> • Site selection • Ground tracing • Foundation • Flooring • Doors and windows 	1 hour

Annexure I

10. Forest Engineering (5 hours), Excursion 1 day, Tour 3 days		
3. Water Supply	<ul style="list-style-type: none"> • Wells-dug well, tube well • Filtering • Purification 	1 hour
4. Road	<ul style="list-style-type: none"> • Types of forest roads • Alignment in plains and hills • Hair pin bends • Camber, super elevation, gradient • Side drains and their maintenance 	1 hour
<i>Practical</i>	Study of parts of a building in the campus.	1 hour
<i>Field Study</i>	Study of various types of forest roads and their parts during tour/excursions.	

11. Forest Utilization (7 hours), Excursion 1 day, Tour 4 days		
1. Wood Products and firewood)	1-1. Implements used for felling <ul style="list-style-type: none"> • Axe • Saws-hand, power 1-2. Conversion <ul style="list-style-type: none"> • Logging • Rough dressing and squaring • Machine sawing • Grading and stacking 1-3. Transport <ul style="list-style-type: none"> • Timber depots and sale of timber • Collection, transport stacking and disposal of fuel wood 	4 hours
2. Non-wood Forest Produce	2-1. Vegetable products <ul style="list-style-type: none"> • Bamboos • Canes • Fibres and flosses • Tans and dyes • Medicinal plants • Spices • Edible products • Tendu (Beedi) leaf • Oil seeds 2-2. Animal products <ul style="list-style-type: none"> • Honey • Lac • Silkwear 2-3. Mineral products <ul style="list-style-type: none"> • Mica • Iron ore • Manganese • Limestone • Granite 	3 hours

Annexure I

11. Forest Utilization (7 hours), Excursion 1 day, Tour 4 days		
	• Slate	
<i>Field Study</i>	• Logging Operations • Timber/Sandalwood/Firewood depots • Various NWFP	

12. Forest Law (10 hours), Excursion 1 day, Tour 1 day		
1. Definition and legal classification of forests	• Forests, forest officer, forest produce cattle, vehicles, seizure and confiscation • Reserved forests, reserved lands, protected forests, village forests, private forests, revenue forests and unclassified forests.	1 hour
2. Acts related to forests	Study of the important sections of the following acts: • Indian Forest Act or State Forest Act as the case may be • Forest Conservation Act, 1980 • Wildlife (Protection) Act, 1972 • Tribal Act • Indian Penal Code • Criminal Procedure Code • Special Forestry – related Acts/Rules of the State concerned like Sandalwood/Red sanders Possession and Transit Rules	4 hours
3. Detection of offences	• Powers of Forest Officer • Detection, investigation, custody of seized produce. • Preparation and filing of offence report/first information report. • Preparation of mahazar • Arrest of the accused • Compounding / prosecution of the case. • Custody of seizures • Non-bailable warrants • Punishment for various violations	2 hours
4. Forest Produce Transit Rules		1 hour
<i>Practical</i>	A mock session will be conducted in apprehending a forest offender and following the procedure, step by step, till the case is disposed off.	2 hours

13. Forest Protection (10 hours), Excursion 1 day, Tour 3 days		
1. Introduction	1-1. Factors responsible for degradation of forests • Cattle, • Fire. • Flood. • Natural calamities. 1-2. Forest, people and tribal welfare 1-3. Duties, responsibilities and power of the Field Staff in protection of the forests.	2 hours

Annexure I

13. Forest Protection (10 hours), Excursion 1 day, Tour 3 days		
2. Forest Fires	2-1. Causes, types and effect on forests. 2-2. Prevention measures <ul style="list-style-type: none"> • Fire lines • Control burning 2-3. Combative measures <ul style="list-style-type: none"> • Watch towers • Fire watchers • Use of fire fighting equipments • Counter firing 2-4. Fire occurrence and damage reports 2-5. Dealing fire offences	2 hours
3. Grazing and browsing	<ul style="list-style-type: none"> • Effects of grazing and browsing • Regulation of grazing • Rotational grazing 	1 hour
4. Human interferences and their control	4-1. Illicit felling 4-2. Encroachments 4-3. Willful setting of fires.	2 hours
5. Injuries by plants	<ul style="list-style-type: none"> • Climber and lianes • Weeds • Parasites 	1 hour
6. Injuries due to wild animal, pests and diseases		1 hour
7. Injuries due to natural calamities	<ul style="list-style-type: none"> • Flood and land slide • Drought • Frost • Snow • Soil erosion 	1 hour
<i>Field Study</i>	Observation of fire lines etc.	

14. Wildlife Management (10 hours), Excursion 1 day, Tour 3 days		
1. Introduction-Importance of wildlife	<ul style="list-style-type: none"> • Aesthetic • Recreational • Cultural • Economic • Biological • Ecological 	2 hours
2. Terminologies	<ul style="list-style-type: none"> • Carnivore, herbivore, omnivore • Nocturnal and diurnal animals • Carrying capacity • Territory • Home range • Brief idea about the wildlife of the State concerned 	1 hour
3. Protection of wildlife	<ul style="list-style-type: none"> • Threats • Preventive and combative measures • Wildlife (Protection) Act, 1972 and amendments 	2 hours

Annexure I

17. JFM Stakeholders (6 hours), Tour 1 day		
determined in JFM guidelines?		
3. Discuss upon the outcomes of the above, what is your (trainees) understanding of stakeholders.		1 hour

18. CBQ Building (12 hours), Tour 1 day		
1. Roles and responsibilities	<ul style="list-style-type: none"> • Discuss and determine the following for each of the actors: 1.Roles: 2.Responsibilities: 3.Rights: 4.Accountable to: (FD) <ul style="list-style-type: none"> • FRO • FR • FG (JFMC) <ul style="list-style-type: none"> • President • Vice President • Secretary • Treasurer • Executive Committee members • Members (Others) <ul style="list-style-type: none"> • SHGs • NGO workers (or any person assuming the same functions) <p>Allocate above enumerated roles, responsibilities and rights to each of the stages figured out in the previous session on "Stakeholders".</p>	2 hours
2. MOU and registration	<ul style="list-style-type: none"> • Why MOU is necessary? • Examine the prototype of MOU and consider the above outcomes. • What will be the measures to make each of stakeholders assimilate MOU? • What will be the local specifics to be considered and integrated to MOU? 	1 hour
3. Record keeping	<ul style="list-style-type: none"> • What will be basic records to be kept to monitor the progress of JFM? • What will be the benefits of each record? • Who maintains which record? • For how long? 	1 hour

Annexure I

14. Wildlife Management (10 hours), Excursion 1 day, Tour 3 days		
	• Anti-poaching camps	
4. Wildlife conservation	• Sanctuaries and national parks • Closed area and closed season • Special conservation projects (like Project Tiger) of the State. • Schedule of animals of the State.	2 hours
5. Habitat management	• General principles • Salt licks • Water holes • Fodder development	1 hour
6. Safari park, elephant camp, zoological park and trekking		1 hour
7. Man-animal conflict		1 hour
<i>Field Study</i>	Visit to a national park and/or sanctuary of the state.	

15. Office Procedure and Accounts (5 hours), Excursion 1 day, Tour 1 day		
1.	Organizational structure of the Forest Department	1 hour
2.	Duties and responsibilities of FR/FG as outlined in the State Forest Code	
3.	Transfer of charge of beats/sections-procedure to be followed	1 hour
4.	Preparation and/or maintenance of muster roll, bills, hand receipt, vouchers	1 hour
5.	Writing and maintenance of cashbook and measurement book.	1 hour
6.	Traveling allowance and leave rules.	1 hour

16. Concept of JFM (6 hours), Tour 1 day		
1. Definition	1-1. What is your idea of JFM? 1-2. Learn definition of JFM in State and National JFM Guidelines (latest versions): • What is common to all? • What is different? • If different, why? • What is specific to your own state?	1 hour
2. Concept	• Why from the conventional management of forests did JFM evolve? • What was the status of: Production, protection, harvest and provision of benefits in: 1. Conventional forest management 2. Social forestry 3. JFM	1 hour
3. Key principles	3-1. What is management of resources? • What are the resources available to be managed in the	1 hour

Annexure I

18. CBO Building (12 hours), Tour 1 day		
	<ul style="list-style-type: none"> • What training will be needed to keep these records? • List up available records presently according to the norm set by JFM guidelines. – Who maintains actually? • How to disseminate information maintained in the records to all the stakeholders? 	
4. Conducting meetings	<ul style="list-style-type: none"> • List up possible meetings of JFMC. • Describe purpose of each meeting. • Who convenes which meeting? • Is notice necessary to convene meetings? What will be the norms for notice determined in the bylaws? • What are the requirements for a meeting to be legally valid? • How to set agenda for a meeting? • What are the protocols to be observed during a meeting? • Who keeps the record? How to record? What items to be recorded? • How to arrive at a conclusion? Decision? In case of debate. • Is follow-up necessary? • How to follow up? Who to follow-up? 	1 hour
5. Fund Management	<ul style="list-style-type: none"> • What is income? Expenditure? Savings? Fund? • What will be possible incomes (regular, one shot), expenditures (recurring, non-recurring) of JFMC? • What will be the items for which investments can be done? How to make the best use of available fund in JFM? • Simulation of fund rotation (with cashbook, ledgers – 4 hrs) • Transparency – how to disseminate financial information to all the stakeholders. 	6 hours
6. Rules and regulations (bylaws)	<ul style="list-style-type: none"> • Why bylaws are necessary? • Examine the prototype of bylaws and consider the above outcomes. • What will be the measures to make each of stakeholders assimilate bylaws? • What will be the local specifics to be considered and integrated to bylaws? 	1 hour

19. PRA (24 hours), Excursion 2 days, Tour 3 days		
1. Social Map	<ul style="list-style-type: none"> • Concept of PRA • Definition of Social Map and its use • Practice 	3 hours
2. Resource Mapping	<ul style="list-style-type: none"> • Definition of Resource Map and its use • Practice 	3 hours
3. Transect	<ul style="list-style-type: none"> • Definition of Transect and its use • Practice 	3 hours

Annexure I

19. PRA (24 hours), Excursion 2 days, Tour 3 days		
4. Timeline	<ul style="list-style-type: none"> • Definition of Timeline and its use • Practice 	3 hours
5. Trend Analysis	<ul style="list-style-type: none"> • Definition of Trend Analysis and its use • Practice 	3 hours
6. Seasonal Diagram	<ul style="list-style-type: none"> • Definition of Seasonal Diagram and its use • Practice 	3 hours
7. Matrix Scoring/Ranking	<ul style="list-style-type: none"> • Definition of Matrix Scoring/Ranking and its use • Practice 	3 hours
8. Venn Diagram	<ul style="list-style-type: none"> • Definition of Venn Diagram and its use • Practice 	3 hours
<i>Field Study</i>	Apply PRA for resource mapping. Also apply Forest Botany.	

20. Micro Plan (24 hours), Excursion 2 days, Tour 4 days		
1. Planning process	<ul style="list-style-type: none"> • Plan and Action Plan • Micro Plan & "Macro" Plan • Planning process 	2 hours
2. Process and steps of MP	<ul style="list-style-type: none"> • Who to make • What to describe 	2 hours
3. Methods	<ul style="list-style-type: none"> • Use of PRA • Integration of Silviculture of Trees and Botany • Simple statistics 	3 hours
4. Treatment plan and management plan	<ul style="list-style-type: none"> • Treatment plan • Management plan • Use of local resources for IGA in JFM 	4 hours
5. Roles and responsibilities for planning and implementing MP	<ul style="list-style-type: none"> • Roles and responsibilities of stakeholders during planning and implementation • Description of roles & responsibilities of stakeholders in MP 	3 hours
vi. Exercise of MP	Mock session of MP making	10 hours
<i>Field Study</i>	Sample MP making in a village	

21. Participatory Skills for Field Staff (18 hours), Tour 1 day		
i. Promotion skill of CBO	<ul style="list-style-type: none"> • Identification of field level constraints experienced (socio-economic-cultural-gender). • CBO problems and contributing factors (reflection of constraints on CBO) • FR, FG's belief and attitudes • Community members' belief and attitudes. • Communication principles and skills to overcome above problems. 	12 hours.
ii. Monitoring and follow-up	<ul style="list-style-type: none"> • What is monitoring, why is it needed? • What are the items to be monitored in JFM? • Who does monitoring? At what intervals? • How to set indicators of monitoring in a participatory 	3 hours

16. Concept of JFM (6 hours), Tour 1 day		
	forests? <ul style="list-style-type: none"> • Why the resources are to be managed? • What are needed to manage resources? • What is the difference of carrying capacity of forests with canopy? -Visualize canopy wise availability of resources. (Between 0.1 and 0.4, More than 0.4, More than 0.7) 3-2. What is joint management of resources?	
4. Legal position	<ul style="list-style-type: none"> • What are the criteria to identify target areas? Area coverage? Community? • What will be the time span to be earmarked for JFM? • Why? – Figure out stages of JFM programme period. • What are the functional roles of FD and local people? • What is the structure to be created to carry out JFM? • What is the legal frame that endorses the above identified factors? 	1 hour
5. Present status	<ul style="list-style-type: none"> • What are the achievements so far? • What are the drawbacks? - Vis-à-vis goals set by state JFM guidelines. 	1 hour
6. Scope and limitations	<ul style="list-style-type: none"> • What will be the measures to fill gaps? • What will be possible limitations? 	1 hour

17. JFM Stakeholders (6 hours), Tour 1 day		
1. Roles and responsibilities and rights	Do the exercise as described below in terms of production, protection, harvest and provision of benefits. ① FD <ul style="list-style-type: none"> • Enumerate functions of FD and in particular those of Field Staff. • Compare the outcomes with the description in JFM guidelines. ② JFMC (Joint Forest Management Committee) <ul style="list-style-type: none"> • Enumerate functions of FD and in particular those of Field Staff. • Compare the outcomes with the description in JFM guidelines. ③ SHG <ul style="list-style-type: none"> • Enumerate functions of FD and in particular those of Field Staff. • Compare the outcomes with the description in JFM guidelines. ④ NGO <ul style="list-style-type: none"> • Enumerate functions of FD and in particular those of Field Staff. • Compare the outcomes with the description in JFM guidelines. 	4 hours
2. What are the stakes of each stakeholder		1 hour

Annexure I

21. Participatory Skills for Field Staff (18 hours), Tour 1 day		
	<ul style="list-style-type: none"> way? • How to keep and share the outcomes of monitoring? • What is the necessary follow-up to ease the process? 	
iii. Documentation	<ul style="list-style-type: none"> • What are the things covered by the volunteers in their documentation? • Which one you consider the best? Why? • What are the things have to be added in the report? Why? • What are the items to be documented in JFM? Why? Formats available? – If no, how to develop formats? • With whom these kinds of documents have to be shared? For what? 	3 hours

22. Computer Application (24 hours)		
1. OS	• Basics of OS (Windows XP)	4 hours
2. Internet	• Email and net browsing	4 hours
3. Word Processor	• MS Word	8 hours
4. Spread sheet	• MS Excel	8 hours

23. GPS (15 hours), Excursion 1 day, Tour 1 day		
1. Basics of GPS	<ul style="list-style-type: none"> • Components of GPS • Working of GPS receiver • Advantages and limitations of GPS • Use of GPS in the field 	2 hour
2. Practical	Practice of GPS	13 hours
<i>Field Study</i>	Application of GPS with MP making	(4 hours)

Attachment
(Silviculture of Trees and Sylvicultural Systems)

List of Species

Trade / Local name	Botanical name
Silver fir	<i>Abies pindrow</i>
Phyllode acacia	<i>Acacia auriculiformis</i>
Kair	<i>Acacia catechu</i>
Panicled acacia	<i>Acacia leucophloea</i>
Black wattle	<i>Acacia mearnsii</i>
Babul	<i>Acacia nilotica sub sp indica</i>
Umbrella thorn	<i>Acacia planifrons</i>
Shingle tree	<i>Acrocarpus fraxinifolius</i>
Siris	<i>Albizia lebbek</i>
Black siris	<i>Albizia odoratissima</i>
White siris	<i>Albizia procera</i>
Cashew	<i>Anacardium occidentale</i>
Axle wood	<i>Anogeissus latifolia</i>
Kadam	<i>Anthocephalus cadamba</i>
Bamboos	<i>Bambusa spp</i>
Bishop wood	<i>Bischofia javanica</i>
Semul	<i>Bombax ceiba</i> (<i>Syn Salmalia malabarica</i>)
Salai	<i>Boswellia serrata</i>
Flame of the forest	<i>Butea monosperma</i>
Black dammar	<i>Canarium strictum</i>
Rattans	<i>Calamus spp</i>
Indian laburnum	<i>Cassia fistula</i>
Yellow cassia	<i>Cassia siamea</i>
Casuarinas	<i>Casuarina cunninghamii</i> <i>Casuarina equisetifolia</i>

Annexure I

Deodar	<i>Casuarina junghuniana</i>
Chikracy	<i>Cedrus deodara</i>
Himalayan cypress	<i>Chukrasia tabularis</i>
Rosewood	<i>Cupressus torulosa</i>
Sissoo	<i>Dalbergia latifolia</i>
Male bamboo	<i>Dalbergia sissoo</i>
Karanj	<i>Dendrocalamus strictus</i>
River red gum	<i>Derris indica</i>
Blue gum	<i>(Syn. Pongamia pinnata)</i>
Rose gum	<i>Eucalyptus camaldulensis</i>
Mysore gum	<i>Eucalyptus globulus</i>
Gamari	<i>Eucalyptus grandis</i>
Haldu	<i>Eucalyptus tereticornis</i>
Anjan	<i>(Eucalyptus hybrid)</i>
Thingan	<i>Gmelina arborea</i>
Ven teak	<i>Haldinia cordifolia</i>
Subabul	<i>(Syn Adina cordifolia)</i>
Malabar neem	<i>Hardwickia binata</i>
Champak	<i>Hopea parvi flora</i>
Kaim	<i>Lagerstroemia lanceolata</i>
Mulberry	<i>Leucaena leucocephala</i>
Spruce	<i>Melia composite</i>
Caribbean pine	<i>(Syn Melia dubia)</i>
Kasi pine	<i>Michelia champaka</i>
Chir pine	<i>Mitragyna parvifolia</i>
Blue pine	<i>Morus alba</i>
	<i>Picea smithiana</i>
	<i>(syn Picea morinda)</i>
	<i>Pinus caribea</i>
	<i>Pinus kesia</i>
	<i>(syn Pinus khasya)</i>
	<i>Pinus roxburghii</i>
	<i>Pinus griffithii</i>

<i>wallichiana</i>)	(syn <i>Pinus excelsa</i> , <i>Pinus</i>
Madras thorn	<i>Pithecellobium dulce</i>
<i>dulce</i>)	(syn <i>Pithecolobium dulce</i> , <i>Inga</i>
Poplar	<i>Populus spp</i>
Mesquite	<i>Prosopis chilensis</i>
	(syn <i>Prosopis juliflora</i>)
Khejdi	<i>Prosopis cineraria</i>
	(syn <i>Prosopis spiceigera</i>)
Bija sal	<i>Pterocarpus marsupium</i>
Red sanders	<i>Pterocarpus santalinus</i>
Banj oak	<i>Quercus incana</i>
Kandal	<i>Rhizophora mucronata</i>
Locust	<i>Robinia pseudo-acacia</i>
Indian willow	<i>Salix tetrasperma</i>
Sandal	<i>Santalum album</i>
Sal	<i>Shorea robusta</i>
Mahagony	<i>Swietenia mahogani</i>
Tamarind	<i>Tamarindus indica</i>
Teak	<i>Tectona grandis</i>
Red cedar	<i>Toona ciliata</i>
	(syn <i>Cedrella toona</i>)
Laural	<i>Terminalia alata</i>
Behera	<i>Terminalia belerica</i>
Gall nut	<i>Terminalia chebula</i>
Kindal	<i>Terminalia paniculata</i>
Hollock	<i>Terminalia myriocarpa</i>

Course Contents for Induction Training for Forest Guards

Distribution of Subjects for Six Months (24 weeks) Course

1. Timing: 1) 3rd week of April –end 2nd week October, 2) 3rd week October – end 2nd week March
2. Calculation of Effective Working Days

1	Duration of the course (12 weeks)	7 days/week x 24 weeks=168 days - (1)
2	Sundays excluding tour days	16 days - (2)
3	Gazetted Holidays	7 days - (3)
4	Registration and orientation	1 day - (4)
5	Examination	10 days - (5)
6	Preparation of results	2 days - (6)
7	Passing out parade and convocation	1 day - (7)
8	Relief	1 day - (8)
9	Effective working days	$(1) - \{(2)+(3)+(4)+(5)+(6)+(7)+(8)\} = 130 \text{ days}$
10	Classroom sessions	40 days
11	Excursions (Saturdays)	24 days
12	Tours Days	58 days

- Allocation of time for one classroom session: 60 minutes

3. Daily Schedule

Time	Activities
6-7 AM (Summer)	Physical Training
6.30-7.30 AM (Winter)	
8.45 AM-1 PM	Classes (with 15 min. tea break)
1-2 PM	Lunch Break
2-4 PM	Classes
5-6.30 PM (Summer)	Games
5-6 PM (Winter)	

Subject-wise Allotment of Hours

	Subjects	Classroom Session (Theory + Practical) ¹	Excursions	Tour
Basics of Forestry and FD duties				
1	General silviculture	15	1	4
2	Silviculture of trees & silvicultural systems	15	2	4
3	Regeneration methods	10	2	4
4	Forest management	5	1	3
5	Forest botany	15	3	4
6	Soil and water conservation	10	2	4
7	Soil science	5	1	3
8	Forest survey	8	1	4
9	Forest mensuration	5	1	4
10	Forest engineering	5	1	3
11	Forest utilisation	7	1	5
12	Forest law	10	1	2
13	Forest protection	10	1	4
14	Wildlife management	10	1	3
15	Office procedure and accounts	5	1	2
JFM & People participatory activities related subjects				
16	Concept of JFM	6	-	1
17	JFM Stakeholders	6	-	1
18	CBO Building	12	-	1
19	PRA	15	2	3
20	Micro Plan	18	2	4
21	Participatory Skills for Field Staff	18	-	1
Skills Common to All Subjects				
22	Computer Application	16	-	-
23	GPS	7	1	1
24	First Aid	7	-	1
	Total	240 hours	24 days	66 days

* The course can be shortened up to three months by adjusting the time allocated to excursions and tour days as the sample is given in Annexure I.

¹ Classroom sessions: Including sessions using such places in the premises as arboretum, nursery, demonstration plots.

Annexure II

2. Silviculture of Trees & Silvicultural Systems (15 hours), Excursion 2 days, Tour 4 days		
1. Silviculture of Trees	Study of the habitat, distribution, soil and climate requirements and phenology of at least 10 economically important species of the state concerned. A list of species is furnished ³ . The state is free to add any widely occurring / grown species that does not figure in the list.	10 hours (+OJT: Silviculture of species)
2. Silvicultural Systems	2-1. High forest and coppice systems 2-2. High forest systems 2-3. Clear felling system 2-4. Selection system 2-5. Shelterwood system 2-6. Coppice systems 2-7. Simple coppice system 2-8. Coppice with standard system	5 hours
Field Study	The trainees will be shown the silvicultural systems and silviculture of such species that are met with during the tours and excursions.	

3. Regeneration Methods (10 hours), Excursion 2 days, Tour 4 days		
1. Natural Regeneration	1-1. Light demanders and shade bearers. 1-2. Natural regeneration from seed <ul style="list-style-type: none"> • In clear felled areas-controlled burning • Under shelter-wood • In irregular forests. 1-3. Natural regeneration by coppice <ul style="list-style-type: none"> • Seedling coppice • Stool coppice 1-4. Assisting natural regeneration <ul style="list-style-type: none"> • Gap planting in barren patches • Weeding, cleaning, climber cutting and soil working • Thinning • Cultural operations • Soil and water conservation measures. 	2 hours
2. Artificial Regeneration	Introduction Objectives <ul style="list-style-type: none"> • Choice of species • Pure vs. mixed crops • Exotics vs. indigenous species • Multi-storey cropping • Use of multiple-use species • Artificial vs. natural regeneration - merits and demerits 	3 hours

³ See attached list at the end Annexure I.

Annexure II

3. Regeneration Methods (10 hours), Excursion 2 days, Tour 4 days		
	<ul style="list-style-type: none"> • Use of seedlings, aerial seeding, vegetative propagation and tissue culture 	
3. Nursery	<ul style="list-style-type: none"> • Seed collection and storage • Site selection and fencing • Preparation of germination and secondary beds – soil preparation. • Filling polypots • Pre-treatment of seeds, sowing of seeds in beds / dibbling seeds in polypots. • Watering regime. • Pricking out seedlings in polypots. • Culling and grading • Shifting, root-pruning and hardening • Plant protection • Maintenance of nursery register 	2 hours (+OJT: raising nurseries)
4. Planting Operations	<ul style="list-style-type: none"> • Site selection • Survey and demarcation • Aligning according to spacing, staking / marking • Pitting • Transport of seedlings and planting • Manuring • Replacing casualties • Weeding and soil working • Mulching / frost protection • Tending • Thinning • Pollarding 	3 hours (+OJT: Operation for various species)
<i>Field Study</i>	<p>Entire nursery and planting operations will mainly be trained through fieldwork on two consecutive Saturday excursions including documentation with:</p> <ul style="list-style-type: none"> • Nursery Journal • Plantation Journal 	

4. Forest Management (5 hours), Excursion 1 day, Tour 3 days		
1. Objectives	<ul style="list-style-type: none"> • Production (economics) • Protection (conservation) • Bio-aesthetic 	1 hour
2. Concept of normal forest, age gradation, age classes and diameter classes		
3. Current and mean annual increments		1 hour
iv. Types of rotation	<ul style="list-style-type: none"> • Physical • Silvicultural • Technical • Financial 	1 hour

Course Contents

1. General Silviculture (15 hours), Excursion 1 day, Tour 4 days		
1. Introduction	1-1. Overview of the forests of the state 1-2. Tangible and intangible benefits of the forests 1-3. Forests and environment 1-4. Protection, production and conservation forestry	1 hour
2. Growth of trees	2-1. Various Stages of Growth • Seedling • Sapling • Pole • Tree • Crown	1 hour
3. Factors Governing Growth of Forests	3-1. Climate 3-2. Topography and aspect 3-3. Soil 3-4. Biotic factors	2 hours
4. Plant Succession	4-1. Causes and types 4-2. Climatic climax 4-3. Pre-climax 4-4. Post-climax 4-5. Edaphic climax	2 hours
5. Important Forest Types of the state	5-1. Distribution 5-2. Floristic composition	4 hours
6. Tree Classification	6-1. Dominant 6-2. Dominated 6-3. Suppressed 6-4. Dead or moribund 6-5. Diseased 6-6. Crown and canopy	2 hours
7. Tending	7-1. Definition 7-2. Need 7-3. Weeding and cleaning 7-4. Climber cutting	1 hour
8. Thinning	8-1. Mechanical thinning 8-2. Ordinary thinning • Light (A grade) • Moderate (B grade) • Heavy (C grade) • Very heavy (D grade) 8-3. Crown thinning 8-4. Selection thinning	2 hours (+OJT: Tending and thinning)
Field Study	During the tour and Saturday excursions, growth factors, plant succession, forest types and stages of growth will be observed.	

Annexure II

4. Forest Management (5 hours), Excursion 1 day, Tour 3 days		
	<ul style="list-style-type: none"> • Maximum volume production • Maximum income production 	
v. Yield Regulation	<ul style="list-style-type: none"> • By area • By volume 	1 hour
vi. Working Plan	<ul style="list-style-type: none"> • Aim • Working circles • Felling series 	1 hour
<i>Field Study</i>	Observation of an example of Working Plan	

5. Forest Botany (15 hours), Excursion 3 days, Tour 4 days		
1. Basics	<p>1-1. Morphology</p> <ul style="list-style-type: none"> • Parts of a plant • Roots-types and functions • Stem-functions • Leaf-parts-functions • Inflorescence types • Flowers – unisexual and bisexual - parts and functions • Fruits-simple, aggregate and multiple • Seeds-dispersal-germination. <p>1-2. Anatomy</p> <ul style="list-style-type: none"> • Cells and tissues • Heartwood and sap wood • Annual rings <p>1-3. Physiology</p> <ul style="list-style-type: none"> • Photosynthesis • Transpiration • Translocation • Respiration <p>1-4. Taxonomy</p> <ul style="list-style-type: none"> • Binomial nomenclature • Species, genus, family <p>1-5. Vegetative propagation</p> <p>1-6. Ecology</p> <ul style="list-style-type: none"> • Basic concepts • Eco-system 	10 hours (5 hours practical in laboratory)

Annexure II

3. Regeneration Methods (10 hours), Excursion 2 days, Tour 4 days		
	<ul style="list-style-type: none"> • Use of seedlings, aerial seeding, vegetative propagation and tissue culture 	
3. Nursery	<ul style="list-style-type: none"> • Seed collection and storage • Site selection and fencing • Preparation of germination and secondary beds – soil preparation. • Filling polypots • Pre-treatment of seeds, sowing of seeds in beds / dibbling seeds in polypots. • Watering regime. • Pricking out seedlings in polypots. • Culling and grading • Shifting, root-pruning and hardening • Plant protection • Maintenance of nursery register 	2 hours (+OJT: raising nurseries)
4. Planting Operations	<ul style="list-style-type: none"> • Site selection • Survey and demarcation • Aligning according to spacing, staking / marking • Pitting • Transport of seedlings and planting. • Manuring • Replacing casualties • Weeding and soil working • Mulching / frost protection • Tending • Thinning • Pollarding 	3 hours (+OJT: Operation for various species)
<i>Field Study</i>	<p>Entire nursery and planting operations will mainly be trained through fieldwork on two consecutive Saturday excursions including documentation with:</p> <ul style="list-style-type: none"> • Nursery Journal • Plantation Journal 	

4. Forest Management (5 hours), Excursion 1 day, Tour 3 days		
1. Objectives	<ul style="list-style-type: none"> • Production (economics) • Protection (conservation) • Bio-aesthetic 	1 hour
2. Concept of normal forest, age gradation, age classes and diameter classes		
3. Current and mean annual increments		1 hour
iv. Types of rotation	<ul style="list-style-type: none"> • Physical • Silvicultural • Technical • Financial 	1 hour

Annexure II

5. Forest Botany (15 hours), Excursion 3 days, Tour 4 days		
	teach the FG/FR the botanical names of the important species • Identification of plants will be continued during Saturday excursions and tours.	

6. Soil and Water Conservation (10 hours), Excursion 2 days, Tour 4 days		
1. Introduction	Concept and definition of watershed Need for SWC for forest development Watershed approach for development	1 hour
2. Hydrology	Hydrological cycle Rainfall distribution and measurement Run off Peak run off Water balance	1 hour
3. Soil Erosion	Causes Factors involved Effects of erosion Types of erosion Water and wind erosion	2 hours
4. Soil and Water Conservation Measures	Vegetative measures • Contour ploughing and cultivation • Vegetative barriers / checks Engineering measures • Contour bunding, compartmental bunding and graded bunding • Contour trenches • Contour stone walls • Earthen / nala bund. • Sunken gully pits. • Silt traps. River training • Retaining wall • Gabion wall • Revetment Check dams • Temporary • Brushwood • Boulder • Loose stone • Permanent • Masonry Combating spread of desert • Sand dune fixation • Shelterbelts Water harvesting • Percolation ponds. • Farm ponds.	4 hours
5. SWC Measures		1 hour

Annexure II

6. Soil and Water Conservation (10 hours), Excursion 2 days, Tour 4 days		
for different rainfall regions		
6. Gadgets and Instrument		1 hour
<i>Field Study</i>	Study of available SWC measures during tours/excursions.	

7. Soil Science (5 hours), Excursion 1 day, Tour 3 days		
1. Rocks and Soil	1-1. Rocks <ul style="list-style-type: none"> • Igneous • Sedimentary • Metamorphic 1-2. Soil formation <ul style="list-style-type: none"> • Physical weathering • Chemical weathering • Biological weathering 1-3. Soil profile and horizons 1-4. Soil texture, structure, water and PH 1-5. Important soil types and their properties <ul style="list-style-type: none"> • Alluvial soils • Black soils • Red soils • Lateritic soils • Desert soils • Saline soils • Alkaline soils • Acid soils 	3 hours
2. Species suitable for different soil types		2 hours
<i>Field Study</i>	Study of soil profile	

8. Forest Survey (8 hours), Excursion 1 day, Tour 4 days		
1. Introduction	1-1. Need for survey 1-2. Types of survey <ul style="list-style-type: none"> • Chain • Chain and compass • Plane table 	1 hour
2. Elementary geometry and trigonometry		8 hours
3. Chain and compass survey	<ul style="list-style-type: none"> • Prismatic compass-parts – handling – testing • Errors and their correction • Precautions to be observed 	5 hours

Annexure II

8. Forest Survey (8 hours), Excursion 1 day, Tour 4 days		
	<ul style="list-style-type: none"> • Testing the chain • Traverse-closed and open • Forward and backward bearing • Local attraction and its correction • Method of traverse • Recording in the field book • Plotting the survey • Closing error and adjusting it • Area calculation 	
4. Contours and map reading	<ul style="list-style-type: none"> • Definition • Methods of contouring • Instruments used • Contour intervals • Contour map reading 	1 hour
<i>Field Study</i>	Practice of chain and compass survey	

9. Forest Mensuration (5 hours), Excursion 1 day, Tour 4 days		
1. Basic Mathematics	Units of measurement of length, area, volume, weight, capacity and density under British and metric systems and their conversion factors.	1 hour
2. Girth/diameter and height measurement	<ul style="list-style-type: none"> • Breast height • Use of tape - ordinary / diameter tape and calipers and their advantages and disadvantages. • Measurement of height using altimeters. 	1 hour
3. Volume measurement	<ul style="list-style-type: none"> • Form factor • Volume of standing trees • Volume of logs using quarter girth formula • Stacked volume of firewood and use of reducing factor 	1 hour
4. Yield assessment	<ul style="list-style-type: none"> • Volume / out-turn tables • Use of wedge prism and point sampling 	1 hour
5. Enumeration of growing stock	<ul style="list-style-type: none"> • Total enumeration • Partial enumeration 	1 hour
<i>Field Study</i>	Practice	

10. Forest Engineering (5 hours), Excursion 1 day, Tour 3 days		
1. Building Materials	<ul style="list-style-type: none"> • Stone. • Bricks-size- number/M3 • Lime, cement sand and metal • Mortar • Concrete-cement - RCC 	1 hour
2. Building construction	<ul style="list-style-type: none"> • Site selection • Ground tracing • Foundation 	1 hour

Annexure II

10. Forest Engineering (5 hours), Excursion 1 day, Tour 3 days		
	<ul style="list-style-type: none"> • Flooring • Doors and windows 	
3. Water Supply	<ul style="list-style-type: none"> • Wells-dug well, tube well • Filtering • Purification 	1 hour
4. Road	<ul style="list-style-type: none"> • Types of forest roads • Alignment in plains and hills • Hair pin bends • Camber, super elevation, gradient • Side drains and their maintenance 	1 hour
<i>Practical</i>	Study of parts of a building in the campus.	1 hour
<i>Field Study</i>	Study of various types of forest roads and their parts during tour/excursions.	

11. Forest Utilization (7 hours), Excursion 1 day, Tour 5 days		
1. Wood Products (Timber and firewood)	1-1. Implements used for felling <ul style="list-style-type: none"> • Axe • Saws-hand, power 1-2. Conversion <ul style="list-style-type: none"> • Logging • Rough dressing and squaring • Machine sawing • Grading and stacking 1-3. Transport <ul style="list-style-type: none"> • Timber depots and sale of timber • Collection, transport stacking and disposal of fuel wood 	4 hours
2. Non-wood Forest Produce	2-1. Vegetable products <ul style="list-style-type: none"> • Bamboos • Canes • Fibres and flosses • Tans and dyes • Medicinal plants • Spices • Edible products • Tendu (Beedi) leaf • Oil seeds 2-2. Animal products <ul style="list-style-type: none"> • Honey • Lac • Silkworm 2-3. Mineral products <ul style="list-style-type: none"> • Mica • Iron ore • Manganese 	3 hours

Annexure II

11. Forest Utilization (7 hours), Excursion 1 day, Tour 5 days		
	<ul style="list-style-type: none"> • Limestone • Granite • Slate 	
<i>Field Study</i>	<ul style="list-style-type: none"> • Logging Operations • Timber/Sandalwood/Firewood depots • Various NWFP 	

12. Forest Law (10 hours), Excursion 1 day, Tour 1 day		
1. Definition and legal classification of forests	<ul style="list-style-type: none"> • Forests, forest officer, forest produce cattle, vehicles, seizure and confiscation • Reserved forests, reserved lands, protected forests, village forests, private forests, revenue forests, and unclassified forests. 	1 hour
2. Acts related to forests	Study of the important sections of the following acts: <ul style="list-style-type: none"> • Indian Forest Act or State Forest Act as the case may be • Forest Conservation Act, 1980 • Wildlife (Protection) Act, 1972 • Tribal Act • Indian Penal Code • Criminal Procedure Code • Special Forestry – related Acts/Rules of the State concerned like Sandalwood/Red Sanders Possession and Transit Rules 	4 hours
3. Detection of offences	<ul style="list-style-type: none"> • Powers of Forest Officer. • Detection, investigation, custody of seized produce. • Preparation and filing of offence report/first information report. • Preparation of mahazar • Arrest of the accused • Compounding / prosecution of the case. • Custody of seizures • Non-bailable warrants • Punishment for various violations 	2 hours
4. Forest Produce Transit Rules		1 hour
<i>Practical</i>	A mock session will be conducted in apprehending a forest offender and following the procedure, step by step, till the case is disposed off.	2 hours

13. Forest Protection (10 hours), Excursion 1 day, Tour 4 days		
1. Introduction	1-1. Factors responsible for degradation of forests. <ul style="list-style-type: none"> • Cattle, • Fire. • Flood. • Natural calamities. 	2 hours

Annexure II

13. Forest Protection (10 hours), Excursion 1 day, Tour 4 days		
	1-2. Forest, people and tribal welfare 1-3. Duties, responsibilities and power of the Field Staff in protection of the forests.	
2. Forest Fires	2-1. Causes, types and effect on forests. 2-2. Prevention measures • Fire lines • Control burning 2-3. Combative measures • Watch towers • Fire watchers • Use of fire fighting equipments • Counter firing 2-4. Fire occurrence and damage reports 2-5. Dealing fire offences	2 hours
3. Grazing and browsing	• Effects of grazing and browsing • Regulation of grazing • Rotational grazing	1 hour
4. Human interferences and their control	4-1. Illicit felling 4-2. Encroachments 4-3. Willful setting of fires.	2 hours
5. Injuries by plants	• Climber and lianes • Weeds • Parasites	1 hour
6. Injuries due to wild animal, pests and diseases		1 hour
7. Injuries due to natural calamities	• Flood and land slide • Drought • Frost • Snow • Soil erosion	1 hour
<i>Field Study</i>	Observation of fire lines etc.	

14. Wildlife Management (10 hours), Excursion 1 day, Tour 3 days		
1. Introduction-Importance of wildlife	• Aesthetic • Recreational • Cultural • Economic • Biological • Ecological	2 hours
2. Terminologies	• Carnivore, herbivore, omnivore • Nocturnal and diurnal animals • Carrying capacity • Territory • Home range • Brief idea about the wildlife of the State concerned	1 hour
3. Protection of	• Threats	2 hours

Annexure II

14. Wildlife Management (10 hours), Excursion 1 day, Tour 3 days		
wildlife	<ul style="list-style-type: none"> • Preventive and combative measures • Wildlife (Protection) Act, 1972 and amendments • Anti-poaching camps 	
4. Wildlife conservation	<ul style="list-style-type: none"> • Sanctuaries and national parks • Closed area and closed season • Special conservation projects (like Project Tiger) of the State. • Schedule of animals of the State. 	2 hours
5. Habitat management	<ul style="list-style-type: none"> • General principles • Salt licks • Water holes • Fodder development 	1 hour
6. Safari park, elephant camp, zoological park and trekking		1 hour
7. Man-animal conflict		1 hour
<i>Field Study</i>	Visit to a national park and/or sanctuary of the state.	

15. Office Procedure and Accounts (5 hours), Excursion 1 day, Tour 2 days		
1.	Organizational structure of the Forest Department.	1 hour
2.	Duties and responsibilities of FR/FG as outlined in the State Forest Code	
3.	Transfer of charge of beats/sections-procedure to be followed	1 hour
4.	Preparation and/or maintenance of muster roll, bills, hand receipt, vouchers	1 hour
5.	Writing and maintenance of cashbook and measurement book	1 hour
6.	Traveling allowance and leave rules	1 hour

16. Concept of JFM (6 hours), Tour 1 day		
1. Definition	1-1. What is your idea of JFM? 1-2. Learn definition of JFM in State and National JFM Guidelines (latest versions): <ul style="list-style-type: none"> • What is common to all? • What is different? • If different, why? • What is specific to your own state? 	1 hour
2. Concept	<ul style="list-style-type: none"> • Why from the conventional management of forests did JFM evolve? • What was the status of: Production, protection, harvest and provision of benefits in: <ol style="list-style-type: none"> 1. Conventional forest management 2. Social forestry 3. JFM 	1 hour

Annexure II

17. JFM Stakeholders (6 hours), Tour 1 day		
stakes of each stakeholder determined in JFM guidelines?		
3. Discuss upon the outcomes of the above, what is your (trainees) understanding of stakeholders.		1 hour

18. CBO Building (12 hours), Tour 1 day		
1. Roles and responsibilities	<ul style="list-style-type: none"> • Discuss and determine the following for each of the actors: <ol style="list-style-type: none"> 1.Roles: 2.Responsibilities: 3.Rights: 4.Accountable to: <ul style="list-style-type: none"> (FD) <ul style="list-style-type: none"> • FRO • FR • FG (JFMC) <ul style="list-style-type: none"> • President • Vice President • Secretary • Treasurer • Executive Committee members • Members (Others) <ul style="list-style-type: none"> • SHGs • NGO workers (or any person assuming the same functions) <p>Allocate above enumerated roles, responsibilities and rights to each of the stages figured out in the previous session on "Stakeholders".</p>	2 hours
2. MOU and registration	<ul style="list-style-type: none"> • Why MOU is necessary? • Examine the prototype of MOU and consider the above outcomes. • What will be the measures to make each of stakeholders assimilate MOU? • What will be the local specifics to be considered and integrated to MOU? 	1 hour
3. Record keeping	<ul style="list-style-type: none"> • What will be basic records to be kept to monitor the progress of JFM? • What will be the benefits of each record? 	1 hour

Annexure II

18. CBO Building (12 hours), Tour 1 day		
	<ul style="list-style-type: none"> • Who maintains which record? • For how long? • What training will be needed to keep these records? • List up available records presently according to the norm set by JFM guidelines. – Who maintains actually? • How to disseminate information maintained in the records to all the stakeholders? 	
4. Conducting meetings	<ul style="list-style-type: none"> • List up possible meetings of JFMC. • Describe purpose of each meeting. • Who convenes which meeting? • Is notice necessary to convene meetings? What will be the norms for notice determined in the bylaws? • What are the requirements for a meeting to be legally valid? • How to set agenda for a meeting? • What are the protocols to be observed during a meeting? • Who keeps the record? How to record? What items to be recorded? • How to arrive at a conclusion? Decision? In case of debate. • Is follow-up necessary? • How to follow up? Who to follow-up? 	1 hour
5. Fund Management	<ul style="list-style-type: none"> • What is income? Expenditure? Savings? Fund? • What will be possible incomes (regular, one shot), expenditures (recurring, non-recurring) of JFMC? • What will be the items for which investments can be done? How to make the best use of available fund in JFM? • Simulation of fund rotation (with cashbook, ledgers – 4 hrs) • Transparency – how to disseminate financial information to all the stakeholders. 	6 hours
6. Rules and regulations (bylaws)	<ul style="list-style-type: none"> • Why bylaws are necessary? • Examine the prototype of bylaws and consider the above outcomes. • What will be the measures to make each of stakeholders assimilate bylaws? • What will be the local specifics to be considered and integrated to bylaws? 	1 hour

19. PRA (15 hours), Excursion 2 days, Tour 3 days		
1. Social Map	<ul style="list-style-type: none"> • Concept of PRA • Definition of Social Map and its use 	3 hours

Annexure II

19. PRA (15 hours), Excursion 2 days, Tour 3 days		
	• Practice	
2. Resource Mapping	• Definition of Resource Map and its use • Practice	3 hours
3. Transect	• Definition of Transect and its use • Practice	3 hours
6. Seasonal Diagram	• Definition of Seasonal Diagram and its use • Practice	3 hours
8. Venn Diagram	• Definition of Venn Diagram and its use • Practice	3 hours
<i>Field Study</i>	Apply PRA for resource mapping. Also apply Forest Botany.	

20. Micro Plan (18 hours), Excursion 2 days, Tour 4 days		
1. Planning process	• Plan and Action Plan • Micro Plan & "Macro" Plan • Planning process	1 hours
2. Process and steps of MP	• Who to make • What to describe	1 hours
3. Methods	• Use of PRA • Integration of Silviculture of Trees and Botany • Simple statistics	2 hours
4. Treatment plan and management plan	• Treatment plan • Management plan • Use of local resources for IGA in JFM	2 hours
5. Roles and responsibilities for planning and implementing MP	• Roles and responsibilities of stakeholders during planning and implementation • Description of roles & responsibilities of stakeholders in MP	2 hours
6. Exercise of MP	Mock session of MP making	10 hours
<i>Field Study</i>	Sample MP making in a village	

21. Participatory Skills for Field Staff (18 hours), Tour 1 day		
1. Promotion skill of CBO	• Identification of field level constraints experienced (socio-economic-cultural-gender). • CBO problems and contributing factors (reflection of constraints on CBO) • FR, FG's belief and attitudes • Community members' belief and attitudes. • Communication principles and skills to overcome above problems.	12 hours
2. Monitoring and follow-up	• What is monitoring, why is it needed? • What are the items to be monitored in JFM? • Who does monitoring? At what intervals? • How to set indicators of monitoring in a participatory way? • How to keep and share the outcomes of monitoring?	3 hours

Annexure II

16. Concept of JFM (6 hours), Tour 1 day		
3. Key principles	3-1. What is management of resources? <ul style="list-style-type: none"> • What are the resources available to be managed in the forests? • Why the resources are to be managed? • What are needed to manage resources? • What is the difference of carrying capacity of forests with canopy? –Visualize canopy wise availability of resources. (Between 0.1 and 0.4, More than 0.4, More than 0.7) 3-2. What is joint management of resources?	1 hour
4. Legal position	<ul style="list-style-type: none"> • What are the criteria to identify target areas? Area coverage? Community? • What will be the time span to be earmarked for JFM? • Why? – Figure out stages of JFM programme period. • What are the functional roles of FD and local people? • What is the structure to be created to carry out JFM? • What is the legal frame that endorses the above identified factors? 	1 hour
5. Present status	<ul style="list-style-type: none"> • What are the achievements so far? • What are the drawbacks? - Vis-à-vis goals set by state JFM guidelines.	1 hour
6. Scope and limitations	<ul style="list-style-type: none"> • What will be the measures to fill gaps? • What will be possible limitations? 	1 hour

17. JFM Stakeholders (6 hours), Tour 1 day		
1. Roles and responsibilities and rights	Do the exercise as described below in terms of production, protection, harvest and provision of benefits. <ol style="list-style-type: none"> ① FD <ul style="list-style-type: none"> • Enumerate functions of FD and in particular those of Field Staff. • Compare the outcomes with the description in JFM guidelines. ② JFMC (Joint Forest Management Committee) <ul style="list-style-type: none"> • Enumerate functions of FD and in particular those of Field Staff. • Compare the outcomes with the description in JFM guidelines. ③ SHG <ul style="list-style-type: none"> • Enumerate functions of FD and in particular those of Field Staff. • Compare the outcomes with the description in JFM guidelines. ④ NGO <ul style="list-style-type: none"> • Enumerate functions of FD and in particular those of Field Staff. • Compare the outcomes with the description in JFM guidelines. 	4 hours
2. What are the		1 hour

Annexure II

21. Participatory Skills for Field Staff (18 hours), Tour 1 day		
	<ul style="list-style-type: none"> • What is the necessary follow-up to ease the process? 	
3. Documentation	<ul style="list-style-type: none"> • What are the things covered by the volunteers in their documentation? • Which one you consider the best? Why? • What are the things have to be added in the report? Why? • What are the items to be documented in JFM? Why? Formats available? – If no, how to develop formats? • With whom these kinds of documents have to be shared? For what? 	3 hours

22. Computer Application (16 hours)		
1. OS	• Basics of OS (Windows XP)	4 hours
2. Internet	• Email and net browsing	4 hours
3. Word Processor	• MS Word	8 hours

23. GPS (7 hours), Excursion 1 day, Tour 1 day		
1. Basics of GPS	<ul style="list-style-type: none"> • Components of GPS • Working of GPS receiver • Advantages and limitations of GPS • Use of GPS in the field 	2 hour
2. Practical	Practice of GPS	5 hours
<i>Field Study</i>	Application of GPS with MP making	(4 hours)

Minimum Training Facilities

Including Faculty Strength And Other Infrastructure Needed
In A Forestry Training School

Considering the workload, each school should have at least the staff strength and other infrastructure as shown below to ensure that the training is imparted to the officers properly. The samples are given for a training school having capacity of 80 trainees. Services, which can be outsourced from the market, have not been included in the staff list.

I	Staff Strength	P2
II	Infrastructure	P3
III	Equipment	P4

I. Staff Strength

Faculty And Staff for Training School		
Serial No.	Designation	Required number
1	Principal	1
	Training Staff	
2	Faculty members	6
3	Physical Training Instructor	1
	Administration & Maintenance	
4	Accountant	1
5	Junior Clerk	1
6	Caretaker	1
7	Watchman	1
8	Driver	1
9	Peon	
	Cleaners	Outsourced
	Kitchen Staff	Outsourced

II. Infrastructure

Infrastructure		
Space classified	Required facilities	Required no.
1) Academic Block (Building & outdoor space)	• Classrooms	2
	• Computer room	1
	• Library	1
	• Laboratory	1
	• Ladies' toilet	1(3 WC, 2WB)
	• Gents' toilet	1 (3 WC, 5 UR, 3 WB)
	• Arboretum	1
	• Nursery	1
	• Demonstration Plots	1
2) Administrative Block (Building)	• Director/Principal's room	1
	• Visitors' lounge	1
	• Faculties' rooms (partitioned rooms including guest faculties)	8 (6 + 2)
	• Administrative staff office	1
	• Conference room	1
	• Maintenance and estate office	1
	• Ladies' toilet	1(2 WC, 2WB)
	• Gents' toilet	1 (3 WC, 3 UR, 3 WB)
3) Amenities	• Indoor recreation room	1
	• Gymnasium	1
	• Play ground	1
	• Canteen	1
	• Dispensary	1
4) Residential Area	• Trainees' Hostels (ladies and gents)	1 (40 double rooms)
	• Staff Quarters	12
	• Guest rooms	1 (6 double rooms)

* At least 10% of the hostel should be spared for women officers in view of ensuring the privacy. The same consideration should be applied to other amenities.

III. Equipment

Equipment		
Serial No.	Equipment	Required number
1	Computer	20
2	Printer	5
3	Internet facility	As per requirement (Preferably wireless network)
4	LCD Projector	1
5	Photo Copier	1
6	Fax	1
7	GPS	20
8	Television	1
9	Telescope	5
10	Binocular	5
11	Video camera	1
12	Digital camera	1
13	Furniture & furnishings	As per requirement
14	Books & magazines	For library
15	Others (Tents, Survey and mensuration instruments)	As per requirement