

Training Needs of Telecom Officers of Department of Telecommunications in Current Scenario

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by

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CERTIFICATE

I have the pleasure to certify that **Shri Devendra Singh Kachhwaha** has pursued his research work and prepared the present dissertation titled '**Training Needs of Telecom Officers of Department of Telecommunications in Current Scenario**' under my guidance and supervision. The dissertation is the result of his own research and to the best of my knowledge, no part of it has earlier comprised any other monograph, dissertation or book. This is being submitted to the Indian Institute of Public Administration (IIPA) for the Master's Diploma in Public Administration (MDPA), in partial fulfilment of the requirement for the Advanced Professional Programme in Public Administration (APPPA).

I recommend that the dissertation of **Shri Devendra Singh Kachhwaha** is worthy of consideration for the award of MDPA of IIPA, New Delhi.

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Abstract

The dissertation focuses on status of trainings being provided to Telecom Officers (ITS Group 'A' & TES Group 'B') of Department of Telecommunications (DoT) and their future training needs in current scenario. The perception of the various stake holders viz. trainee officers, faculties and administration about training programme, training facilities and infrastructure of the training centre. This study also identifies the issues and challenges being faced by the department in implementation of recommendation contained in National Training Policy -2012.

The Research Design is Descriptive and Exploratory in nature and both Qualitative and Quantitative research method was adopted. For the purpose of this study, both primary and secondary data sources were explored. Primary data was collected through administration of questionnaires to the Telecom Officers, faculty of training centre and training division of DoT HQ. Secondary data was collected from the websites of NTIPRIT, DoT etc.

The technology of Telecommunications, market structures and services offered are fast changing. This demands a continuous up-gradation of competencies and skill set development for the Telecom officers. This requires structured and diversified capacity building in relevant areas for Telecom officers of DoT in technology, policy, regulation, management, consumer needs, consumer protection, etc.

Though it is observed that various training programmes; likes Induction, Mid-Career, Short duration In-service courses, Seminars, Workshops etc. are organized regularly for Telecom Officers ,the officers are also given opportunity to attend long term/ short term domestic trainings under different schemes of

DoPT. However, it is acknowledged by the most of respondents that current training programmes provided to Telecom Officers are not adequate to meet requirements of the department. The analysis shows that the Telecom Officers receive sporadic training in their career span and there is no systematic approach to train them.

Therefore, a need is felt, to impart training to Telecom Officer at appropriate intervals in the course of their career. This requires development of comprehensive Cadre Training Plan (CTP) for Telecom Officers with the objective of providing contemporary knowledge, latest development in telecommunications sector and understanding in the emerging digital technologies like 5G, AI, IoT, Cloud Computing, Big Data etc.

The National Training Policy-2012 emphasizes on competency mapping of all the employees and identification of the competencies required to perform the duties assigned to different posts. It is observed that DoT has not yet initiated competency mapping exercise for Telecom Officers. The main reason for non-initiation of competency mapping exercise and training needs analysis has emerged as pendency of roles and responsibilities revisions/reassignments work of Telecom Officers in the Department necessitated after restructuring of the Department.

National Telecommunications Institute of Policy Research, Innovation & Training (NTIPRIT) has mandate to provide trainings to Telecom Officers, However, it is observed that NTIPRIT is not able to function properly on its mandate due to lack of basic facilities viz.; insufficient classrooms, no proper

hostels accommodation for trainees, paucity of space for accommodation of faculty and support staff, lacks in lab facility for practical demonstration etc.

Therefore, almost all respondent have opined for immediate up gradation of training infrastructure of NTIPRIT and improvement of training facilities are needs of time for it to be a Centre of Excellence in telecommunications/ ICT sector.

The way forward is that to improve training needs of telecom officers, Department of Telecommunications should have detailed training policy covering all the aspects of training; i.e. provision for Cadres Training Plans, Annual Training Plan, development of Training Infrastructure, Competency mapping of Telecom Officers, Training Need Analysis, specific design of training programmes for specialized cadres, proper evaluation of training programme, Course /Contents/ Programme corrections based on feedbacks of trainees and trainers, Faculty Development Programmes, monitoring of training etc.

It is also recommended that NTIPRIT must have an independent campus and building. If it is not possible in present setup than at least sufficient space and infrastructure of ALTTC should be re-occupied by DoT for NTIPRIT. This occupied space/structure should be upgraded and refurbished.

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Abbreviations

5G	Fifth-Generation wireless technology
AD	Assistant Director
ADG	Assistant Director General
AI	Artificial Intelligence
ALTTC	Advanced Level Telecom Training Centre
APT	Asia Pacific Telecommunications
BBNL	Bharat Broadband Network Limited
BSNL	Bharat Sanchar Nigam Limited
CCA	Controllers of Communication Accounts
CTP	Cadre Training Plans
DDG	Deputy Director General
DoPT	Department of Personnel and Training
DoT	Department of Telecommunications
GDP	Gross Domestic Product
GM	General Manager
ICT	Information and communications technology
IoT	Internet of Things
ITS	Indian Telecommunications Service
ITU	International Telecommunications Union
JAG	Junior Administrative Grade
JTO	Junior Telecom Officer
JTS	Junior Time Scale
LSA	Licensed Service Area
M2M	Machine to Machine

MCTP	Mid-Career Training Programme
ML	Machine Learning
MoC	Ministry of Communications
MTNL	Mahanagar Telephone Nigam Limited
NDCP	National Digital Communications Policy,
NTIPRIT	National Telecommunications Institute for Policy Research, Innovation and Training
NTP	National Telecom Policy
NTP	New Telecom Policy
SAG	Senior Administrative Grade
SDE	Sub-Divisional Engineer
STS	Senior Time Scale
TCIL	Telecommunications Consultants India Limited
TEC	Telecommunication Engineering Centre
TERM	Telecom Enforcement, Resource and Monitoring
TES	Telecommunications Engineering Service
TDSAT	Telecom Disputes Settlement and Appellate Tribunal
TNA	Training Needs Analysis
TRAI	Telecom Regulatory Authority of India
TSPs	Telecom Service Providers

Chapter 1

Introduction

1.0 Introduction

Training plays a very important and significant role in organization and employee development. Training increases knowledge, skill and performance of employees. Training is required for employees of any organization to perform their duties more effectively and efficiently.

Training is very essential for keeping abreast of technological advancements and developments. To keep pace with the changing environment, evolving markets, fast changing policy environment, training of employees is needed at regular intervals. It also helps them to deal with complex organizational problems. Training improves performance and outcomes of the employee.

The National Training Policy (NTP) also emphasizes the importance of training as one of the effective and tested tools for performance enhancement, as well as up-gradation of knowledge and skills of the personnel.

The NTP-2012 envisages developing competencies that encompass knowledge, skills and attitude for all the civil servants to perform effectively in the functions of the current or future posts/assignments.

The NTP-2012 also gives importance to human resource management system, which would look at the individual as a vital resource to be valued, motivated, developed and enabled to achieve the Ministry/Department/Organization mission and objectives. It also emphasized to match individuals' competencies with the

jobs they have to do and bridge competency gaps for current and future roles through training.

1.0.1 Telecommunications Sector in India

Communications Sector in India has assumed the position of an essential infrastructure for socio-economic development of country. The reach of telecommunications services in far flung areas and every region of country has become an integral part of technologically driven society. The growth in mobile and internet services in the country has a significant impact on India's GDP.

India is currently the world's second-largest telecommunications market with a subscriber base of 117.5 crore (Nov,19). The overall teledensity (the number of telephones per 100 populations) in the country is 88.81 %. While the rural teledensity is currently 56.71 %, the urban teledensity stands at 156.82 % at the end of Nov, 2019 (Monthly Telecom Scenario -November, 2019).

Internet and broadband penetration in the country is increasing steadily, boosting the Government's Digital India campaign. The number of Internet subscribers (both broadband and narrowband put together) now stands at 661.27 million by the end of Nov, 2019 (Monthly Telecom Scenario -November, 2019).

The mobile industry in India has witnessed exponential growth over the last few years. As per a GSMA report, the Mobile industry supports about 6.5 per cent of India's GDP, and is expected to reach 8.2 per cent by 2020. (GSMA, 2015)

1.0.2 Department of Telecommunications

Department of Telecommunications under Ministry of Communications is one of important departments of Government of India, having a major role in socio-

economic development of country with a mission to provide secure, reliable affordable and high quality converged telecommunication services to its citizens in an increasingly knowledge-intensive world.

The functions of Department of Telecommunications (DoT), inter-alia include, telecom licensing, monitoring, enforcement of license conditions, network security, interoperability, standardization and universal service obligation etc.

1.0.3 Telecom Officers:

Telecom Officers are responsible for successful execution of DoT's functions. They play important roles in formulation of policies of Government of India in Telecommunications sector and also ensuring effective implementation of these policies across the country.

Telecom officers appointed in Department of Telecommunications are from two different cadres as detail under:

- (i) Indian Telecommunications Service (ITS) of Group 'A' and
- (ii) Telecommunications Engineering Service (TES) of Group 'B'
[Sub-Divisional Engineer (SDE)/ Junior Telecom Officer (JTO)]

These services were created to meet the technical and managerial functions of the government in areas related to Telecommunications. Telecom Officers also perform the role of Telegraph Authority in the field at all the Licence Service Areas and Large Telecom Districts of the country, to ensure that service providers adhere to the licence conditions and for taking care of telecom network security issues and crackdown on illegal / clandestine telecom operations.

The Telecom officers are posted at DoT HQ New Delhi and in its field units- Licensed Service Areas (LSAs) across the country and in specialized units of DoT – TEC, NTIPRIT. A large no of the ITS officers are also serving in BSNL, MTNL, TCIL, TRAI, TDSAT, and in other Central Ministries/ Departments/ Autonomous Bodies and State governments on deputation.

As informed by Establishment section of DoT, the current strength of ITS cadre is around 1515, out of which, about 840 officers are posted in DoT HQ and its units. Rests of officers are on deputations in other Ministries/ Departments/ BSNL/ MTNL/units. Similarly, current strength of TES Group ‘B’ (SDE/AD/JTO) cadre in the department is around 230.

1.1 Statement of the Problem

As the Telecom Officers receive sporadic training in their career span and there is no systematic approach to train them. Therefore, a need is felt, to impart training to them at appropriate intervals in the course of their career. This requires development of comprehensive Cadre Training Plan (CTP) for Telecom Officers as envisaged in NTP-2012.

Telecom officers require to have a training plan with the objective of providing contemporary knowledge, latest development in telecommunications sector and understanding in the emerging digital technologies like 5G, AI, IoT, Cloud Computing, Big Data etc. as envisaged in ‘Propel India’ mission of the National Digital Communications Policy, 2018, for effective deployment of these services.

Currently, most of the training programmes for Telecom officers are being conducted at National Telecommunications Institute of Policy Research, Innovation & Training (NTIPRIT) which is presently operated in ALTTC campus under administrative control of BSNL.

It is observed that lacks in, Cadre Training plans, appropriate training modules, training infrastructure, requisite staff, training fund and delegation of financial power to NTIPRIT, have an effect on the achievement of training objectives of the department.

1.2 Objectives

The objective of this research is:

- To study training needs of Telecom Officers (ITS Group ‘A’ & TES Group ‘B’) of Department of Telecommunications (DoT) in current scenario.
- To identify the issues and challenges being faced by the department in implementation of National Training Policy -2012 in context of training for Telecom officers and suggest measures to improve the training scenario in this regard.

1.3 Research Questions

This research aims to answer the following questions –

- (i) What is the current status of training for Telecom officers (ITS Group ‘A’ & TES Group ‘B’)? Whether it meets the needs/ requirements of Telecom

Officers for updating their knowledge and skill in Telecom sector in current scenario?

- (ii) What are the challenges being faced by the DoT in implementing the National Training Policy-2012- in context of training for Telecom Officers of DoT ?
- (iii) How can these challenges be overcome- in context of training for Telecom Officers of DoT?

1.4 Rationale/ Justification:

The technology of Telecommunications, market structures and services offered are fast changing. This demands a continuous up-gradation of competencies and skill set development for the Telecom officers. This requires structured and diversified capacity building in relevant areas for Telecom officers of DoT in technology, policy, regulation, management, consumer needs, consumer protection, etc.

For development of competencies for the Telecom Officers, taking into consideration the specialized needs for the cadres, as per National Training Policy, by adopting a systematic approach to training at the various stages of their career progression for their most effective utilization to the Government of India in general and the Department of Telecommunications in particular, Training Needs Assessment is very essential, to fill competencies gap in Telecom Officers. Therefore, it is imperative to study training needs of Telecom officers in current scenario.

1.5 Scope

The scope of the research is to study and analyze the current status of training for Telecom Officers of DoT and their future needs in training to update their knowledge and skill in telecommunications sector in current scenario. It is also covered challenges and issues faced by the department in implementation of National Training Policy 2012.

1.6 Literature Review

To gain insight into the various aspects of training, articles, journals, circulars, reports etc. were referred. This helped in understating various techniques, methods, process being used for developments of employees of an organization/ department.

Keeping all this in view, we can categorise the available literature on various aspects of training needs under separate heads;

- (i) Training
- (ii) Why do we need training
- (iii) Systematic Approach to Training
- (iv) Training Needs Analysis
- (v) Training in Government
- (vi) Training in Telecom sector

1.6.1 Training

Training is defined in the Glossary of Training Terms as: "A planned process to modify attitude, knowledge or skill behaviour through learning experience to achieve effective performance in an activity or range of activities. Its purpose in

the work situation, is to develop the abilities of the individual and to satisfy current and future manpower needs of the organisation"

Training is a systematic learning event and its objective is to methodically impart required knowledge, skills and behaviours to the employees in order to bridge their competency gaps, so that it results in an improvement of the overall performance and service delivery of the organization.

According to C B Memoria (2000) Training is a process of learning a sequence of programmed behavior. It is application of knowledge and it attempts to improve the performance of employee on the current job and prepares them for the intended job. Training is a short term process utilizing a systematic and organized procedure by which non managerial personnel acquire technical knowledge and skills for a definite purpose. Training refers to instructions in technical and mechanical operations, like operation of some machine/equipment. Training is for a specific job related purpose.

Training is about developing people as an individual and helping them to become more confident and competent in their lives and in their jobs. The learning process is at the core of training and the ways of and opportunities for learning are numerous and varied

1.6.2 Why do we need training?

According to PILAC (2004) training is a means to ensure that government officials have the knowledge and right skills to be able to do their work effectively and competently. Training may be needed when there is a gap between the desired performance, and the current performance, and the reason for

that gap is lack of skill or knowledge. Training may only be able to resolve part of the problem. If training is necessary, it is also needed to define the objective of the training and how it will help the staff member(s) become more effective.

Training imparts required competencies to the employees, equipped with which, they can perform better in their job. This will improve the overall organizational performance which results in improved service delivery.

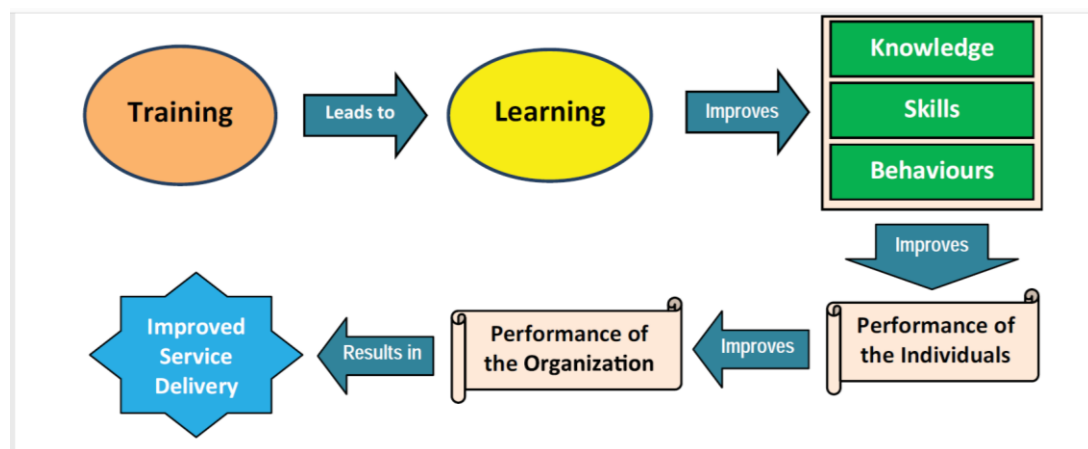


Fig 1.1: Benefits of Training (Source: DoPT- FMTM)

According to FMTM, DoPT (2016) Training has been proved to be vital for an organization for the following reasons

- Technological revolution is waging a continuous war on the Organizations' learning capacity. Those who adapt and welcome new technologies and advancements faster will emerge as market leaders and those who are slow in change will lag behind. Organizations can achieve this through continuous training.
- In the present day global village, the entire earth has become a small place and no state or country is isolated and shielded from this impact of liberalisation, privatisation and globalisation. Our country is constantly

impacted by global economic, sociological and cultural changes and the trends in every aspect of our life are changing every day. The lifestyles are changing and the expectations of the customers / citizens are changing. Hence, in order to meet the ever-increasing demands of the citizens, in the wake of globalization and growing awareness, the Organizations have to continuously train their workforce to improve their knowledge, skills and behaviours.

- As stated above, training is much more important for the public Organizations and Departments, as they deal with public at large. The policies they make influence the quality of lives of the citizens; the quality of their service delivery impacts the citizen satisfaction; the ethics, ethos and behaviours of the Government officers decide the brand image of the Government. Therefore, it is mandatory for the public Organizations to be continuously efficient and effective, which can be achieved through regular training of the Government human resources.
- The Government of India announces new schemes from time to time in order to improve the quality of life of the targeted sections of people or boost development and growth in specific areas. These new schemes are to be implemented through one or more Ministries and Departments. Implementation of these new schemes may require new knowledge, different skills and some specific behaviours. Therefore, the Departments concerned will be required to identify the competencies required for effective and efficient implementation of these schemes and plan for relevant training for the officers concerned to make the schemes successful. (FMTM, 2016)

1.6.3 Systematic Approach to Training (SAT)

The Systematic Approach to Training (SAT) is a methodology for managing training function in a Department. It is an orderly and logical approach for an end-to-end training function and ensures that the employees are properly equipped with necessary knowledge, skills and behaviours to discharge their duties successfully. According to FMTM, DoPT (2016) Systematic Approach to Training (SAT) is based on the following basic tenets.

- Training should be demand-based and not supply-based
- Training should be a response to a stimulus – should be given against identified training needs, but not just to send a few nominations
- Training program should be designed to achieve specific objectives, address specific competency requirements and should be given to a specific target group
- Training programs should be evaluated at various levels and at various stages, to take corrective actions, if required.

Founded on the above principles, the Systematic Approach to Training (SAT) is implemented through the four stages i.e., (1) Training Needs Analysis, (2) Design and Development of Training, (3) Implementation of Training, (4) Evaluation of Training.

1.6.4 Training Needs Analysis

Training Needs Analysis (TNA) is also referred to as Training Needs Assessment or Training Needs Identification. During this stage, Needs Assessment or

Analysis is performed to determine and articulate the targeted organization's or participant group's learning, training, and performance needs.

According to PILAC (2004) a training need may be defined as *“The gap between the actual and desired levels of performance that can be bridged through training”*. In context of Government Departments it may be defined as *“The competency area in which an employee requires training in order to discharge the assigned duties efficiently and effectively”*. (PILAC, 2004)

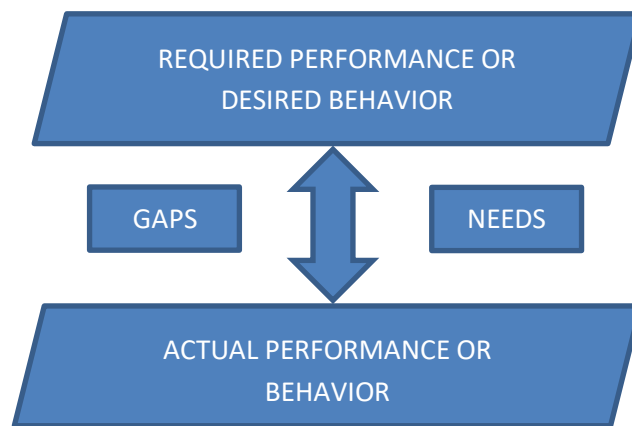


Fig 1.2: Training Needs Analysis (Source: ‘Manual for Training Needs Assessments...’, PILAC)

According to Dr. Arabinda Ghosh (2005) the first stage of the Systematic Approach to Training is to use following types of analysis to identify, as precisely as possible, the nature of the problems. Techniques used for identifying training needs range from the general to the specific:

- **Organisational Training needs analysis** will help identify training programs that would help achieve the strategic business objectives of the organization. TNA at the organizational level is a macro level analysis that helps identify areas where the employees of the organization lack necessary knowledge or skills and provides need-based training.

- **Job Analysis** takes the analytical process a stage further by investigating in more detail the jobs people do. This will provide information, for example, about tasks they perform, areas of responsibilities and relationships with others.
- **Task Analysis** investigates the procedures, knowledge, skills and attitudes needed to ensure satisfactory performance of a job's key tasks.

The products of this analysis provide the basis for training activities.

For systematic training to be effective in solving performance problems, it is essential that all three types of analysis, as shown in above are either done or considered. Using them with a degree of discretion is equally important, recognising the contribution each can make, but balancing this against the time and costs incurred. (Arabinda Ghosh, 2005)

1.6.5 Training in Government

The National Training Policy-1996 emphasized that training is essential for keeping up-to-date and enhancing professional knowledge and skills needed for better performance, promoting better understanding of professional requirements and bringing about right attitudinal orientation in government employees. The main thrust of the policy was on 'Training for all' i.e. for all rungs of the civil services right from the lowest and cutting-edge to highest in policy making.

As envisaged in the policy, *'the purpose of the training programs at the cutting edge is to make improvement in the functional skill and attitudinal orientation. For the middle level training shall contribute to enhance professional knowledge, understanding and skill as also to widen professional outlook. For the higher civil services, besides offering stimuli for expansion of the mental horizon and attainment of professional excellence training shall also endeavor to sharpen*

perception of inter-relatedness of issues. For the top levels of the higher civil services, the aim is to equip members intellectually and professionally equipping the members for holding positions that involve policy analysis, strategic planning and policy formulation'. (NTP, 1996)

2nd Administrative Reform Commission in its Tenth Report also gave emphasis on training that every government servant should undergo a mandatory training at the induction stage and also periodically during his/her career. Successful completion of these trainings should be a minimum necessary condition for confirmation in service and subsequent promotions.

National Training Policy 2012 recommended that each Ministry/ Department shall develop Cadre Training Plans (CTPs) based on the competencies required and training needs to ensure that all cadres under the Ministry/ department or its attached/ sub-ordinate offices have a clearly articulated scheme for the development of their competencies while also indicating the programs that are mandatory. The policy has linked the training and development of competencies to the career progression and emphasized to ensure it by amending Service/ Recruitment Rules.

Cadre Training Plan as envisage in NTP-2012 is a comprehensive training plan to be developed by the respective cadre Controlling Authority incorporating suitable training interventions after taking into consideration the various duties and responsibilities performed by the employees belonging to a particular service/ cadre from their recruitment to retirement.

7th Pay Commission also recommended that The Cadre Training Plan (CTP) should preferably be in phases, spaced out at regular intervals of five to seven years. These phases should be interspersed with one to two weeks' In-Service

training modules. The In-Service training modules can also act as platforms for sharing experiences and best-practices. Some of the phases may include a foreign component of training in specialized areas, depending upon the functional requirements of the cadre.

As recommended in NTP-2012 following training interventions are required in the career span of the employees to build / upgrade requisite competencies:

- (i) **Entry level training-** to be imparted to all employees before they are assigned duties / responsibilities of any post after recruitment.
- (ii) **Mid-career training-** Career linked mandatory training to be provided to all employees at various stages of their career before they are promoted to positions of higher responsibility.
- (iii) **Short Term Thematic Training-** This kind of 1 to 2 weeks training is to be made available to employees preferably once in two years with the objective of building their professional competencies in relevant themes and developing desirable personnel attributes
- (iv) **Customized Training-** This training is an intensive programme specifically designed for officers working in a particular domain/sector with the objective of providing deeper knowledge, latest developments and understanding of the smart practices in that sector
- (v) **Orientation Training-** This training is to be provided to employees posted to a new Ministry/Department with the objective of familiarizing them with the goals and overall functioning of the concerned Ministry/ Department.
- (vi) **Long Term Training-** This training is to facilitate officers to upgrade their knowledge and skills in the sector having relevance to their

current or future assignments, by acquiring higher qualifications, either in India or abroad, thus enabling them to contribute for higher performance in government.

- (vii) **Workshops/Seminars/Conferences**- Middle or Senior level officers to be given opportunities to attend National and International Workshops/Seminars/Conferences to enrich them with relevant knowledge, latest thinking and technological developments.

1.6.6 Training in Telecom sector

According to Afaq Ahmed Khan (2016) the main purpose of training and development is to prepare employees to work in current environment to their best possible abilities and to develop them for upcoming challenges. Training and development programs create awareness among employees for using of new technology. Mobile operator companies will see fierce competition locally and globally in terms of pricing, usage of new technology and in terms of providing high quality of service. So in these circumstances employees should be trained and developed well enough to meet these challenges specifically training for using of new and sophisticated technology.

According to Vasudha Dhingra, Kamlesh Gakhar (2014) the employee development practice should not be a one-time affair, but it should be continuous. Lack of retraining reduces the frequency of the development practices. The public sector companies need to step up their outlay on employee development and training. The management should seek benefits of this step in improving the implementation of employee development plans. These recommendations if implemented properly will go a long way to help the management of public sector telecom companies in India in the smooth working of the organization.

The committee report on ‘Roadmap of Mid-Career Training for ITS officers’ (2015) also emphasized that, *‘the technology of Telecommunications/ICTs, Market Structures and Services offered are fast changing. This demands a continuous up-gradation of competencies and skill set development for the technical officers. This requires structured and diversified capacity building in relevant areas for the technical cadre officers of DoT in technology, policy, regulation, management, consumer needs, consumer protection, etc’.*(MCT-ITS, 2015)

The committee also highlighted the importance of the Mid-Career Training Programme, as MCTP is aimed at building the capabilities of the officers due for promotion to the next higher grade as well as of officers already working in the next higher grade thereby helping to build ‘next level competency’. In the specific context of Telecom Sector, such mid-career intervention should equip the officers with requisite inputs to become better civil servants to provide transparent, efficient and high growth impetus to telecommunication and ICT regime.

1.7 Limitations

In view of the facts that a large number of Telecom Officers, around 700 are on deputation, working in other Ministries/ Departments /units and most of remaining officers are posted in field units of DoT, therefore, the study is restricted to Telecom Officers posted at DoT HQ, TEC and NTIPRIT. Hence, the study may not be comprehensive.

1.8 Constraints

The time given for dissertation was not sufficient. The substantial time is required for the detailed study. A high rate of response to questionnaires also needs adequate time, particularly when the respondents are in high positions in the government, having busy schedules.

The dissertation work actually started in the month of January only as the classes, assignment and presentations were continued till the middle of January. Responses were collected personally by approaching individual respondents as response received through e-mail is taking lot of time.

1.9 Scheme of Chapterisation

- Chapter 1: Introduction- this will provide background of the subject and introduces the topic. It will also cover the problem statement, objectives of the study and justification, Literature Review etc.
- Chapter 2: Research Methodology- will describe research methodology and methods applied in the current study
- Chapter 3: Training scenario of Telecom Officers- will be covering
- Chapter 4: Findings and Analysis- will contain findings emerged out of the study.
- Chapter 5: Conclusions and Recommendations- will contain Conclusions and Recommendations

Chapter 2

Research Methodology

2.0 Research Design

The research is focused on to study and analyze the current status of training for Telecom Officers (ITS Group ‘A’ & TES Group ‘B’) of Department of Telecommunications (DoT) and their future needs in training to update their knowledge and skill in Telecom/ ICT sector in current scenario. It will also covers challenges and issues faced by the department in implementation of National Training Policy 2012.

The research is an attempt to revisit the various aspects of training programmes of Telecom Officers including nature/ types of trainings, Course Design, Contents of courses, Evaluation & Feedback mechanism etc. The perception of the various stake holders viz. trainee officers, faculties and administration about training programme, training facilities and infrastructure of the training centre. For this purpose a detailed study was carried out of the current training scenario and the future requirements.

The Research Design is Descriptive and Exploratory in nature and both Qualitative and Quantitative research method was adopted.

2.1 Data Collection

For the purpose of this study, both primary and secondary data sources were explored. Primary data was collected through administration of questionnaire to the Telecom Officers as well as faculty of training centre (NTIPRIT) and training division of DoT HQ. Therefore, two different sets of questionnaires were

deigned, one for trainee participant Telecom officers and another for faculty of NTIPRIT & training division of DoT.

Moreover, semi structured interview of Head of NTIPRIT, faculty Heads and officers posted at Training Division of DoT HQ also conducted for collection of primary data. Secondary data regarding training related activities of Telecom Officers was collected from the NTIPRIT, DoT and DoPT websites.

2.2 Sampling

The target population is Telecom Officers (Group ‘A’ & Group ‘B’) posted at DoT. Efforts were made to collect data from officers of the various grades of Deputy Director General (SAG), Directors (JAG), Assistant Director General (STS), ADET (JTS), Assistant Director (Group ‘B’) and Junior Telecom Officer (Group ‘B’).

Separate questionnaires were administered to participant Telecom Officers (approx. 150) and to Faculties of NTIPRIT & officers of Training Division (20) of DoT HQ. The questionnaires were administered personally and through email/WhatsApp. Copies of questionnaires are attached as Annexure 1 & 2.

2.3 Data analysis

A total of 129 participants (109 officers and 20 Faculty members of NTIPRIT/ officers from Training division of DoT) responded to the questionnaires. The rank wise detail of officers responded in this study, is given in Table 2.1

Table 2.1: Detail of responded officers

Rank of officers	No of officers
DDG (SAG)	12
Sr GM/GM rank on deputation	18
Director (JAG/ JAG(NFSG)/ JAG(NFU)	45
ADG (STS)/ ADET (JTS)	24
AD/ JTO (Group 'B')	10
Faculty of NTIPRIT/ Training Division of DoT	20

The responses as received through the questionnaires were tabulated and analyzed for various facets. For some questions, information collected has been analyzed to calculate percentage of the responses received for different options and for some others the weighted average is calculated with the help of weights assigned to different responses. Where required, the necessary grouping of data and rounding-off of percentages and weighted average have been carried out.

The questions to the Telecom Officers and Faculty/ Training division were centered around the following aspects of the Training:

- Training undergone by the participant officers
- Perception about training programmes of Telecom Officers
- Details of various training programmes conducted in past years
- Focus areas of cadre training modules
- Steps that are required to improve Training outcomes
- Reasons for non-participation in trainings by nominated officers
- Status of training facilities/ infrastructure for the training
- Status of competency mapping as envisaged in NTP-2012

- Status of implementation of Cadre Training Plan for Telecom Officers
- Challenges faced in implementing the National Training Policy- Cadre Training Plan

The variables are the challenges/ issues/ attributes/ or perceptions which have been numerically measured through responses to various questions of questionnaire. The respondents were given five options to give their opinion. The groups of options are:

- Excellent, Very Good, Good, Satisfactory/ Average, Unsatisfactory/ below Average grading/ rating for the training programmes being conducted for Telecom Officers
- Very large extent, Adequate, Average, To a little extent and Not adequate for seeking the opinion about training programmes of telecom officers.
- The options of Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree for opinion on the need of competency mapping of employees.
- The respondents are asked to give option as Most significant, Significant, Can't say, Less Significant and Insignificant for the challenges faced in the implementation of training policy, perception about training and focus areas of cadre training modules

The weightage assigned for different options are shown in Table 2.2.

Table 2.2: Weightage Scale

Most Significant/ Strongly Agree/ Very Large Extent/ Excellent	5
Significant/ Agree/ Adequate/ Very Good	4
Can't Say/ Neutral/ Average/ Good	3
Less Significant/ Disagree/ To a Little Extent/ Satisfactory/ Average	2
Insignificant/ Strongly Disagree/ Not Adequate/ Unsatisfactory/ below Average	1

The weighted averages of responses were calculated by using following formula in Excel:

Weighted averages =

$\frac{\sum \text{No of responses received for a scale } X \text{ weight of that scale (1 - 5)}}{\text{Total No of all Responses for the scale 1 to 5}}$

Data were analysed using Excel tool. The results of Analysis are represented graphically in the Chapter4: Findings and Analysis. The details of analysis are enclosed as Annexure-3 for respondent officers and as Annexure-4 for Faculty and Training Division of DoT.

Chapter 3

Training scenario of Telecom Officers

3.0 A Historical Perspective

Telecommunications sector has been in existence in India since the establishment of Postal & Telegraph Department by British. The rapid changing environment in Telecom sector necessitates the contemporary knowledge & expertise of the technical cadre.

After recruitment through Combined Engineering Services Examination, conducted by UPSC, induction Training for the ITS Group-‘A’ probationers was started in Bharatratna Bhimrao Ambedkar institute of telecom training (BRBRAITT), Jabalpur. From 1978 onwards, Advanced level telecommunication centre (ALTTC), Ghaziabad became the focal point for managing this training. The ITS officers were also trained at Lal Bahadur Shastri National Academy of Administration (LBSNAA) until 1980.

In year 2000, when, the services & operations wing of DoT was corporatized and a new corporate entity **BSNL** was established, both training institutes, ALTTC as well as BRBRAITT became part of BSNL for the training needs of absorbed technical Officers of BSNL. While, the induction & in-service training of ITS Group-A officers continued at ALTTC Ghaziabad during the transition phase of 2000 to 2010, it was always pointed out by the DoT officers that a customized training is the need of hour. To meet such requirements, a dedicated approach is required to assess such training needs, design & conduct trainings accordingly.

Therefore, National Telecom Academy (NTA) was established in year 2010. The Academy started its training activities in January 2011. The academy renamed as

National Telecommunications Institute for Policy Research, Innovation & Training (NTIPRIT) in March 2011. Since then, the training needs of DoT officers are meeting by the institute. (NTIPRIT, 2011)

3.1 Induction training of Telecom Officers

Induction training is imparted to Telecom Officers at the time of their induction in to the respective cadre. After recruitment through UPSC Engineering Service Examination the officers undergo professional training at NTIPRIT Ghaziabad. These training programmes broadly comprises; classroom modules at NTIPRIT and other institutions, field visits, and field attachment to various units of DoT, its PSUs, TEC, TERM Cells, TRAI etc.

The objective of this training is to prepare the Officer Trainees under probation, for handling various duties assigned in Department of Telecommunications such as, office administration, licensing functions, telecom enforcement & monitoring, PSU coordination, standardisation & framing of specifications/ standards for telecom network and equipment etc.

It also provides a strong foundation through specialised training in telecom technologies. These courses expose the participants to the fundamentals for telecom administration covering macro environment as well as the departmental rules. Apart from above, the Officer Trainees learn the fundamentals & basics of telecommunication infrastructure. The Induction training also helps the Officer Trainees to learn managerial skills and information technology for office working.

3.1.1 Induction training of ITS Group ‘A’

After joining the Department, ITS officers undergo a comprehensive training during their two years’ probation period, wherein officer trainees imparted professional technical training at NTIPRIT Ghaziabad and Management / Foundation training in a selected Management institute. In between the classroom training schedules, the officers are deputed for on job field training/ field attachments to different units and government institutions.

It is observed that recently, training curriculum of ITS probationers has been revised vide circular No. 55-6/2017-Trg dated 22.08.2019 issued by DoT Training Division, on recommendations of a committee (ITS Probationers Training, 2018). This revised comprehensive training programme of 104 weeks duration, has been implemented from ITS-2018 batch and onward batches in their induction training. (ITS trainees Handbook, 2019)

The objective of Induction training, as rightly pointed out by the aforesaid committee is, *“Besides handling the delicate issue of imbibing appropriate professional values, the probationary training should aim to impart the probationers with the knowledge, skills, attitude and competencies to enable them to shoulder responsibility of the various posts to be held by them in the first 4-5 years of services i.e. at Junior Time Scale and at Senior Time Scale”* (ITS Probationers Training, 2018)

On recommendations of committee, training modules of previous induction programme have been revised extensively, various new modules have also been added in course curriculum to cover topics of current interest like, 5G technology, Artificial Intelligence (AI), Internet of Things (IoT), Big Data Analytics etc.

Further, keeping in consideration that these officers may likely to be posted in future on those positions where they will be making contribution to policy formulation, policy, implementation and to provide them with adequate exposure to working of institutions of the Government , following field visits and attachments to various institutions are incorporated in the programme:

- Study Visit to Ministry of Electronics and Information Technology
- Study visit to Smart City Mission and in other Central line ministries for study of best ICT Practices
- Study Visit to Election Commission of India and Reserve Bank of India
- Attachment to Parliament
- Study visits to Army Border areas

Moreover, committee has also proposed for International attachments of officer trainees to (1) International Telecommunication Union (ITU), Geneva and (2) Asia Pacific Telecommunity (APT), Bangkok for practical exposure of working of these organizations to them. But decision on these attachments is yet to be taken as mentioned in aforesaid circular. (ITS trainees Handbook, 2019)

3.1.2 Induction training for Junior Telecom Officers (JTOs) Group ‘B’

After recruitment through UPSC, Junior Telecom Officer (JTO) Group ‘B’, officer trainees undergo induction training of duration of 30 weeks at NTIPRIT as per detail available in JTO trainees Handbook, 2016. The aim of this training is that officers gain adequate knowledge and skills for efficient performance on their future posts and assignments in the department. This training covers in detail about administrative and technical functionality of DoT.

Out of 30 weeks, 9 weeks field attachments on job training at DoT HQ and at DoT units-TEC, LSAs, are also part of Induction training for their practical exposure to functioning of these units. (JTO trainees Handbook, 2016)

3.2 In-Service Trainings

Apart from Induction Training, Telecom Officers of both Group 'A' and Group 'B', regularly undergo In-service trainings; attend seminars, workshops, conferences time to time etc. About 15 to 20 such courses are being organized by NTIPRIT in a year for serving Group 'A' and Group 'B' Officers on contemporary needs. Such regular trainings aim to sharpen the skill of officers in their core area of work. (NTIPRIT training calendar, 2019)

However, it is observed that most of the times these trainings/workshops/seminars are optional and not mandatory for all to attend. Officers who are willing for the training get nominated on their own initiatives.

It is also noticed that few trainings/seminars/workshop are conducted occasionally, wherein officers are nominated by higher office for updating their skills and knowledge about new technologies or government policies. These are not compulsory courses and cater to specific groups of officers only.

Apart from this, the officers are also given opportunity to attend long term/ short term domestic trainings under different schemes of DoPT. The officers also attend seminars, workshops at national and international level to enhance their domain knowledge as well as managerial skills. Some officers are also sponsored to take part in international training programmes organized by ITU, APT etc. time to time.

A committee constituted to give its recommendations on Mid- career training for ITS officers also pointed out this aspect in its report that, *“these competency development initiatives are more individual driven and based on learning on the job. There are no structured periodic training programmes covering all the officers. These trainings are adhoc in nature and are not well-planned and organized”*. (Roadmap for MCTP for ITS Group ‘A’ officers, 2015)

3.3 Mid-Career Training Programmes (MCTP)

As per National Training Policy, Mid-Career Training is a career-linked mandatory training which is to be provided to all employees at various levels/ stages of their career before they are promoted to positions of higher responsibilities. (NTP, 2012)

Though, Mid-Career Training (MCT) has been recommended for organized Group ‘A’ services /cadres in the National Training Policies since long, however, for ITS Group ‘A’ service, it has been started conducting since July 2019 only. (NTIPRIT Training calendar, 2019)

The MCTP approved for ITS officers is detailed in Table 3.1. An ITS officer is mandated to undergo Mid-carrier Training at three stages of his career in Phase-I, Phase- II and Phase- III as elaborated in Table 3.1. It is observed that there is huge backlog of officers who have qualified above criteria, around 1200 in numbers to be trained in next three years under all three phases. (DoT Training cell, Jun, 2019)

Table 3.1: MCTP programme for ITS Group ‘A’ officers

Phase	Stage in career	Component	Duration	Venue
I	ITS Officers with 7 to 9 years of service; (minimum 3 years of residual service)	Technical Component	2 weeks	NTIPRIT
		Management Component	2 weeks	Selected Institute
II	ITS Officers with 14 to 16 years of service (minimum 3 years of residual service)	Technical Component	2 weeks	NTIPRIT
		Management Component	1 weeks	Selected Institute
		International Component	1 week	At Foreign Institute
III	ITS Officers with 26 to 28 years of service (minimum 3 years of residual service)	Technical Component	1 weeks	NTIPRIT
		Management Component	1 week	Selected Institute

Source: NTIPRIT & Training wing of DoT

It is reported that only Technical Component of all three phases, have been started conducting at NTIPRIT but Management Component, which is part of all three phases of MCTP, is yet to start. However, it is conveyed that process for selection of Institute for conduction of Management Component covering International component also, has been initiated after approval of competent authority. (NTIPRIT, 2019)

It is also observed that Junior Telecom Officers have to undergo two weeks mandatory training as a prerequisite for their next promotion in SDE/ AD grade in Class ‘B’ service. (Training Calendar, 2019)

3.4 **National Telecommunications Institute for Policy Research, Innovation & Training (NTIPRIT)**

Advanced Level Telecommunications Training Centre (ALTTC), Ghaziabad was the main training centre for meeting out the training needs of Telecom Officers until year 2010. In year 2000, when, the services & operations wing of DoT was corporatized and a new corporate entity BSNL was established, ALTTC became part of BSNL for the training needs of absorbed technical Officers of BSNL. However, trainings of Telecom officers of DoT continued at ALTTC Ghaziabad.

During the transition phase of 2000 to 2010, it was observed that the focus of BSNL training institute i.e. ALTTC, was more on Telecom Operations and DoT's requirements were not adequately mapped. It was also felt that a customized training is the need of hour. To meet such requirements, a dedicated approach is required to assess such training needs, design & conduct trainings accordingly.

Meanwhile, in the rapidly developing telecom sector, many new functions were required to be performed by DoT, and new functions like Telecom Enforcement & Monitoring, planning and monitoring of Universal Service Obligations, planning and management of scarce spectrum, addressing the complexities arising out of a multiple-operator scenario, growing concerns about national security arising out of security of telecom networks, addressing public health concerns from EMF radiations, policy and implementation issues in newer Networks and Technologies like IPv6, Cloud computing, LTE, M2M etc. also got created.

Hence a strong requirement was felt for having an independent training framework for DoT officers. Accordingly, in year 2010, Hon'able MoC&IT gave approval for setting up of National Telecom Academy (NTA) to be operated from

ALTTC Ghaziabad. The Academy started its training activities in January 2011. The mandate of the Academy was subsequently enhanced, and it was upgraded to as National Telecommunications Institute for Policy Research, Innovation & Training (NTIPRIT) in March 2011. (ntiprit.gov.in)

NTIPRIT is presently conducting professional and technical training for Indian Telecom Service Group 'A' and TES Group 'Officers at the time of induction in to the cadre. It is also conducting seminars, workshop and other in-service trainings for Telecom officers of DoT. Besides meeting the training needs of DoT officers, NTIPRIT also conducts international training programmes under Indian Technical and Economic Cooperation (ITEC). (NTIPRIT, 2019)

NTIPRIT is enlisted as one of the Central Training Institutions (CTIs) in the country by the Department of Personnel & Training, Ministry of Personnel, Public Grievances and Pensions, Govt. of India. Apart from these regular trainings and seminars, the Institute has an extensive mandate for Policy Research and Innovation. (NTIPRIT, 2019)

3.4.1 Training Infrastructure

NTIPRIT is operating from ALTTC campus at Ghaziabad. The administrative control of ALTTC campus is with BSNL. It does not have proper infrastructure and is dependent on support from ALTTC. Currently, NTIPRIT is operating from two classrooms and few office chambers/ rooms for faculty /senior officers at different floors of Admin Building of ALTTC. All faculty members are not having proper rooms to sit. Some are sharing rooms with other faculty members/ support staff. NTIPRIT also does not have own hostel, conference, meeting room, etc. These facilities are also depended on ALTTC as and when required.

As NTIPRIT is not having own hostel, trainees coming to NTIPRIT are accommodated in hostels under administrative control of ALTTC. This sometimes creates operational issues for NTIPRIT when training programmes of both the institutes are overlapped or hostels are preoccupied with BSNL trainees. Therefore, it requires close co-ordinations with ALTTC administration before scheduling of any training programme for ensuring accommodation of trainees in ALTTC Hostels or allotment of additional classroom when parallel batches runs.

NTIPRIT is also not having lab facility. This facility is also depended on BSNL or other units for practical hands on demonstrations of technologies to trainees. Hence, this lack of facility also affects the desired training outcomes. NTIPRIT is also facing difficulty in performing mandated job of policy research and innovation due to non-availability of lab facility.

This fact was also emphasized by the committee constituted for preparation of MCTP roadmap for ITS officers that *“the Institute is not adequately equipped to handle the new mandate which hitherto was being handled by BSNL. To ensure that the proposed MCTP modules at NTIPRIT are not hampered due to lack of resources, it will be necessary to strengthen and develop infrastructure at NTIPRIT. Recognising the importance of NTIPRIT in the overall scheme of things, National Telecom Policy has mandated to strengthen and develop NTIPRIT as an institute of international repute”*. (Roadmap for MCTP for ITS Group ‘A’ officers, 2015)

3.4.2 Staff

It is observed that currently, NTIPRIT is having adequate officers at senior level in faculty / division but it lacks in subordinate staff /support staff at lower levels

i.e. AD/ JTO of Group 'B' under the individual Divisions /Faculties for discharging routine administrative/ faculty work . NTIPRIT is also not having sufficient support staff at clerical/ office assistance/ MTS levels as per norms. This also affects the training outcomes as senior faculty members could not able to give enough time for improvements in training contents and delivery quality.

3.4.3 Training Fund/budget allocation and Delegation of Powers

Adequate budget allocation is prime requirement for development of training infrastructure and operation of a training centre. As mandated in national training policy 2.5 percent of salary budget is to be allocated for training activities of a Ministry/ Department. (NTP, 2019)

It was observed that no separate Head of accounts was allocated for NTIPRIT, fund allocated to another unit of DoT i.e. TEC, was used for performance of day to day activities of NTIPRIT. Hence, it was very difficult to monitor/ project the budgetary requirement of NTIPRIT. However, it is glad to know that recently, separate Head of account has been approved for NTIPRIT that would help in meeting better monitoring/ projecting budgetary requirements of its for running training activities in proper manner.

Apart from this, sufficient financial powers need to be delegated to Head of NTIPRIT so that necessary infrastructure can be developed for taking it forward as world class institution.

Chapter 4

Findings & Analysis

The objective of this research was to study the training needs of Telecom Officers (ITS Group 'A' & TES Group 'B') of Department of Telecommunications (DoT) in current scenario and to identify the issues and challenges being faced by the department in implementation of National Training Policy -2012 in context of training for Telecom officers and suggest measures to improve the training scenario in this regard.

Accordingly, the methodology used to gather information about training of Telecom Officers and associated details was through the response sought from participants Telecom Officers, faculty of training centre (NTIPRIT) and training division of DoT head quarter through questionnaires administrated to them as well as seeking information through other resources e.g. DoT, NTIPRIT, DoPT websites etc.

The analysis of the responses received from the participant officers and faculties is presented in following two parts:

PART I: Analysis of Responses Received from Participant Officers

4.1 Training Programmes attended by Officers

The details of training programmes attended by officers in their career were asked by this question. Officers were asked to provide detail of different types of training undergone by them, like Induction, Mid- career (MCT), Short Term (1 to 2 weeks), Long Term (more than a month period), Foreign Training, Seminars/ Workshops/ Conferences etc.

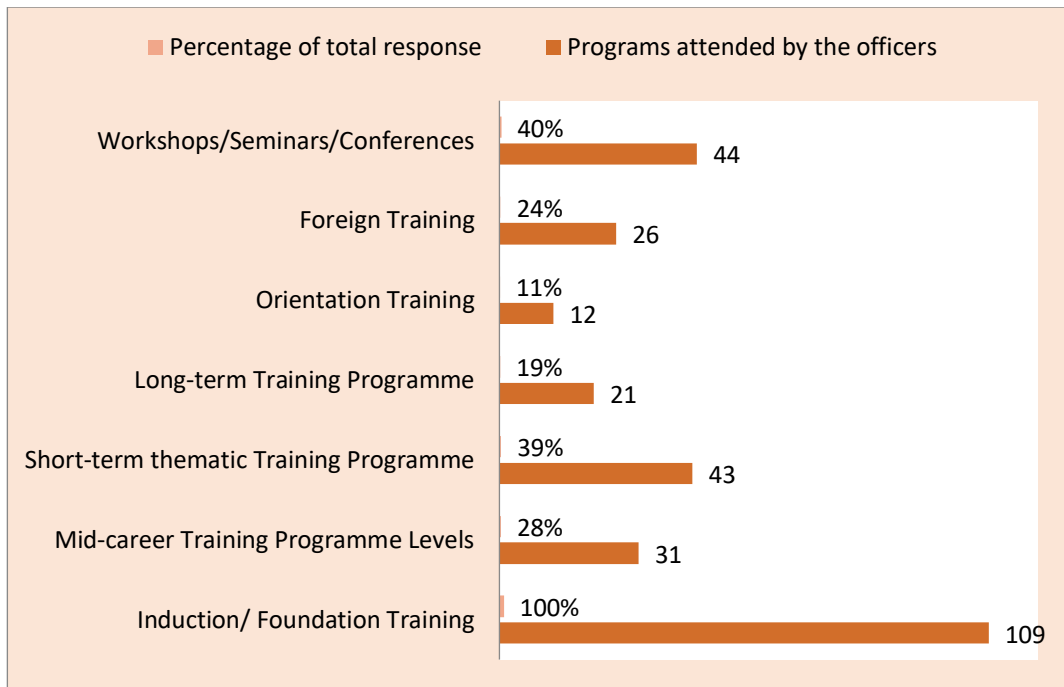


Fig 4.1: Training programmes attended by officers

Fig 4.1 indicates the different types of training programmes attended by respondent officers along with percentage of respondent officers attended a particular programme.

All respondent officers have undergone Induction training. Out of 109, 31 officers (28%) also undergone Mid-career training (MCT) which is mandatory for them. 39 % of officers also attended Short Term training of duration of one to two weeks for updating their knowledge on different technologies prevalent at that time.

Similarly, 40 % officers have also attended Seminars/ Workshops/ Conferences to keep abreast of latest developments in telecom field by them. Only 24 % of officers have undergone Foreign Training.

However, it appears that more than 50% officers have not taken any other training apart from Induction training when joined the service and other mandatory training, like Mid- career training (MCT) etc.

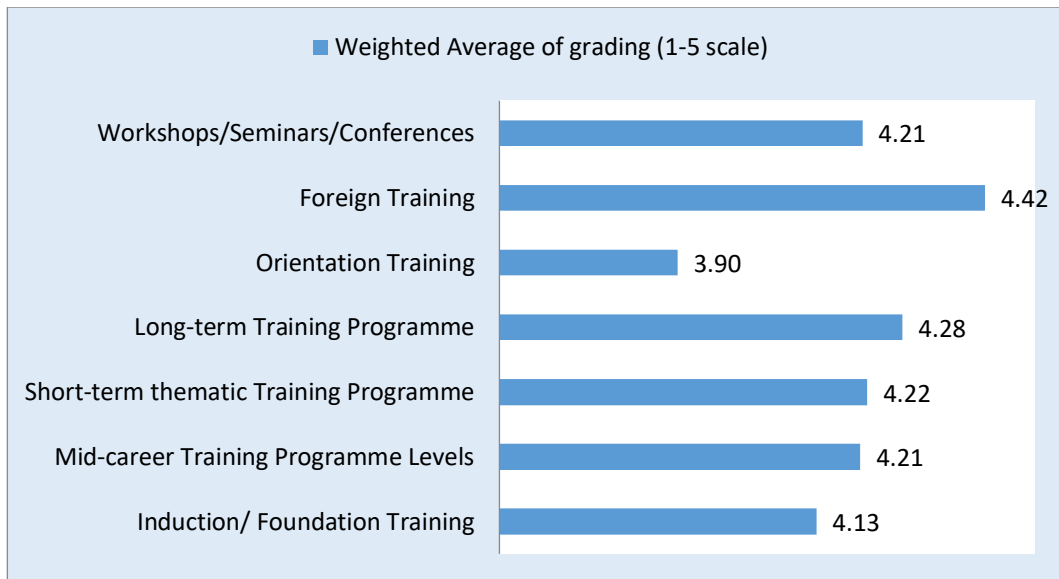


Fig 4.2: Training programmes' grading by the officers

The officers were also asked to provide over all grading of trainings undergone by them in five point scale (Excellent-5, Very Good-4, Good-3, Average-2, Below Average-1). The response got is indicated in weighted average of grading in the Fig 4.2. Foreign training got highest weightage however; Orientation and Induction training got lowest weightage grading.

Officers were also asked for the reasons/comments, if any, for the grading marked for attended training programmes. The comments received are listed under:

- In training at ALTTC, Ghaziabad and TTC Jabalpur provided very good base focus to perform at various levels in BSNL and DoT.
- In overseas seminars and conferences at Singapore gave a very good outlook towards international practices
- Trainings with grading '4' needs improvement in every aspect.
- Corporate finance course at NIFM was a very well designed course. It gave an insight into preparation and working of government finances also besides explaining the nuances of corporate finance.

- There are no adequate training and career progression of ITS officers in DoT.
- Efficient working, course content, faculty of HIPA, grooming of officers into leaders, support staff was very good at HIPA Gurugram. They are having staff less than NTIPRIT even then more efficient.
- Overall infrastructure and training level does not match with the prestigious training academy of IAS, IPS, IRS, railways.
- Classes are scheduled for whole day, with very few times left for self-development. Local visits are not provided with vehicle creating indiscipline within the batch. New laptops, Wi-Fi points need to be produced.
- Training infrastructure is not as per it should be for prestigious Group 'A' services.

Similarly, officers were asked to provide detail about, how did they get nominated for the training, whether through office or own initiative.

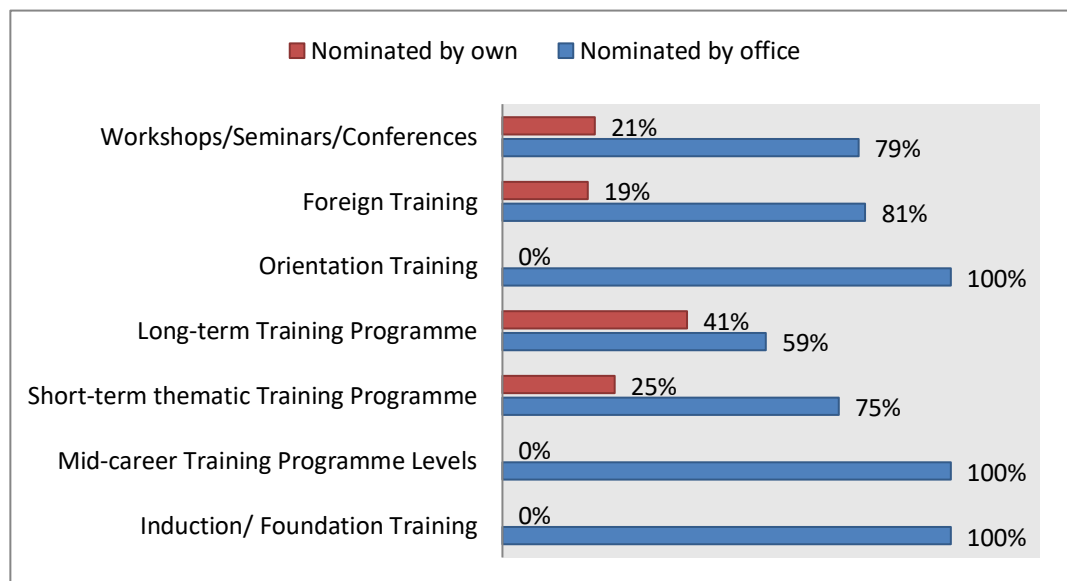


Fig 4.3: Nomination detail of Training programmes

Response received (Fig 4.3) through this question indicates that, more than 59% nominations for different trainings had been done by the office only however some training like Long Term training (41%) Short Term training (25 %), Seminars/ Workshops/ Conferences (21%) etc., were preferred by own initiative of officers.

4.2 Adequacy of training programmes for Telecom Officers (Group ‘A’ & Group ‘B’) to meet present requirements

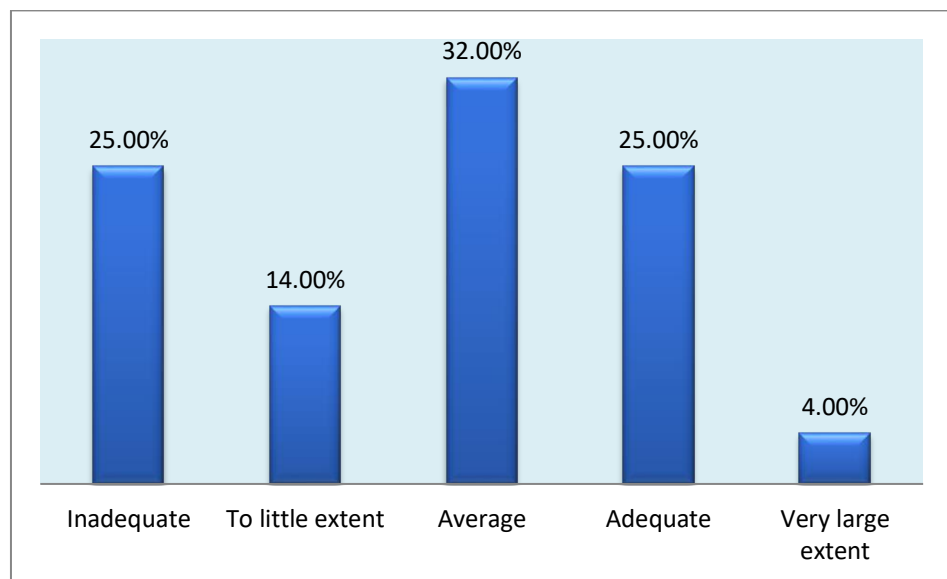


Fig 4.4a: Responses on Training programmes to meet present requirements of for Telecom Officers

Telecommunications is a rapidly evolving field with the advent of new emerging technologies, this necessitates continuous up gradation of training programmes for the telecom employees to keep them in pace with the industry. Therefore, this question was asked to respondent officers to ascertain the present status of the training for Telecom Officers. The response received (Fig 4.4a) indicates that only 25 % officers opined that present training programmes are Adequately meeting the requirements. About, 71 % officers have opined that current training

programmes are either Average, To little extent or Inadequate to meet the requirements.

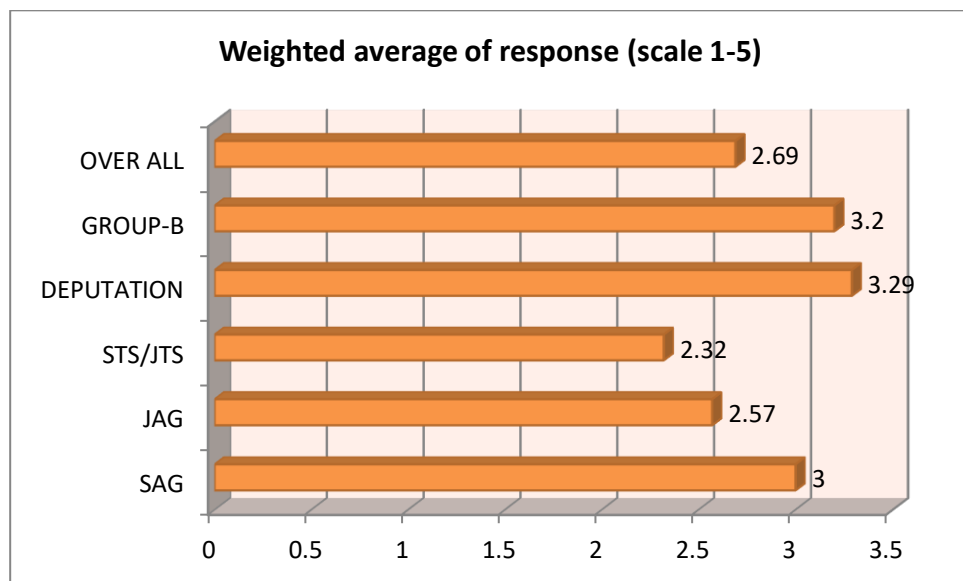


Fig 4.4b: Weighted average of responses on Training programmes to meet present requirements of for Telecom Officers

Further, on a scale of 1 to 5, the average of weighted score of the overall responses is 2.69 which further impresses upon that Training Programmes for Telecom Officers are less than Average to meet the present requirements. However, when we examine these responses in respect of different grades of officers, as indicated in Fig 4.4b, it reveals that lower grades officers (STS and JTS) opined that training programmes for Telecom Officers meet requirement to a little extent only whereas higher grades officers opined it as Average. This fact is also required to be considered when designing training programmes for telecom Officers.

4.3 General Feedback of the training programmes attended

Participants officers were asked to give general feedbacks on various facets of training like linkage of the training programmes contents to job profile, design of training programmes, training material provided, method of evaluation adopted,

level of interaction between the faculty/speakers and trainees, about training facilities, infrastructure etc. The response received on individual items is detailed under:

4.3.1 The linkage of the training programmes contents to your job profile

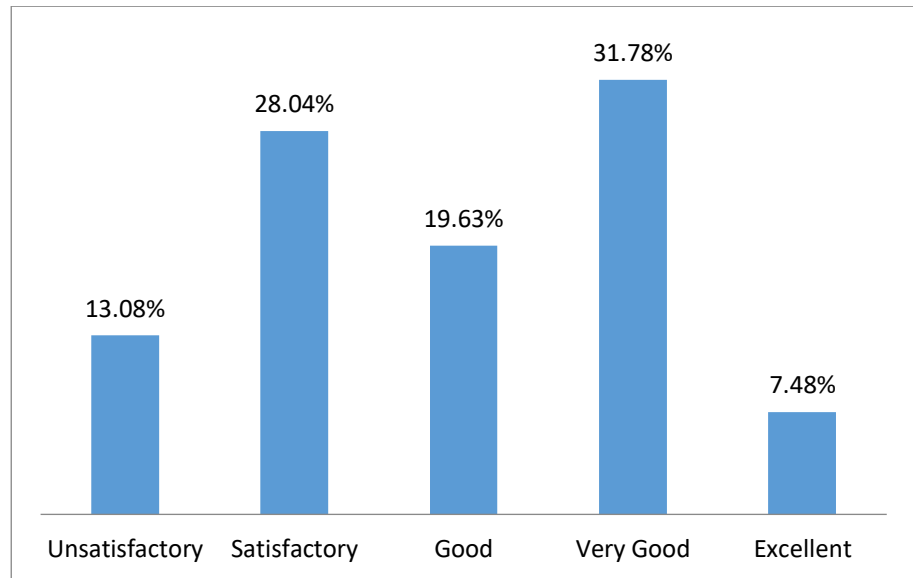


Fig 4.5: Rating of linkage of the training programmes contents to your job profile

Telecom officers posted in DoT and its units, have responsibility for successful implementations of Policies of Government of India. Therefore, contents of training programmes should be in sink and aligned with their job profile. Accordingly, response was sought from administration of this question. Only 13.8% (Fig 4.5) officers are not satisfied with the contents of training programmes, among rest of officers, 31.78% opined very good, 28.04 % as satisfactory, 19.63% as good and 7.48% as Excellent.

4.3.2 The design of training programmes

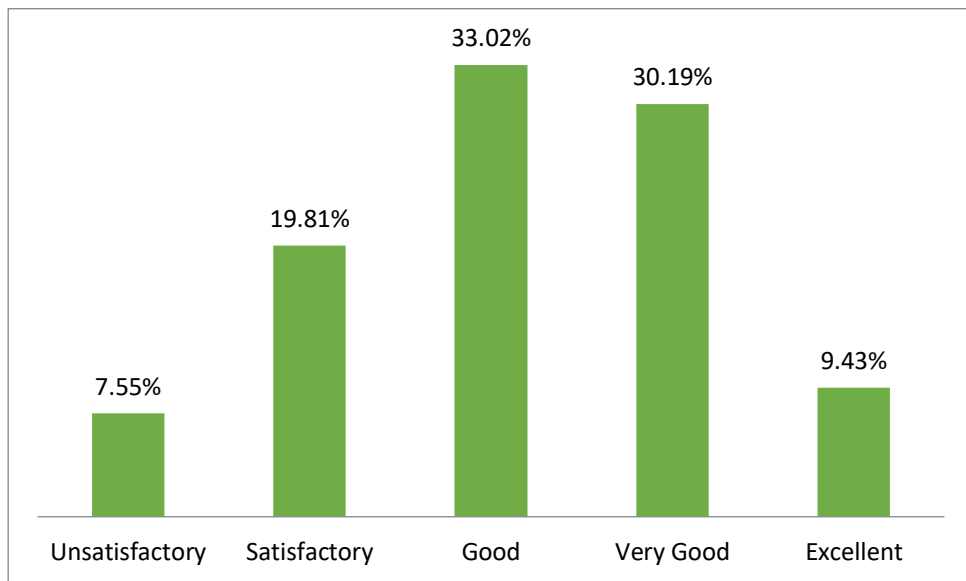


Fig. 4.6: Response on the design of training programmes

A training programme should be designed as per trainings needs of employees to update their knowledge and skills. The response received from this question is depicted in Fig 4.6. 33.02% of officers have opined Training Design as Good, 33.01 % as Very Good, 19.81% as Satisfactory and 9.43% as Excellent. However, 7.55% of officers are not satisfactory with training design.

4.3.3 Training material provided during the training courses

Training material, either in physical form or soft form, are required to enhance the learning of subject matter during the training. A properly well documented training material increases effectiveness of the training. Out of response received (Fig 4.7), 35.58% officers have rated Training Material received as Good, 25% as Very Good, 23.08% as Satisfactory, 11.54 % as Excellent but 4.81% rated as Unsatisfactory. The weightage average of rating comes out as 3.15 which indicates overall response is Good requires further improvement in quality of Training Material.

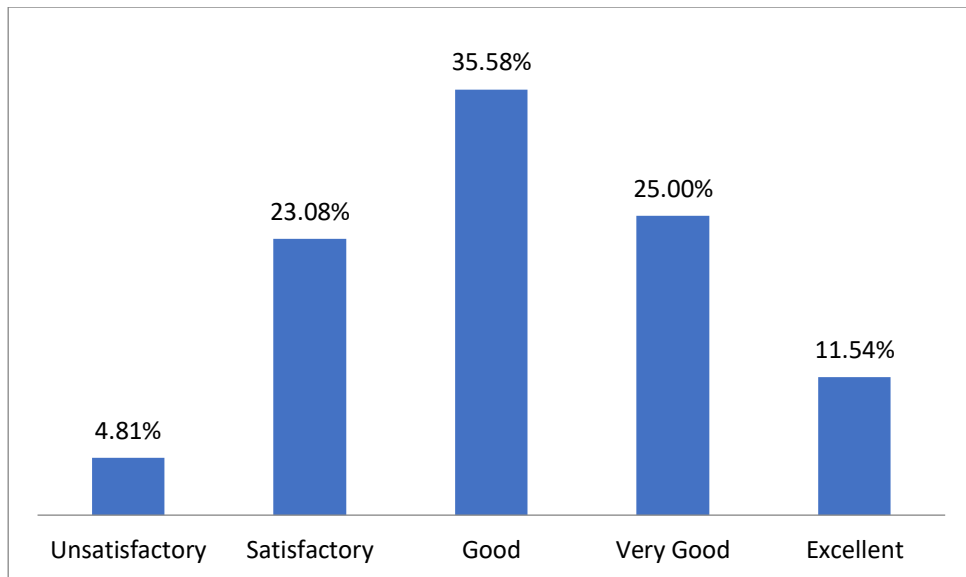


Fig 4.7: Rating of Training material provided during the training

4.3.4 The method of evaluation adopted for the training conducted?

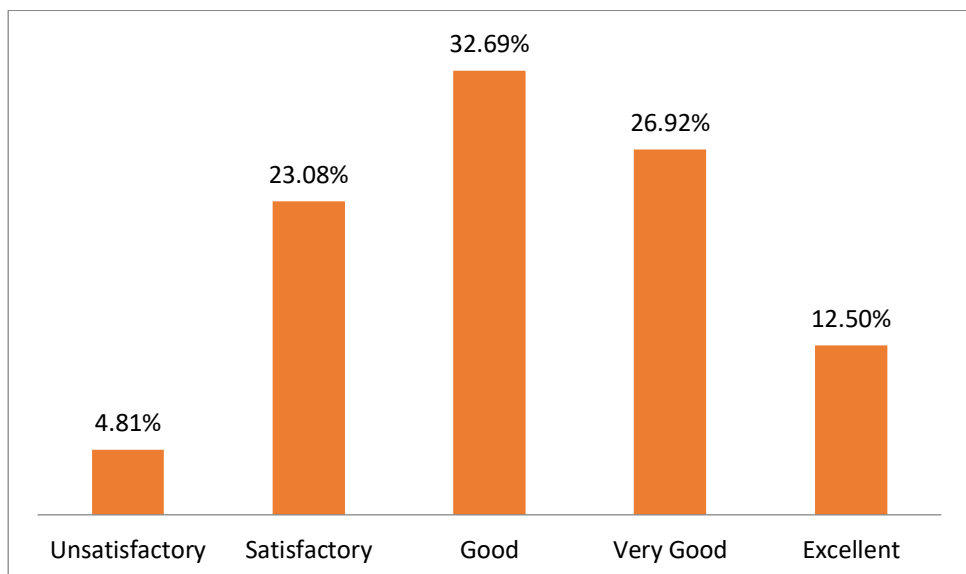


Fig. 4.8: Response on the method of evaluation adopted

The basic tenet of training is that training conducted should be evaluated against its objectives, for its usefulness to the Department so that Department may take corrective actions and course corrections in their future training programmes. The responses received from officers are depicted in Fig 4.8. 32.69% officers have rated Evaluation method as Good, 26.92% as Very Good, 23.08% as Satisfactory,

12.50 % as Excellent but 4.81% rated as Unsatisfactory. The weighted average of rating comes out as 3.19 which indicates overall response is Good.

4.3.5 The level of interaction between the faculty/speakers and trainees

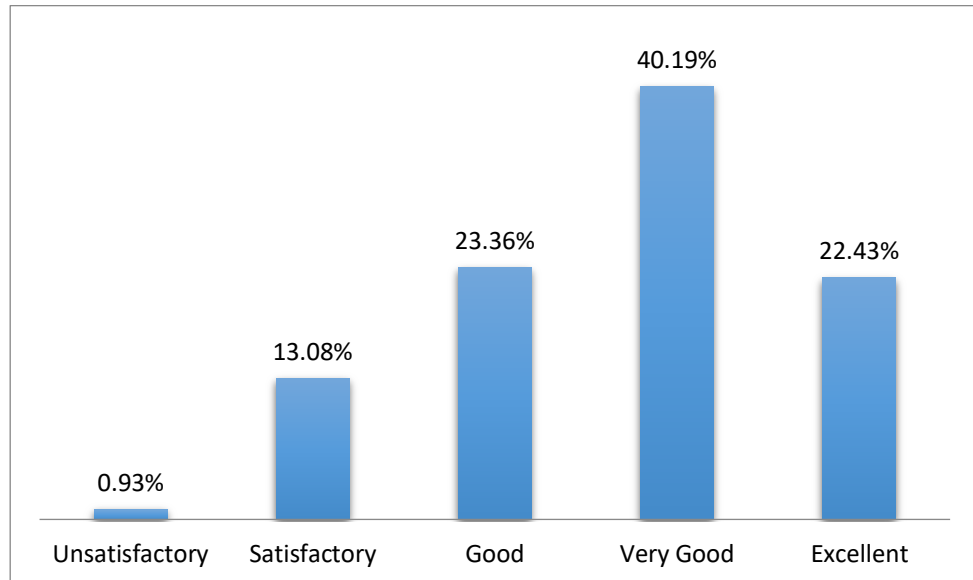


Fig 4.9: Response on the level of interaction

The success of training programme mostly lies on level of interaction between trainer and trainees. If method of delivery of lecture is interactive and not one sided and speaker takes response feedback from trainees in between than it would evoke great interest in the subject by the trainees for ensuring success of the programme. The response indicated in Fig 4.9 shows 40.19% officers rated Very Good, 23.36% as Good, 22.43% as Excellent and 13.08 % as satisfactory. The weighted average of ratings comes out as 3.7 that indicates overall response is near Very Good.

4.3.6 The level of Training Centre faculties

Success of training also depends on calibre of faculty members of Training Center. The expertise of faculty with in-depth knowledge of subject matter and

his/her ability to interact with the trainees is considered to be an important parameter of training effectiveness. The figure 4.10 indicates that 27.10% of officers opined that level of faculty as Good, 23.36% as Satisfactory, 20.56% as Very Good, 15.89 % as Excellent and 13.08% as Unsatisfactory. The weighted average of ratings comes out as 3.03 which indicates there is requirement of further improvements in level of faculty of training centre.

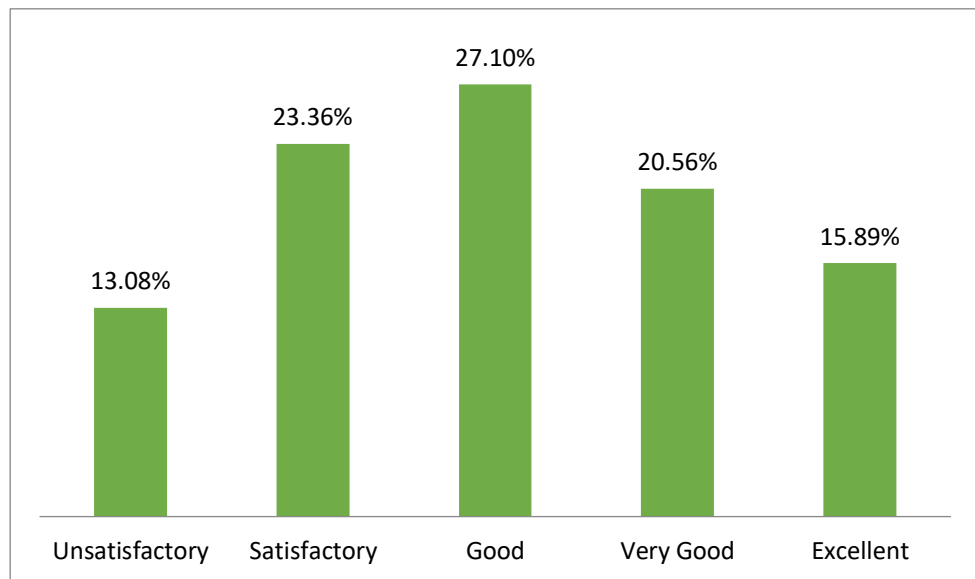


Fig. 4.10: Response on the level of Training Centre faculties

4.3.7 The level of guest faculties/ speakers

As faculty of training centre may not have all the domain expertise and knowledge of emerging technologies to address needs of various training programmes. Hence, often needs arise to call guest speakers to take some sessions for sharing their knowledge and delivery of latest inputs of concern industries among trainee officers.

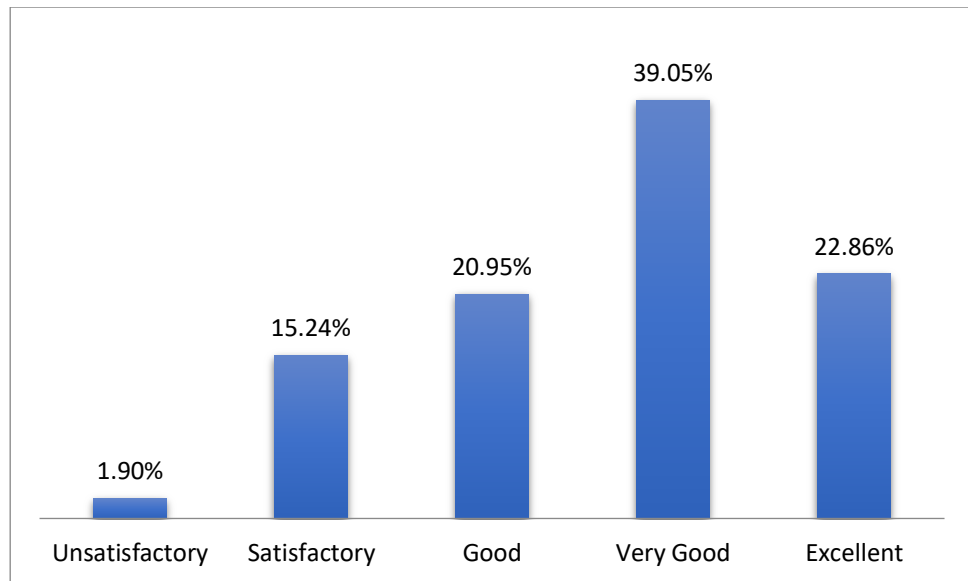


Fig. 4.11: Response on the level of guest faculties/ speakers

The responses received through this question are depicted in Fig 4.11 which shows 39.05% officers have rated guest faculty as Very Good and 22.86% as Excellent and 20.95 % as Good. This indicates for further considerations and requires improvements.

4.3.8 The classroom sessions conducted for training courses

Classroom sessions are not merely delivery of a presentation. It requires more presenter-audience (Trainer-Trainees) interaction and a greater expectation that the audience learns something. A well designed classroom session enables setting up a communication process between the trainer and trainees both of whom have common learning objective. The Class room sessions comprise theoretical lectures, case studies, group discussion, group exercise etc.

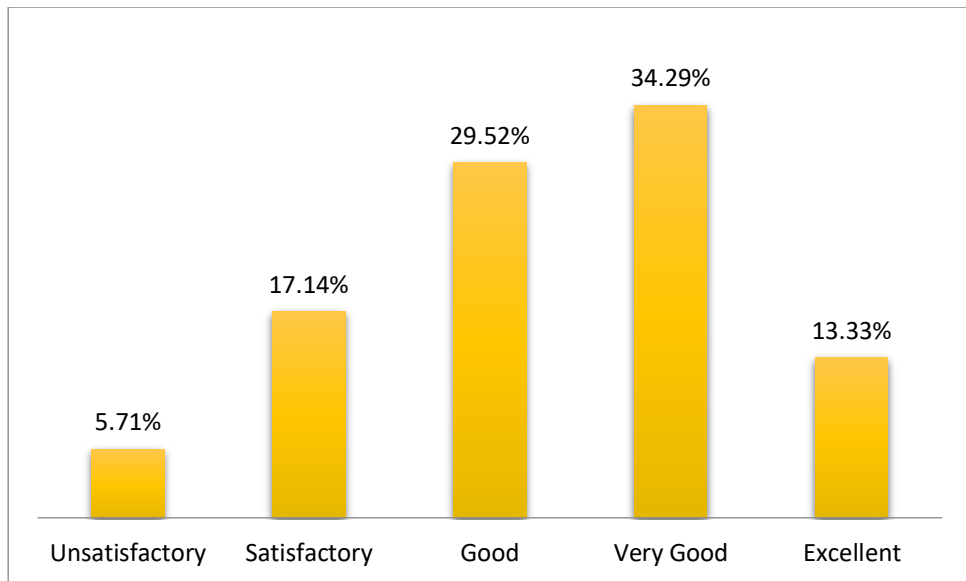


Fig. 4.12: Response on the classroom sessions

The rating given by the participant officers to the classroom sessions is 13.33% as Excellent, 34.29% as Very Good, 29.52% as Good, 17.14 as Satisfactory and 5.71 % as Unsatisfactory (Fig 4.12).

4.3.9 The field training/practical training/study tour conducted during training courses.

The aim of practical training is to help officers develop skills and abilities that support in their professional career and prepare them for work later on. Field trainings are important to help bridge the gap between knowledge and hands-on experience. Similarly visit to establishments/ units give them exposure to office working and environment. The field training /tour in-between classroom sessions also provides some relief to trainees from classroom ‘Boredom’.

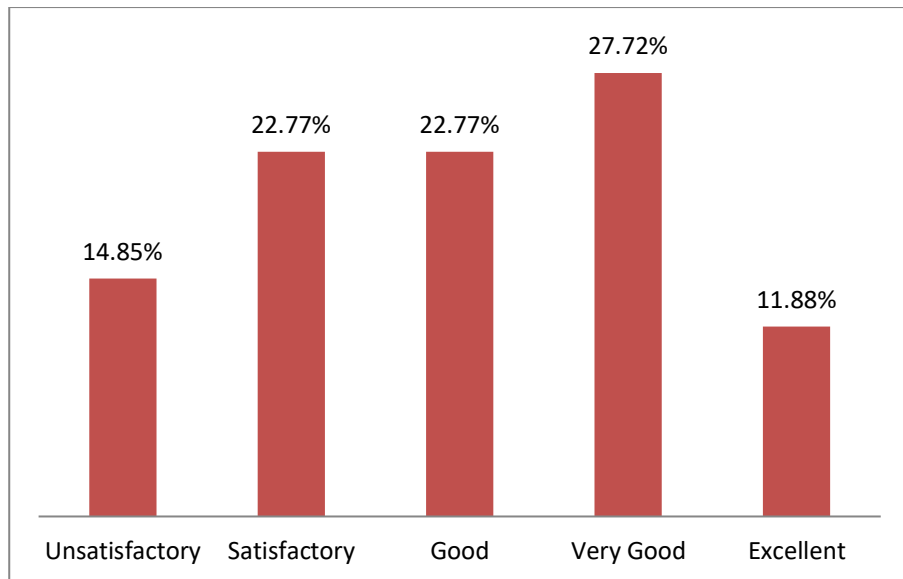


Fig. 4.13: Response on the field training/practical training/study tour

The response received shown in above Figure shows that 27.72% of officers rated field visit/ training as Very Good, 22.77% of officers have rated either as Good or Satisfactory, 11.88% rated as Excellent. However 14.85% of officers are Unsatisfactory with field training/practical training/study tour conducted during training. This implies that improvement is required in this matter.

Moreover, officers were asked to specify any other items, which are not covered in this question and is significant in their opinion. Following responses are received in this regard:

- Long term course should be mandatory at an interval of 10 years.
- Financial aspects were missing
- More lectures to be included for “Regulation” and “Licensing”. Also on role duties and powers of TERM CELL / CCA in department.
- Need more field and practical training on the subject matter.
- Motivation class from guest faculty.
- A structured program specific to work profile in hand is missing.

- Exposure to administrative procedures, exposure tours at establishment of other ministries, linkages with other training institutes in India is required, for inculcating best practices.
- There should be strong linkage between training centers and field officers for development of training modules. It should not be a bookish training rather case study based.
- Such type of program should be conducted step wise and not as whole. Mid-career program should be started for new technology and policy trends on roaster basis equally for all officers. Every 5 years offer mandatory training program must be there.
- Training modules covering latest as well as emerging technologies in telecom sector shall also be included in the induction training of probations.
- Training on inter-personal relationship among the same service batches and other service officers is equally important. Training may be conducted for some time with the officers of other countries for knowledge sharing, capacity building and keeping abreast with latest trends in telecom / ICT domain.
- Interaction with private industries and technical institutes should be added in training courses to get exposure of actual technology in market.
- Foreign training module may be included in training curriculum so as to enable telecom officers to understand and relate Indian telecom issues and their resolution to that of other countries.
- More of IT training in the curriculum.

- Involvement in extra curriculum activities and sports may also be made part of feedback.

4.3.10 The overall training programmes being conducted for Telecom Officers

A training programmes is considered successful when it meets its objective by upgrading knowledge and skills of trainees. Whether training programmes being conducted for Telecom Officers meet aspiration of trainees or not? To ascertain this question was asked to the respondents.

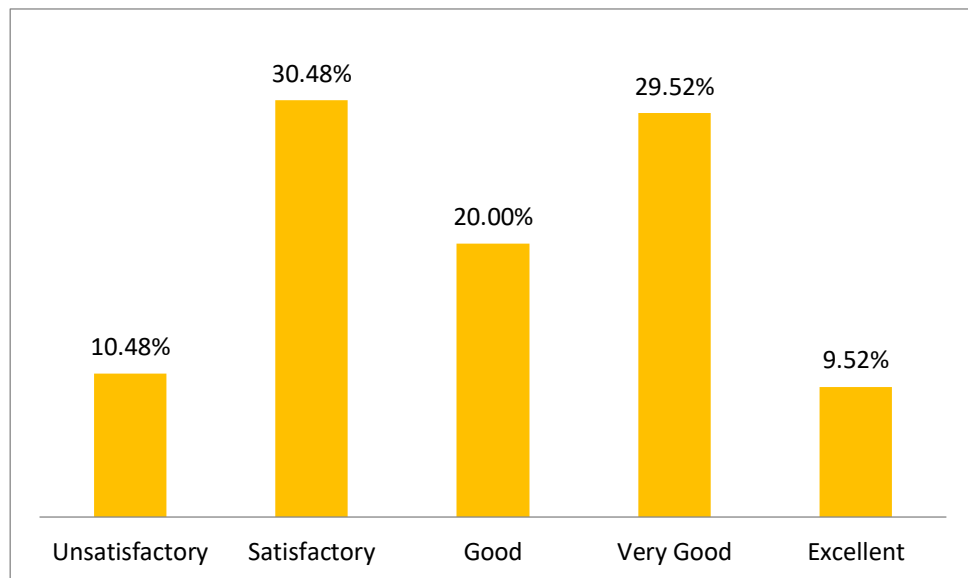


Fig. 4.14a: Response on overall training programmes

Response received is indicated in Fig 4.14a , wherein, Approximate equal percentage of officers (~30%) have opined that overall training programmes being conducted is either satisfactory or very good. However on a scale of 1 to 5, the average of weighted score of the responses is 2.97 which further impresses upon that Training Programmes for Telecom Officers are rated Good on average which signifies needs for further improvements.

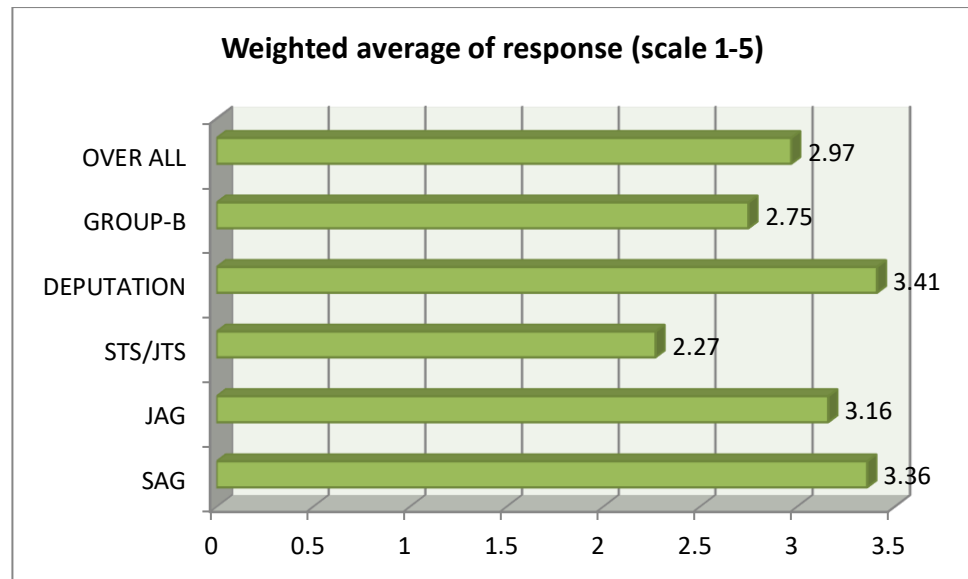


Fig. 4.14b: Weighted average of responses on overall training programmes

However, when we examine these responses in respect of different grades of officers, as indicated in Fig 4.14b, which reveals that lower grades officers (STS and JTS) opined that overall training programmes of Telecom Officers is Satisfactory whereas higher grades officers opined it as Good. This fact is also required to be considered while designing training programmes for telecom Officers.

4.4 Focus areas of cadre training modules

Training is expected to be designed to imbibe competencies in the officers to encompass knowledge, skills and behaviour, which are required in an individual for effectively performing the functions of a post.

As Telecommunications is specialized sector, Telecom Officers would need frequent up gradation of their knowledge and skills due to rapid changes and advancement happen in this sector. This necessitates specific training programmes design for them for updating their knowledge in emerging

technologies viz. 5G, AI, IoT, Cloud Computing, Big Data etc. and to keep pace with the sector industries.

Apart from specialized training programme, some other programmes pertain to leadership, financial management, people management, information and communication technologies, project management, e-governance, effective decision making etc. may also be required for them to possess with requisite skills and proficiency for different functions or levels.

The respondents' view on the possible focus areas for cadre trainings are as under on weighted scale of 1 to 5 (Insignificant-1, Less significant-2, Can't say-3, Significant-4, Most Significant-5):

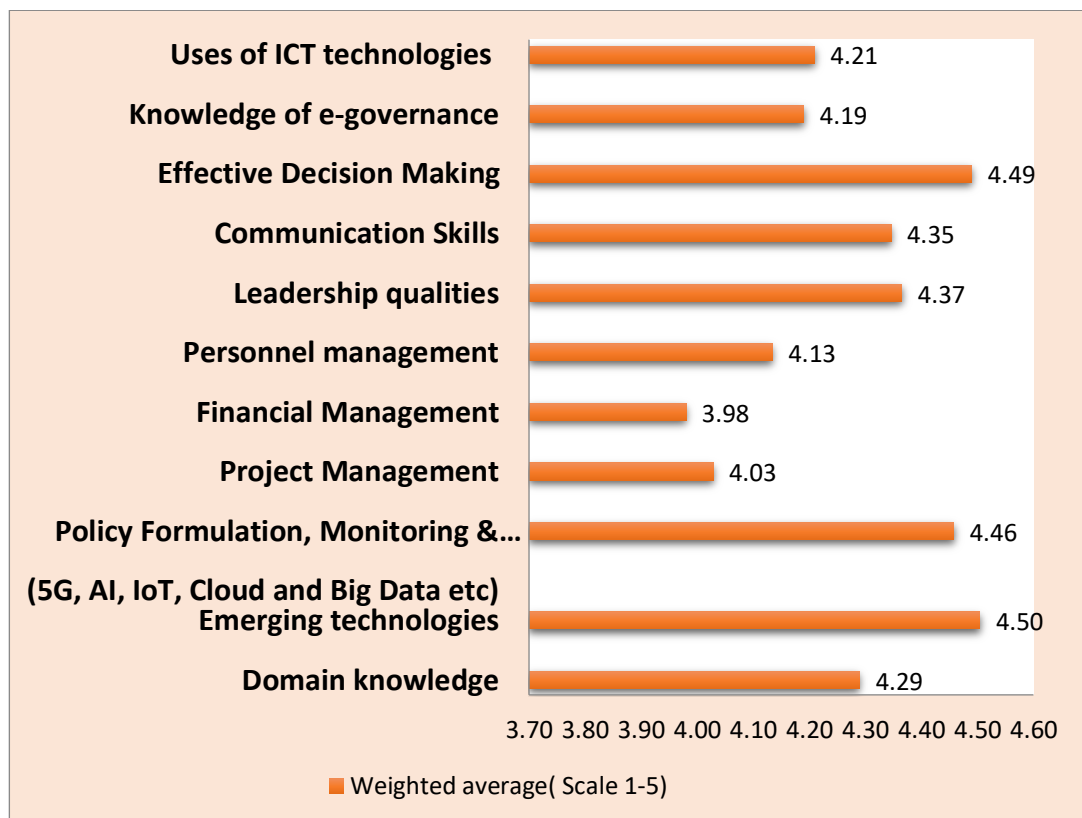


Fig. 4.15: Response on Focus areas of cadre training modules

It is encouraging to see that areas like Emerging Technologies (5G, AI, IoT, Cloud and Big Data etc.), Effective Decision Making, Policy Formulation, Monitoring & Regulation, Leadership qualities, Communication skills, Domain

Knowledge, Knowledge of e-governance, Uses of Information and Communication technologies in daily work, Personnel Management, are seen as some of the most significant & essential components of training plans by a majority of the officers. Few respondents rated little significance to Project management, Financial management, which may be due to the functional areas handled by these officers.

Emerging Technologies has emerged as the most recommended area of training, which reflects that respondents view updated technical knowledge as foremost requirement and Effective Decision Making as second most recommended area of training for their effective working as they feel.

In addition to above participant officers were asked to specify other areas, which are not covered and are significant in their opinion. Following response is received:

- How does government collect important data for formulation of policy?
- Impact assessment
- Ethics in governance
- Corporate finance must be included in the course for all ITS officers.
- As most of the work now involves dealing with companies, knowledge of Companies act is essential for ITS officers.
- Vigilance, audit and judicial procedures
- Communication skill and use of ICT is must for every officer.
- More focused approach towards practical scenario and lab Exposure such as cyber security labs etc.
- Specialized training regarding cyber security in reference to security.
- LSA's best practices should be included in course

- International best practices should be called on in course
- Emerging technology courses should be taken by industry experts.
- Flexibility of course curriculum to be implemented for inclusion of new important technology / policy etc.
- Handling the public grievance and public dealing.
- Case studies / legal matters / court cases.
- Apart from focusing on increasing knowledge, inter-personal skills, self-reading habits should be promoted and sufficient time with defined targets should be given to probationers for their office like qualities developments.
- Vigilance module (and FAQ). Vigilance and disciplinary proceedings.
- Development of leadership skills.
- Holistic development of individual is required for development of officer like qualities. Dry and irrelevant technique contents have no impact.
- TRAI/ CCA /TERM – CELL /LSA role, power and responsibility in detail.

4.5 Whether the content of the training is designed so as to enable the officers to handle the higher responsibilities?

Contents of a course are decided depending on objective of the training programme viz. Induction/orientation, Mid-Career training (MCT) etc. It may include from awareness about emerging technologies to the effective decision making. Accordingly, this question was asked to ascertain, whether the content of the training is designed so as to enable the officers to handle the higher responsibilities?

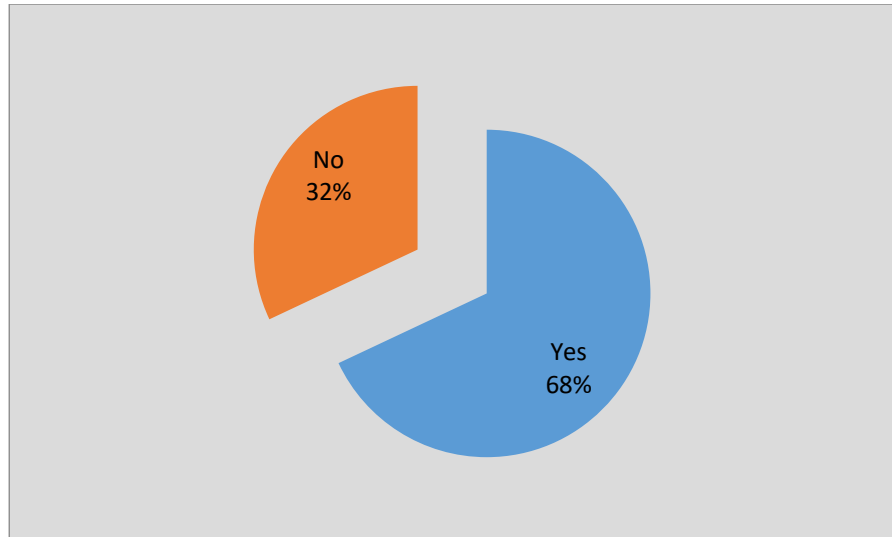


Fig. 4.16: Response on content of the training designed to enable the officers to handle the higher responsibilities

Fig 4.16 shows that only 68% respondents viewed that contents of their training programs are designed to prepare to enable the officers to handle higher responsibilities and 32% officers are in disagreement.

The suggestions were also sought from officers for improving the training contents who are in disagreement. Responses received are listed under:

- Present trainings imparted to telecom officers are mostly technical in nature but policy and legal aspect of training is essential for handling higher responsibilities.
- Onsite training program may be organized so that more participants can get the exposure.
- Professional lecture for “communication skills and leadership qualities and decision making”
- After the change in role of Government role in telecom sector, officers must be imparted training about policy formulation impact assessment and formulation of effective regulations.
- Managerial content required.

- Training modules must be focused and must have lot of activities and scenario handling. It should not be fire and forget mode.
- The content should also cover challenges to job profile and examples of decision to be taken.
- After the general / induction level training the aptitude of the officer may be assessed and he may be provided training in his area of interest. He must be posted in his area of his training / aptitudes. The screening of aptitude / interest may be done at three stages in career.
- However training in management practices need to be included and imparted at suitable levels of responsibility with a view to groom future managers and administrators.
- There are no systematic training courses. Whatever trainings attended by undersigned was due to involvement in particular projects execution for which training was a part of deliverable by vendor.
- The training should be designed in such a way that the contents are commensurate with the job responsibilities at higher level. Specific attention should also be given to topics related to finance and budget which are often neglected. The new technologies area should also be adequately covered and updated but only to the extent required for proper understanding of the issues involved and discharge of responsibilities. Deep dive training on technical matters should be avoided at higher level.
- Capacity building can be a focus area.
- As the technology changes at a rapid rate, there is need for telecom officers to keep themselves abreast of those technologies. In this regard, short duration training program/workshops can be organized time to time.

- Policy preparation based approach should be included in training module.
- Noting, cabinet note and other drafting should be included.
- Enhancement of leadership qualities and other personality development program.
- Emphasis on laws / acts / policies in relation to the office work to be employed.
- Training on leadership, personality development.
- Linkage of training to actual work profile.
- Training on handling such work may be given by exposure to the higher level meeting conferences. Specialized training may be given for handling such responsibilities in the course curriculum.
- Training contents need to be improved a lot to enable officers to become future leaders to handle the higher responsibilities.
- Inter-department (like with other ministries) liaisoning aspects not present
- Training needs to align with government's goals and common man requirements.
- The program and lecture content need to be updated with roles and responsibilities of ITS officers in organizations like LSA, DoT HQ, TEC, TRAI etc. More focus is given on telecom technologies (many of which are outdated). Realignment is required to cover legacy as well as latest upcoming technologies – focusing on ecosystem, regulatory aspects, technical aspects and various reports of reputed organization on the subject.
- At the higher level policy formation is required at our end in the department but there are not specific aspect covered in training in part of

case studies. Involving the challenges faced during formulation of policies.

- In Every 3 Years, the requirement of Department and content of Training shall be reviewed and the course shall be designed based on the outcome of these reviews.

4.6 Awareness about the National Training Policy-2012 of Govt. of India

Government officers are expected to be aware of training policies of government currently being enforced and practiced. So that, they may take advantage of its recommendations for upgrading their skill and knowledge for better future and career progression.

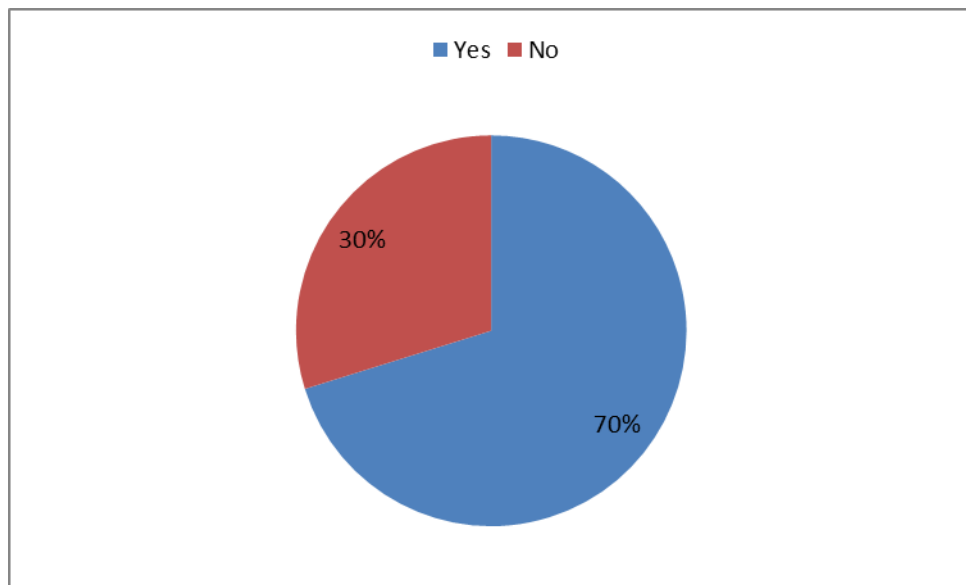


Fig. 4.17: Response on Awareness about the National Training Policy-2012

In response to the above question, 70% of the officers replied in affirmative and 30% in negative. This indicates that majority of the officers are aware of about National Training Policy-2012 of Government of India.

4.7 Mid- Career Training (MCT)

As per recommendations of NTP-2012, Mid-career training- Career linked mandatory training to be provided to all employees at various stages of their career before they are promoted to positions of higher responsibility.

The 2nd Administrative Reforms Commission report says that the objective of mid-career training should be to update the knowledge base of the participant in the context of today's rapidly changing environment and to develop competencies for changes in the job profile, as would happen when a promotion takes place.

Therefore, officers were asked for give their opinion about:

- Do you think Mid-Career training is essential for your career progression?
- Should Recruitment Rules/ Service Rules be provisioned for Mid-Career Training (MCT) as one of mandatory requirement and essential conditions for promotions?

The respondents' views on Mid-Career Training (MCT) are shown on Fig 4.18 & Fig 4.19.

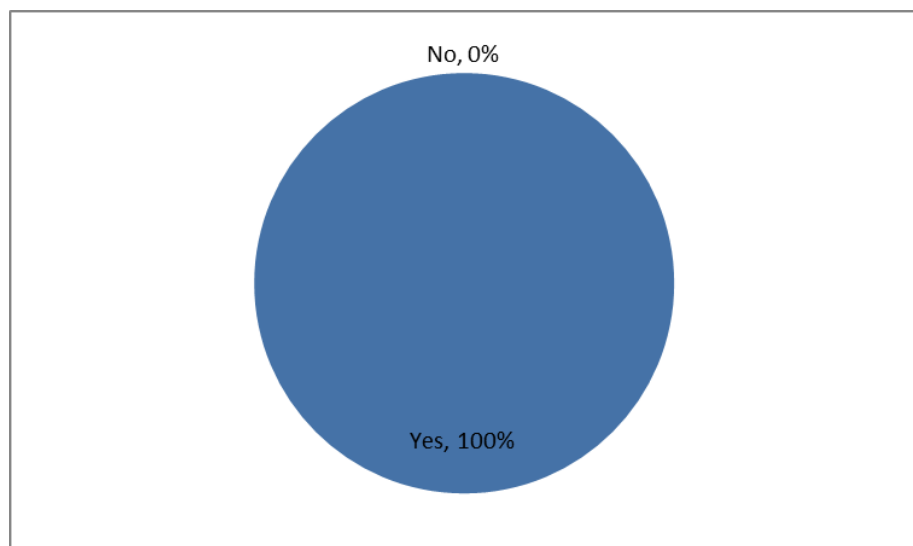


Fig. 4.18: Response on Mid-Career training for career progression

It is evident from Fig 4.18 that all officers (100 %) have opined that Mid- Career training is essential for their career progression.

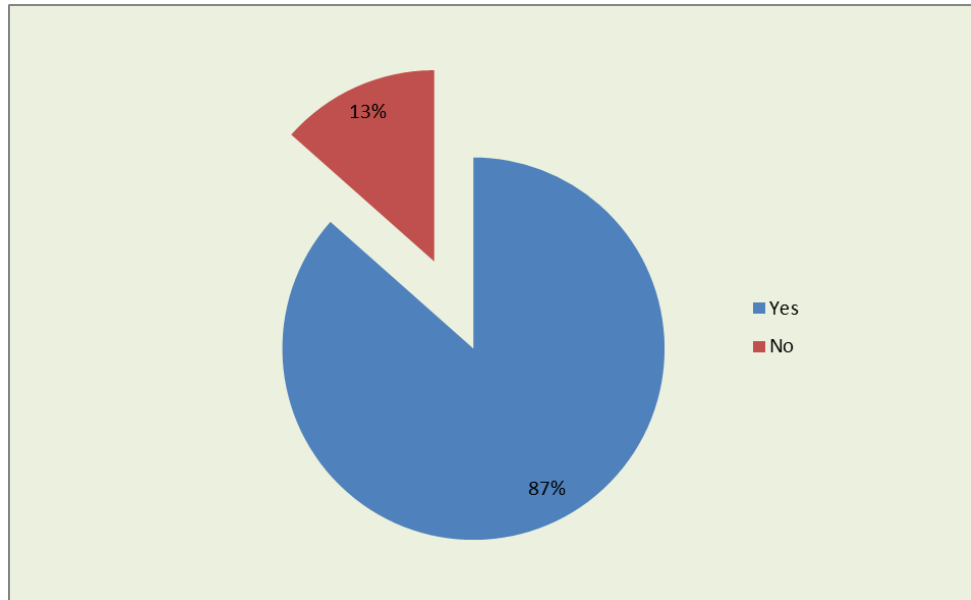


Fig. 4.19: Response on mandatory requirement of Mid-Career training for promotion

Moreover, as evident from Fig 4.19, 87% of officers are of view that Recruitment Rules/ Service Rules should be provisioned for Mid-Career Training (MCT) as one of mandatory requirement and essential conditions for promotions. In support of this requirement, few officers opined that *“Considering the technology evaluation at a very fast pace it is always need of updation of officers at regular interval so MCTP provides that opportunity”*.

It is worth to mention that Mid- Career training for ITS officers has recently been approved. Under this programme, Technical modules (one to two weeks period) of different phases have been started conducting since July 2019 at NTIPRIT. Therefore, few officers have made apprehensions on making MCT as a mandatory training programme before their next promotion by commenting like-*“If MCT gets delayed , then officer should not be put at a disadvantage”*.

4.8 The infrastructure facilities at NTIPRIT, Ghaziabad

As training centre play major role in successful execution of training programmes. A well equipped with adequate infrastructure facilitated training centre is very essential to achieve desired training outcomes and objectives.

Training Programmes of Telecom officers are mostly, conducted at National Telecommunications Institute of Policy Research, Innovation & Training (NTIPRIT), Ghaziabad, which is presently operated in ALTTC campus under administrative control of BSNL. Therefore, responses about infrastructure facilities of NTIPRIT were sought from participant officers, which are detailed under.

4.8.1 Classrooms

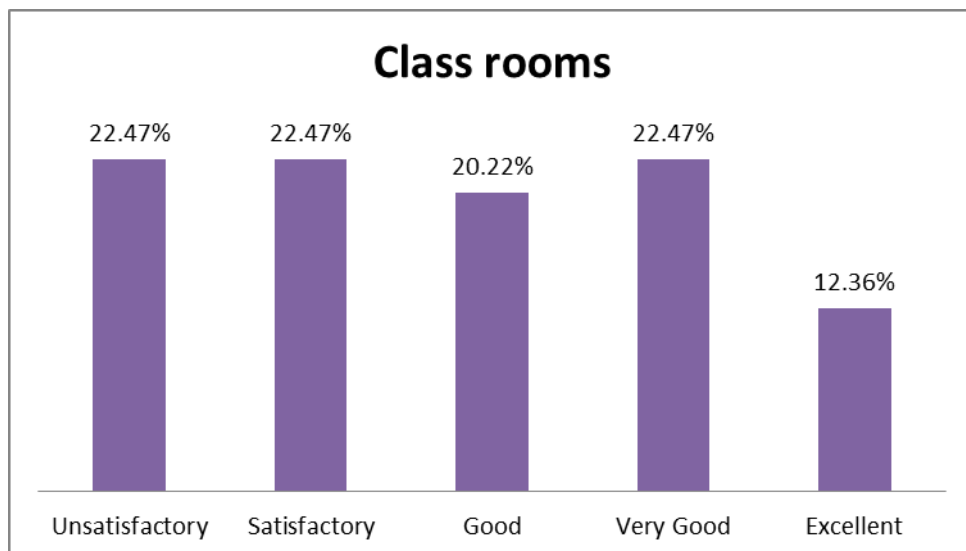


Fig. 4.20: Response on classrooms

Response received shown in Fig 4.20 indicates that there are varying opinion about classroom, equal 22.47% percentage of officers have rated classrooms as Very Good and Satisfactory but same percentage of officers are not satisfied with the arrangement. Weighted average of 2.80 further indicates that classrooms are satisfactory and require improvements.

4.8.2 Furniture



Fig. 4.21: Response on furniture

Response received shown in above Fig indicates that 25.84% of officers rated furniture facility is unsatisfactory. However, 22.47% rated as Good, 21.35% rated as Very Good, 19.1% as Satisfactory and 11.24% as Excellent. Weighted average of 2.73 indicates that furniture facility is satisfactory and requires further improvements.

4.8.3 Computer/laptop facility

Response received shown in Fig 4.22 indicates that 32.14% of officers rated Computer/laptop facility is unsatisfactory. However, 26.19% rated as Satisfactory, 25% rated as Very Good, 13.1% as Good and 3.57% as Excellent. Weighted average of 2.42 indicates that Computer/laptop facility is satisfactory and requires further improvements.

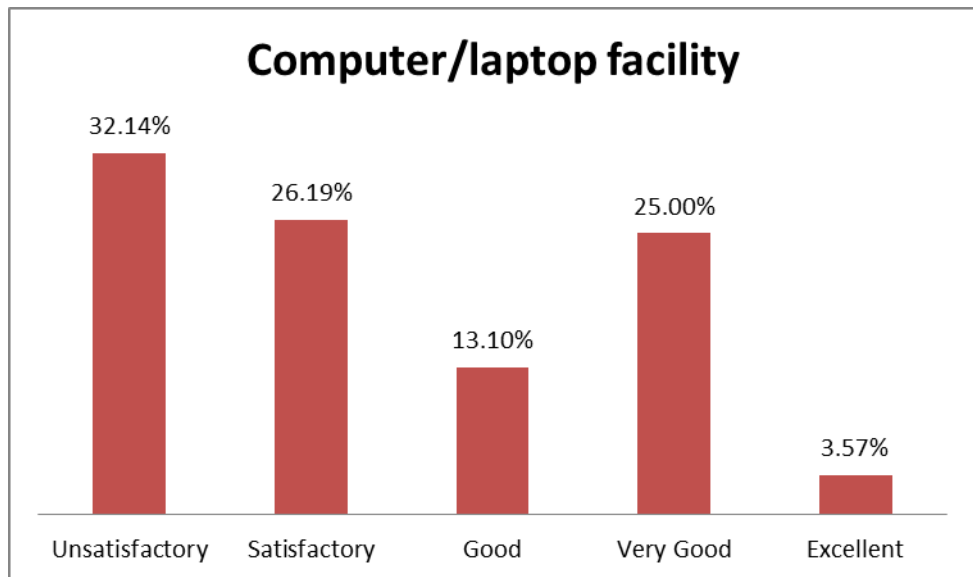


Fig. 4.22: Response on computer/laptop facility

4.8.4 Projector/ Audio visual aids

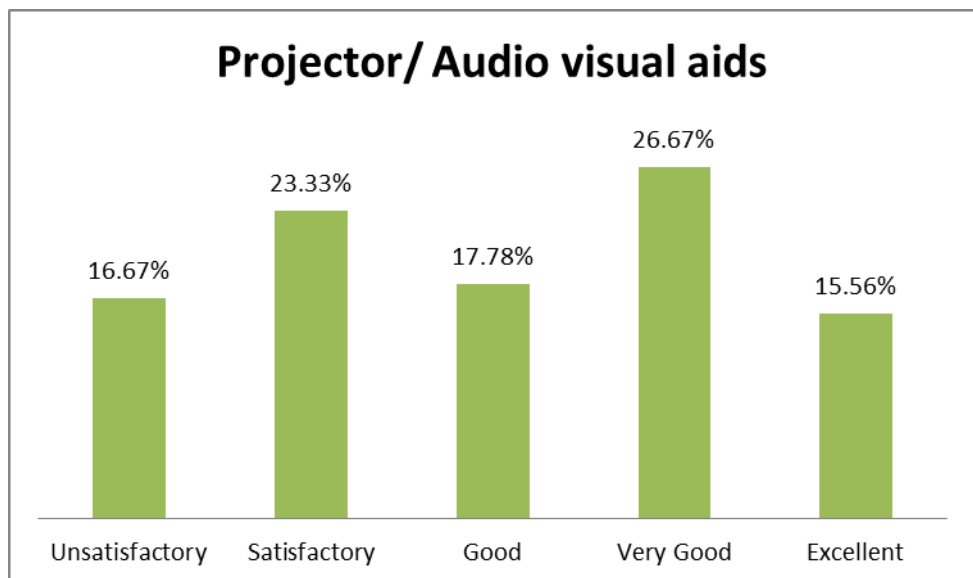


Fig. 4.23: Response on Projector/ Audio visual aids

Response received indicates in Fig 4.23. There is varied opinion on Projector/ Audio visual aids facility but weighted average of 3.01 indicates that Projector/ Audio visual aids facility is Good but requires further improvements.

4.8.4 Practical Lab facility

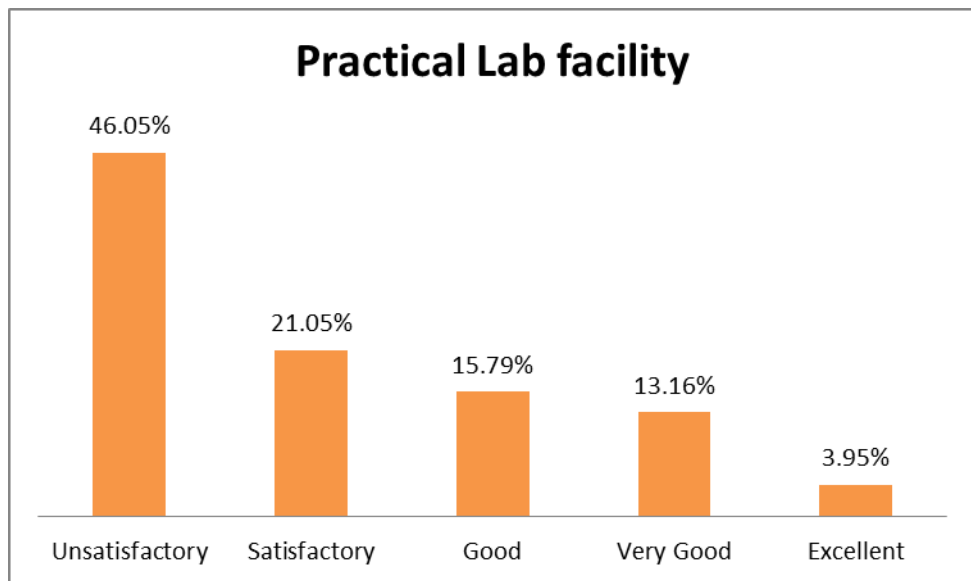


Fig. 4.24: Response on Practical Lab facility

Around 46.05% (Fig 4.24) of respondent Officers opined that practical Lab facility is Unsatisfactory, 21.05% rated as Satisfactory, 15.79% as Good, 13.16% as Very Good and 3.95% as Excellent. Being specialized technical cadres, practical demonstration of evolving technologies is very much essential for Telecom Officers for better understanding and up gradation of skills. Therefore, an immediate attention is required by Department for provisioning of various lab facilities at NTIPRIT.

4.8.5 Training materials

Though overall response of participant officers on Training Material is covered in para 4.3.4, however, this question was again raised to participant officers to know current status of this facility being provided at NTIPRIT. Response received is indicated in Fig 2.25, which reflects that 28.4 % of officers rated this facility as Satisfactory, 24.71 as Very Good, 20.0 % as Good and 18.82% as Unsatisfactory. This indicates more efforts are required for improvement of this facility.



Fig. 4.25: Response on Training Material facility

4.8.6 Library facility



Fig. 4.26: Response on Library facility

Library facility is an essential part of any training centre or academic institute for a knowledge repository of any organization/ department. It facilitates trainees for further study in subject matter to upgrade their knowledge and for doing research work by providing reference materials.

Response received is depicted in Fig 4.26. 35.9% of officers opined that Library facility at NTIPRIT is Unsatisfactory, 29.49% of respondent officers opined Satisfactory, 16.67 % as Good, 14.1% as Very Good and only 3.85% as Excellent. This indicates a lot more attention is required for provisioning of Library facility at NTIPRIT

4.8.7 Tea/snacks/ Food facility

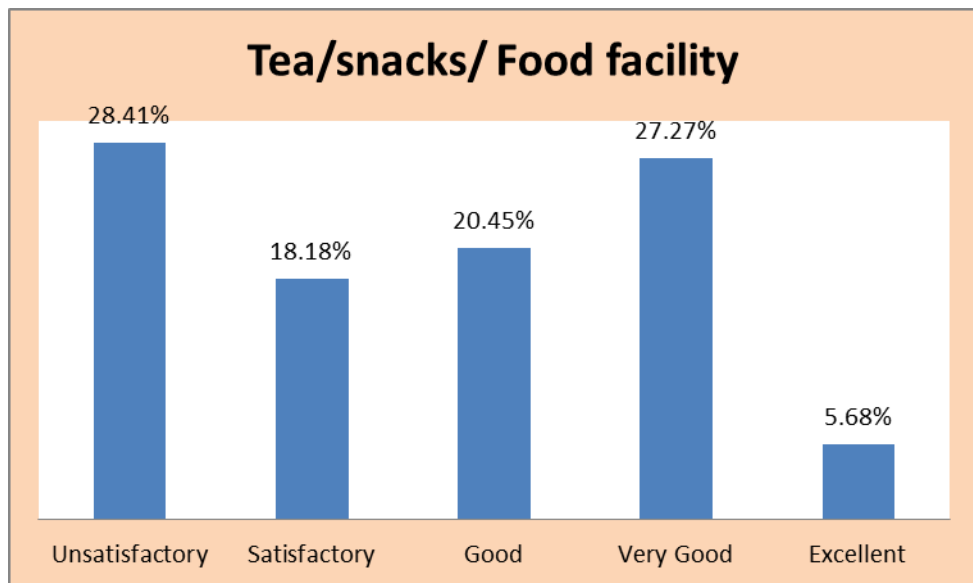


Fig. 4.27: Response on Tea/snacks/ Food facility

Tea/snacks/food is being provided during break/lunch of a training programme. Therefore response was sought from responded for this facility. Responses received are indicated in Fig4.27. 28.41% of officers rated this facility as Unsatisfactory but 27.27% are rated as Very Good, 20.45 % as Good, 18.18 as Satisfactory and 5.68 % as Excellent.

4.8.8 Support Staff

Successful execution of a training programme has lot of dependence on contribution of Support staff (Clerical staff/ Data feeders/ MTS etc) apart from planning and designing of training programme. They look after day to day

activities of classroom arrangements like, switching on computer/laptop, readiness of projectors, cleaning of white board, arrangements of white board markers and pens, preparation of training material and their distribution, compilation of trainees attendance & feedback data, cleaning of room & furniture, arrangement of drinking water & tea/snakes/lunch during breaks, necessary arrangements during field visits etc.

Therefore, response was also sought from respondent for this facility. Response received is indicated in Fig 4.28. It is concluded that 27.59% rated that Support Staff is Unsatisfactory, equal percentage of officer i.e. 20.69% rated as Satisfactory or Good, 17.24% as Very Good and 13.79 as Excellent. This indicates that efforts are required to increase the number of efficient support staff.



Fig. 4.28: Response on Support Staff

4.8.9 Hostel facility

Training centre should provide good hostel facility to trainees coming for residential training programme for their comfortable stay. If trainees do not feel comfortable while staying in the hostel he/she may not able to concentrate or fully involve in the training programme and ultimately this may impact its

objective. Moreover, trainees may not like to come next time at the centre and this would impact the training outcome of the Department.

Therefore, a hostel having appropriate rooms for trainees; along with good mess serving hygienic food to them, is a very critical part of a training centre. Hostel should also have sufficient support staff to provide better hospitality to the trainees.

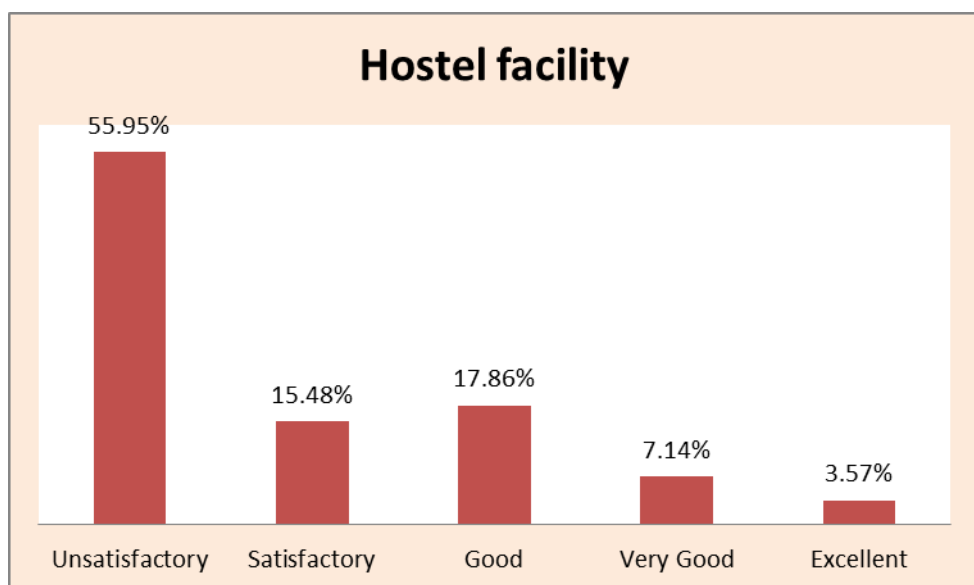


Fig. 4.29: Response on Hostel facility

The response received (Fig 4.29) for hostel facility indicates that more than half (55.95%) officers opined that hostel facility is Unsatisfactory that requires immediate attention to address.

4.8.10 Sports facility

After hectic day long classroom sessions trainees would like to rejuvenate their energy by doing physical activities and playing sports & games. Hence, proper sports facility for the trainees is necessitating at training centre.

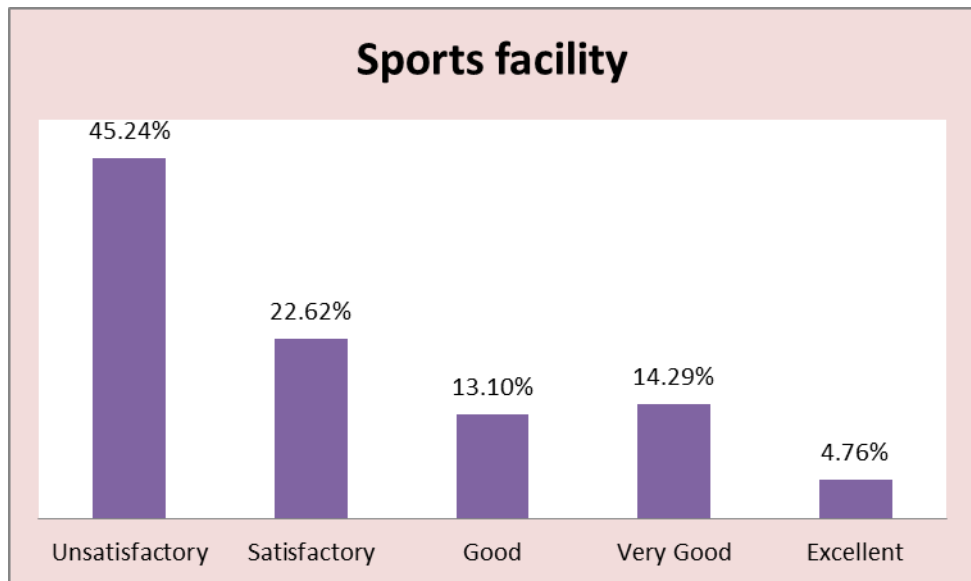


Fig. 4.30: Response on Sports facility

Response received (Fig 4.30) from respondent indicates that 45.24% of officers opined sports facility is Unsatisfactory, 22.62% as Satisfactory , 14.29% as Very Good, 13.10% as Good and 4.76% as Excellent.

Moreover, officers were asked to specify any other items, which are not covered in this question and is significant in their opinion. Following responses are received in this regard:

- Training centre must have an independent campus for holistic development of probationer further pedagogy techniques needs to be changed to more of role play, case study etc.
- Total and overall infrastructure and ambience of NTIPRIT should be enhanced to be a world class training institute. NTIPRIT should then also try to become an ITU CoE if it has its own lab and hostel facilities.
- Labs and practical exposure to trainees is very much required
- Latest transmission equipment / technology
- Hostel/ academic building to be renovated.
- Hostel needs improvement, more housekeeping etc

- Mobile service needs significant improvement in campus area
- WiFi with voice /video call facility may be provided when no mobile services is available.
- Environment to learn. Space for social activity and entertainment
- Infrastructure and logistics facilities need necessary up gradation to serve as world class institute.
- Cultural and other activities are totally zero-should be promoted
- Interaction and involvement in foreign standard making bodies for telecom specific.
- Transport facility- institute owned transport facility for trainees should be procured for better facilitate official visits of officers.
- Separate infrastructure like hostel, sports area for NTIPRIT. Now dependent on BSNL. It causes conflict.

4.9 Steps that need to be taken to improve the training outcomes?

Participant officers are requested to give their suggestive steps that need to be taken to improve training outcomes in respect of Telecom Officers for their updating knowledge and skills that would also be important factor contributing in overall growth of the department. Very encouraging responses from almost all respondent were received through this section of questionnaire. Received responses for improving training outcomes are categorized in four sections; Training Methodology, Training Design, Training Contents and Training Institute, which are detailed under:

A. Training Methodology

- There is need of creating experts in all the domains. So phase wise training is need of the hour. In initial phase basic knowledge by imparting class

room training should be focused. During classroom training evaluation, knack of individual officer should be judged and officers should be grouped to impart advance training in the technologies being evolved. Lastly foreign component should be included so as to create global experts.

- To train and post the person in right post to utilize knowledge earned.
- Since telecom sector is rapidly growing based on the demand of consumers, there is a need to regular update the skills/knowledge of telecom officers.
- The training should be participative and the participant should be asked to make presentation about the topic on the basis of their prior understanding of the subject.
- Active participation of trainees. Small groups. Good and crisp material. Lot of emphasis of activities.
- Interactive training sessions and Regular feedback after each session
- Frequent mandatory training programs needed to upgrade the technical knowledge as technology is changing fast.
- Trainees should be asked to give a write up after the training as to how the training received by them can improve efficiency and quality of work.
- Training Need Analysis w.r.t. jobs. Trainings need to be relevant with the job responsibilities else there is little significance.
- A comprehensive study may be done to assess the skill-gaps in the officer's grade. Courses should be designed to include hands on training and interaction with experts in the field.

- Well defined learning path may be formulated to groom officers for various roles.
- Outcome based learning framework should be adopted. Proper monitoring of outcome should be conducted. Impact assessment to be done
- Goal should be such that each officer becomes so capable that he could train officers in multiple subjects and become a specialist.
- Mandatory training after some pre-defined period during service period.
- Imparting training on the basis of recommendation for officer in his APAR.
- Linking of training program with career progression of ITS officers
- Selection of trainees / candidates (target segment).Foresee / project the needs in short term/ long term. Selection of repository / trainer matching the needs on the best efforts basis.
- Evaluation-at the conclusion of training program. After a certain time gap to assess whether the training imparted had made any appreciable impact.
- Hand holding by trainers (if required) through interactive groups (WhatsApp).
- Training should be imparted in the relevant areas and after the training the officer should not be immediately transferred to other job responsibilities.
- For ITS officer mid-career training on public policy, governance and management may be introduced at premium institutes like LBSNAA-Mussoorie having training modules from other institutes.
- Regular refresher training at premium institutes of the nation and foreign training institutes may be given. Collaboration with foreign institute of excellence

- There could be short modules of popular courses running a number of times every year. Officers may be nominated by office or they may enroll themselves on their own initiative, as per their current areas of interest.
- These “on demand “training may be better in terms of creating interests and relation of what has been shared.
- The training module should be relevant and crisp. Online training modules should also be started.
- Expertise in technology best practices can be included (if needed subject matter can be added in the course in mid training).
- The evaluation can be modified to meet the desired outcome of grooming the trainees into responsible officers. As a test case some mock activities should be mandated to streamline our knowledge towards the required activities expected from us after joining formally.
- On job training is recommended, in place of field attachment for better understanding of practical knowledge.
- The content of classroom training can be aligned with forthcoming field attachments and then trainees can be given full charge in field postings.
- The training material should be available at NTIPRIT online portal.
- A mechanism of regular interaction with all stake holders.
- Speakers from outside must be increased.
- Certification courses can be included.

B. Training Design

- At least two week training/refresher courses in a year may be made mandatory for all the officers-not only to keep them up to date but also to give them wider perspective from their day to day job.

- To understand good practices adopted by different countries in the world, a study tour of such countries may be incorporated in the department training courses.
- Training duration may be short. Design of course may not look exhaustive. Practical session should be more. Trainer should be well trained on subject and giving training. Overall atmosphere of training place should be calm and natural.
- Practical session may be kept more than theory to work in different fields.
- More field visits. More field experts from participating industry, vendors, TSPs.
- Training program should be designed in such a way so that the officers of DoT are having exposure of other ministries / departments.
- Training should be more practical oriented than theoretical oriented. More practical part as compared to classroom training as far as technology related topics.
- Foreign training is needed to understand telecom scenario abroad. Foreign training component may also be added like already offered in training group of other group 'A' services.
- Foreign training component is also required to be incorporated as a part of Induction training to have an international exposure.
- Training program must be designed to meet the current and official requirements.
- Training programs for JTOs may be increased to one year. The emerging technologies like cyber technology, 5G technology etc may be included in training courses.

C. Training Contents

- More training opportunities in emerging technologies / policy formulation / monitoring and regulation would be a welcome step forward.
- Training program should be designed so to keep pace with latest developments like quantum computing is picking up and will be relevant to all the section. Artificial intelligence and 5G are upcoming fields. The course should be updated to include currently relevant technologies such as Block chain, IoT, AI etc.
- The middle level and the top level officers should be imparted training on leadership qualities and effective decision making keeping the public good in mind.
- Experience from the field/use cases should be taken up rather than theoretical content.
- Training may be more towards case studies, regular department working, and government working set up in general. Citizen centric approach, application of new technologies for problem solving may be infused.
- Meditation, health consciousness part may be explored and introduced in future training program
- For senior officers topics related to policy formation are required in more detail. Need more emphasis on policy matters as well as solution provisions for present telecom scenario is needed.
- Behavioral training, communication improvement modules need to be included. As officers are lacking basic skills of communication in comparison of officers of other ministries.

- Technology and process are changing very fast so design of content should be relevant to current needs.
- Training should be provided in latest technologies and management skills from time to time at quality institutes.
- Case study based approach should be adopted for imparting training. Include case studies to discuss real time ICT challenges by forming closed group to develop unique solutions.
- Complementary field visits to labs, training institutions, incubation centre etc to better appreciate the training material.
- Some field visits / industry visits can also be organized to make officers understand and visualize the real time working of technologies and devices working on them.
- Skill set should be developed so that more officer type qualities, field exposure are increased on ITS officers.
- Including introduction of new technologies, importance should be given to role of DoT in all new technologies.
- More emphasis should be given on administrative part like noting, drafting, other office related procedures should be taught. Training on drafting of notesheets and report preparation should be included in more comprehensive way.
- Development of leadership qualities , managements of subordinates etc
- Dedicated modules related to Development of tender RFP, EoI, Policy papers etc should be given.

- Inter linkage between a particular technology and related regulation, public policy issues and social impact should be covered during different technology modules.
- Most important is to develop proper institutions and training modules considering future technology innovations to present scenario. Subject matter from various academia, institutions, and departments should be arranged for providing training.
- Specific programmes of future communication technologies should be introduced and the details of that particular technology should be introduced.
- Functioning of the government, Cabinet notes preparation etc
- Role of other ministry while taking decision in DoT.
- Role of NITI AYOOG and how they collect data.
- Practical session of old technologies such as 2G, 3G, PSTN should be included instead of theoretical classroom sessions.

D. Training Institute

- Infrastructure of training centre needs improvement with the application of modern technologies.
- NITIPRIT should have dedicated training facilities, it should upgrade its infra to world class level. Should attract the participation from all around the corner i.e. government, Industry, international customers i.e. from foreign government delegates as well as international delegates.
- There is not a single lab in NTIPRIT. Develop labs for giving exposure to latest technologies in telecom field

- NTIPRIT should be transformed into telecom academy having labs on latest technologies right now only theoretical knowledge is being interpreted to OTs.
- Firstly infrastructure should be at its best level in both classroom and hostel so that trainees will remain comfortable and focus on training. Till the basic facilities will not be fulfilled like good washroom facility at NTIPRIT, lively hostel condition, better food and mess condition, the learning can't be improved.
- The infrastructure, most importantly hostels are below par-basic facilities like food, study table, lighting, washroom, Wi-Fi are not properly available. As per the classroom are concerned, only one room is at par which is changed time to time.
- The Training centre should be at capital city. Presently NTIPRIT is far off from Delhi. Moving to Delhi may improve participation.

4.10 What measures/steps should be taken for development of NTIPRIT as Centre of Excellence?

As NTIPRIT, Ghaziabad is the main training centre shouldering responsibility of imparting training to ITS Group 'A' and TES Group 'B' officers of DoT. To make it, as world class Centre of Excellence in Telecommunications sector, suggestions were sought from respondents. An overwhelming suggestions /recommendations were received from participant officers in response of this open ended question. Almost all respondent are of opinion that NTPRIT should have its own building/campus with proper Infrastructure, labs, adequate funds, sufficient manpower, domain experts, well designed course curriculum etc. for making it as a centre of excellence in telecommunications sector. Responses

received are categorized in different sections like; Infrastructure, Course Curriculum, Manpower, Budget/Fund, etc, are listed under:

A. Infrastructure

- As the present facility is a sharing arrangement with BSNL, therefore, it has various limitations and affecting training out comes. DoT should take over the campus from BSNL and if it is not possible then at least sufficient space etc. may be taken over. Also lab facilities, having state of the art technology equipments may also be provided.
- The whole infrastructure of ALTTC, which is under control of BSNL, should be taken over by DoT and refurbished in order to make it Centre of excellence and can be associated with regional ITU so as to facilitate training for regional countries coming under ITU regional south area.
- More important is the infrastructure. It is suggested that ALTTC and RTTCs of BSNL should be taken over by NTIPRIT to fulfill the training need of the country.
- Hostel and the surrounding environment in the campus needs to be improved
- Latest labs shall be opened with focus on key technologies like AI, Big Data, M2M, 5G etc.
- The institution should have self-sustained labs in existing technology infrastructure as well as enough scope for emerging technologies to develop and evolve.
- Establishment of test beds at NTIPRIT.

- The class room could be air conditioned to meet the requirement of extreme hot and cold weather in Ghaziabad. The hostels should also be air conditioned for better health of participants.
- Infrastructure should be developed to provide comfortable stay and facilities to the participants. Sports facilities should be developed in campus.
- Training infra should be world class on similar lines to other civil service institute in India and as per other cadre institutes.
- A robust infrastructure / an independent campus is essential for providing the excellence training
- Proper residential accommodation along with sports / club facilities may be provided in campus.

B. Course Curriculum

- Training in priority areas such as 5G, IoT, AI, Quantum Technologies, Big Data etc with adequate lab facilities either In-house or in- partnership with other TCOEs, like IITS, IISC, CeBIT etc.
- May participate in skill development program of Government of India. May start certificate courses for professional.
- Tie up with premier academic and training institutions for course development and course conduction.
- Approach to various ministries for getting the courses imparted to their employees related with ICT sectors.
- Course designed / planned should be contemporary in nature rather than outdated on less sought after 'courses'.

- Different modules of future technologies should be prepared and some more informative session should be started and also documents should also be provided.
- NTIPRIT should conduct more courses and seminars in the view of rapidly changing technology trends and the challenges in security / regulations.
- NTIPRIT needs to organize seminars and conferences on issues related to policy research and assimilation to new technologies like AI into Indian environment.
- NTIPRIT needs to organize seminars and conferences on issues related to policy research and assimilation to new technologies like AI into Indian environment.
- Regular training for policy / administrative field should be introduced in addition to technical module.
- Regular training modules pertaining to administrative aspect should be included.
- Training modules should be redesigned so that they are relevant to current job profile.
- Regular visits should be conducted by top government officials for various sessions.
- Sessions on emerging technologies need to be conducted. Telecom security related modules / labs/ faculty from other domain specialized units, needs to be involved.
- ITEC courses may be increased and conducted in the NTIPRIT.
- Start conducting Webinars also Start systematic training

- Courses of relevance in today's time. To train with latest and trending technologies
- The course details may be intimated to all ITS officers irrespective of organizations.
- Bookish knowledge should be discouraged. Therefore more and more domain experts from manufacturing sector (telecom) should be invited to deliver the lectures.

C. Administrative & Financial Power

- It should be given more grants and powers.
- To empower officers of NTIPRIT in terms of decision making and financial powers.
- The administrative and financial powers of HoD should commensurate the equivalent level officer in government of India

D. Manpower

- Faculty of NTIPRIT may also keep themselves updated by attending different national/international seminars /conferences /training program.
- NTIPRIT faculty shall be having more field knowledge and should have adopting latest technology.
- The posting of officers in NTIPRIT should be based on certain stipulated academic criteria.
- Overhauling of faculty members and rotational induction of new faculties over 3-5 years period.
- Guest faculties who are best in their field must be called and hence the proper / suitable honorarium must be paid.

- Technical experts from other countries should be called. Speaker from specialized field areas should be invited from other institutions
- Sufficient supporting staff as well as full freedom in terms of administrative / financial powers.
- Focus should be on creating domain experts. Faculty must be trained internationally.

E. Facilities

- Library / news reading room should be provisioned.
- Learning resources like journals, newsletter etc. are required to be provisioned for up gradation of both faculties and participants
- Video conferencing hall may be provisioned.
- Sports facility with cultural club shall be provided. Sports and other extracurricular facilities to be made more important part of training.
- Provision of Broad Band internet connection of high speed for trainees in the hostel and classroom
- Laptop to individual trainees in classroom

F. Miscellaneous

- As world is moving towards digital revolution, NTIPRIT can act as nodal communication training centre for all central government departments. So all necessary infrastructure and sufficient teaching staff may be posted to NTIPRIT.
- NTIPRIT can act as focal point to provide quality training to all stake holders in telecom including BSNL/MTNL/BBNL and all other private operators.

- NTIPRIT can organize frequent training programs for the ITS officers working in all organizations
- An independent campus may be developed, preferably at Delhi or Noida, at place which is well connected with central Delhi through Metro service.
- NTPRIT should have its own building with proper funds. Improving the Infrastructure and proper manpower will itself solve many bottlenecks.
- NTIPRIT may be expanded as Telecom Training University.
- Coordination between other training centres of other Group 'A' services should be increased.
- Collaboration / MoUs need to be done with domestic / international academic institutes / industries. Collaboration with expert faculties from reputed institutions, Government departments and industry.
- Policy, research and innovation wing of NTIPRIT should work in close co-ordination with TEC for further enhancement in excellence of institute. (In order to do this , TEC may be shifted to NTIPRIT campus for better coordination and hand on practical experience with emerging technology)
- National Telecom University can be a framework development of NTIPRIT.
- Study and research wing of TEC should be transferred to NTIPRIT to make it centre of excellence
- Public and private partnership. Outsourcing of non-core activity. Lot of emphasis on policy research. Certification in cyber security, audit, etc.

4.11 Suggestions for improvement in Training of Telecom Officers

Suggestions were called from participant officers by this question in regards of following items for improvement in training of Telecom Officers:

- a) Course & duration
- b) Course contents
- c) Course design
- d) Field Visits/ Tours
- e) Infrastructure /Facilities
- f) Any other items or the suggestions

Responses received are listed under individual head.

a) Course & duration:

- Course duration should be preferably one week for In-service course.
- Duration of induction training for ITS Officers Trainees should be 1 year for classroom and foundation course, next year- OTs be sent on OJT (on job trainings).
- Course of one year for probationary officers can be distributed in two parts. First six month basic knowledge of department. Second six months specialization.
- Duration of JTOs' Group 'B' Induction training should be increased at least 1 year instead of 30 weeks.
- What are the new trends be known to every officer. 6 months training be there after every 5 years.
- At least one week training shall be imparted every 2 years as technology changes are very fast and accordingly courses must be designed.

b) Course contents:

- Government framework on policies. Policy formulation and vision of GoI may be deliberated more.

- Contents are excellent. However more on policy matters, management and decision making will be useful.
- Latest technology and trends can be added. Should focus on emerging technologies, 5G, AI, IoT etc.
- Meet the requirement of ITS officers as per the NDCP and forthcoming trends in telecom and IT
- Policy and regulation inter linking with technology should be added.
- Use of ICT in different fields like healthcare, agriculture, education etc. may be included. A course on “social improvement through ICT” may be helpful.
- Some component of training at ITUs should be made mandatory for MCT.
- Courses with e-learning modules may be included by NTIPRIT.
- Involvement LSAs (best practices) can be increased in order to gain field knowledge.
- Course of personality development be included

c) Course design:

- Course design and course content is an important aspect to impact training to trainee. The gap of the knowledge required for officer should be drastically assessed with feedback mechanism and the course content and design may be completed / designed accordingly.
- Course should be designed keeping in view the arguments of the target segment.
- Focus on capacity building of officers rather than theory knowledge of engineering subject.

- Interactive approach to be followed for training. Latest development should be covered. Long foreign visits to be added. Infra should be of global standards.
- Well customized for different level of officers. Customization based on audience is needed
- Course may be redesigned as per latest technological trend, covering conventional technologies as well.
- Hands on training to be increased.
- Practical training should also be included for better exposure
- Interactive modules, more practical and interactive seminars
- A course on “role of ITS officers in taking forward the vision of government depicts in NDCP 2018” may be planned.
- According to global standards
- case studies and group activities to be included

d) Field Visits/ Tours:

- Visit to the academic institutions relevant to the course content
- Rural and remote areas of the country like North-East, islands, forward/border areas.
- Compulsory in all long / Mid / short trainings
- More field visits should be arranged Field visits to service provides technical establishments and officers be organized and one foreign nation which is having state of the art technical status.
- Foreign training in developed countries should be included
- 30-40% of course should have hands on training

- It should be on regular basis for the training program designed in proportion 1/5th of the period.
- May be increased as it gives exposure to real time / practical working.
- Some more visits to TSP's premises to understand the practical aspect
- Foreign training for ITS be included in induction training.
- Field tours and attachment with BSNL for JTO batch should be included.
- More number of field visits should be included in JTOs training.

e) Infrastructure /Facilities:

- NTIPRIT infrastructure should be improved.
- Better infra/facilities needed to create positive environment
- Labs (IoT, M2M, 5G etc) are required to be provisioned
- Hostel, mess, sports, newspaper, entertainment facilities should be improved.
- An e-learning with up to date data base may be created under NTIPRIT
- Subscription to knowledge journals may be taken up at all levels.
- Have one training institute in every major state capital.
- More focus needed on hygiene.
- Needs gym, swimming pool etc.

f) Any other items or the suggestions

- TA/DA issues for NCR region should be well defined for training in NCR
- BSNL/MTNL ITS officers should be called for the courses quite often so that they can contribute more in framing policies/ guidelines.
- Mandatory for once in a years and should be a point in APAR as in case of property return.

- A mechanism to evaluate the impact of the training, post training program after say a few months.
- Rotational and Rostered service training on regular basis equal for all and mandatory part of services.
- Every officer must be mandated to undergo a specified period of training every year.
- Training infra at NTIPRIT needs to be overhauled holistically. Course duration and course content need to be revised. More field visits are to be included in curriculum.
- In course cultural activities can be added. Official sports activities can be added.

PART II: Analysis of Responses Received from Faculty of NTIPRIT and Training Division of DoT

The responsibility of planning, organizing and conducting training programmes for Telecom officers lies on NTIPRIT and training division of DoT. Therefore, a separate questionnaire was sent to them to get responses about present status of training being conducted for Telecom Officers, training needs of Telecom officers in current scenario and the challenges being faced by the department in implementation of recommendations of National Training Plan-2012.

The responses received on different issues/matters are detailed in succeeding paragraphs:

4.12 The details of the training held for Telecom Officers (Group 'A' and Group 'B') in last five years:

As per NTP-2012, Training interventions are required in the career span of the employees to build / upgrade requisite competencies. Therefore, information was sought from Faculty of NTIPRIT and Training division of DoT about various training interventions happen in the career span of Telecom Officers. Information received is indicated in Table 4.1 and 4.2.

Telecom officers undergo various training programmes in their career span like; Induction/ Foundation Training, In-service courses (Short-term thematic Training Programme), Long-term Training Programme, Workshops/ Seminars/ Conferences etc. Some trainings like Induction Training, Mid-career Training, Orientation training (part of induction programme) are mandatory for Telecom Officers but others trainings are optional and officers have to apply at their own initiative to get sponsorship from department for attending the programme.

Table 4.1: Detail of training programmes

Categories of Training conducted for each cadre	Whether mandatory or optional	Duration of the Training
Induction/ Foundation Training	Mandatory	Group 'A'-2 years Group 'B'-6 months
Mid-career Training Programme Levels	Mandatory	1 week/ 2 weeks/ 3 weeks
Short-term thematic Training Programme	Optional	1 week to 2 weeks
Long-term Training Programme	Optional	1 year
Orientation Training	Mandatory	1 week
Foreign Training	Optional	Depends on program.
Workshops/Seminars/Conferences	Optional	1-3 days

Table 4.2: Detail of training programmes conducted/attended

Categories of Training conducted for each cadre	2015-16		2016-17		2017-18		2018-19		2019-20*	
	'A'	'B'	'A'	'B'	'A'	'B'	'A'	'B'	'A'	'B'
Induction/ Foundation Training	77	615	44	750	17	436	42	780	44	715
Mid-career Training Programme Levels	\$	\$	\$	\$	\$	\$	\$	\$	8	210
Short-term thematic Training Programme	6	52	9	128	3	34	10	133	9	186
Long-term Training Programme	-	27	-	12	-	15	-	17	-	27
Orientation Training	2	32	1	33	1	34	-	-	1	15
Foreign Training	#	#	#	#	#	#	10	19	10	12
Workshops/Seminars/Conferences	5	157	1	15	-	-	1	28	2	30
<p><i>Note: 'A' - Number of programmes conducted in that category</i> <i>'B' - Number of Participants attended that Programme</i> <i>Source of data: Annual Reports from NTIPRIT website and data from Training division of DoT and DoT website, # Data not available, \$ No programme conducted in that year, * Data up to Feb,2020</i></p>										

Table 4.2 indicates the details of training programmes conducted at NTIPRIT Ghaziabad for Telecom Officers or programme attended by them in other institutes or establishments. This shows that apart from Induction training programme which is mandatory for officers joining the service; various other programmes like Short term In-service courses, Seminars, Workshops, Conferences are also conducted time to time.

It is worth to mention that mandatory Mid-career training programmes for ITS officers have also been started conducting from July, 2019. Officers are also nominated for attending Long term training programme every year in institute like MDI, IIPA, TERI, IIM etc. Some officers also go for foreign training under various international training programme organized by ITU, APT etc.

4.13 Details of expenditure on training of Telecom Officers and their total salary budget of last five years.

National Training Policy 2012 recommended that each department should set aside at least 2.5% of its salary budget for training. Therefore, the details of Annual expenditure on training of Telecom Officers and their Annual Salary budget were sought from Training Division of DoT HQ and NTIPRIT for last five years. However, annual expenditure data for last three years only could be provided.

As there is no separate head of account to book expenditure on training, therefore, expenditure booked for NTIPRIT in different heads like; Office expenses, Professional expenses, Domestic Travel expenses etc. were taken to arrive at approximate expenditure on training that year. In addition to that, expenditure detail provided by Training Division on long term programme is also included to find out total expenditure.

Similarly, as head of accounts for salary is units specific and no separate exclusive head of accounts of salary for Telecom officers is there, therefore, data available in salary heads for different units in Demands for Grants of Department of Telecommunications for the year 2019-20, 2018-19, 2017-18, was taken to arrive at annual salary budget of Telecom officers proportionally.

As mainly Telecom officers are posted in the field units (LSAs) and specialized units (TEC/ NTIPRIT) of DoT, therefore, data of salary heads of the respective units in Demands for Grants, is taken as salary budget of Telecom Officers of that unit. However, at DoT HQ, apart from Telecom officers, many other officers of different cadres like P & T finance, CSS etc., in sufficiently large numbers are also posted. Therefore, to find out salary budget of Telecom Officers posted at DoT HQ, prorate of salary budget of directorate of DoT HQ was taken.

Table: 4.3 Detail of expenditure on training of Telecom Officers and their total salary budget

	2017-18	2018-19	2019-20
Total expenditure [#] on training (Approx.)	5.5 Cr	5.7 Cr	6 Cr*
Total salary budget [§] of Telecom Officers (posted at DoT Hq, LSA, TEC)	~150 Cr	~178 Cr	~186 Cr
Expenditure on training as a percentage of total salary budget	3.67%	3.20%	3.23%

Note- *§ Demands for Grants of DoT for year 2019-20, 2018-19, 2017-18*

as provided by accounts section of TEC and Training Division of DoT

** Data up to Feb, 2020*

Table 4.3 indicates the detail of training expenditure and salary budget of Telecom Officers for last three years. Although, these are approximate data,

however, expenditure on training as a percentage of salary budget comes out about three percentage, which indicates the DoT makes sufficient provisions for expenditure on training of Telecom Officers.

4.14 The percentage of nominated officers attending the training programmes and the possible reasons for not attending the programme despite being nominated:

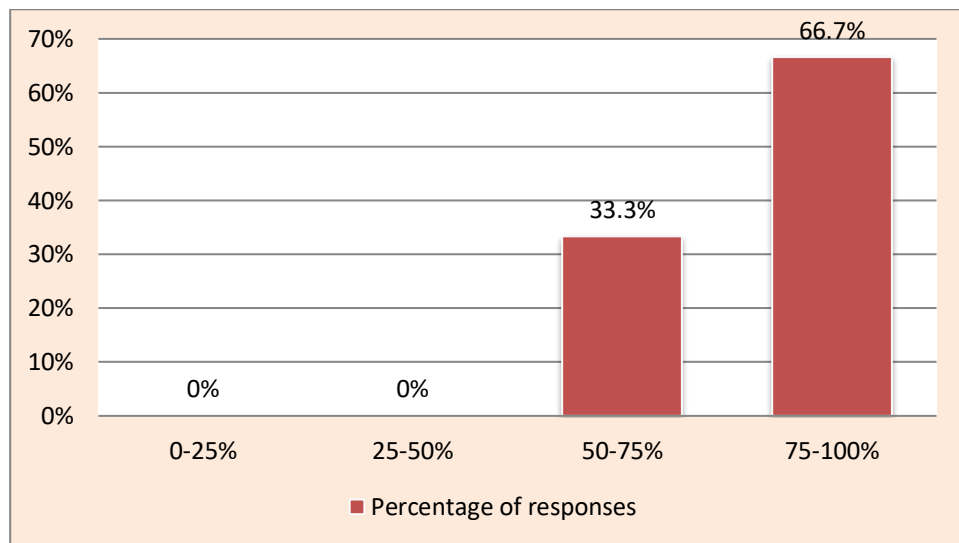


Fig. 4.31: Percentage of Nominated Officers who attend Training Programmes

Faculty members were asked for how much percentage of nominated officers attended the training programmes for finding the level of participations, which indicates success of training objectives. 66.7 % of respondent opined that level of participation is in slab 75-100%. However, 33.3% opined that level of participation is only in range of 50-75%.

This highlights that the level of participation of nominated officers is lower than the expected. The non-attendance by a significant number of officers increase overall cost of training per participant, under-utilization of training resources, lowers enthusiasm in faculty as well as participating officers.

The respondents were also asked to rate the identified reasons for low attendance in training programs on a scale of 1 to 5 (1 being lowest – Insignificant and 5 being highest - Very Significant).

The graphical representation of the weighted average of the responses is presented in Figure 4.32.

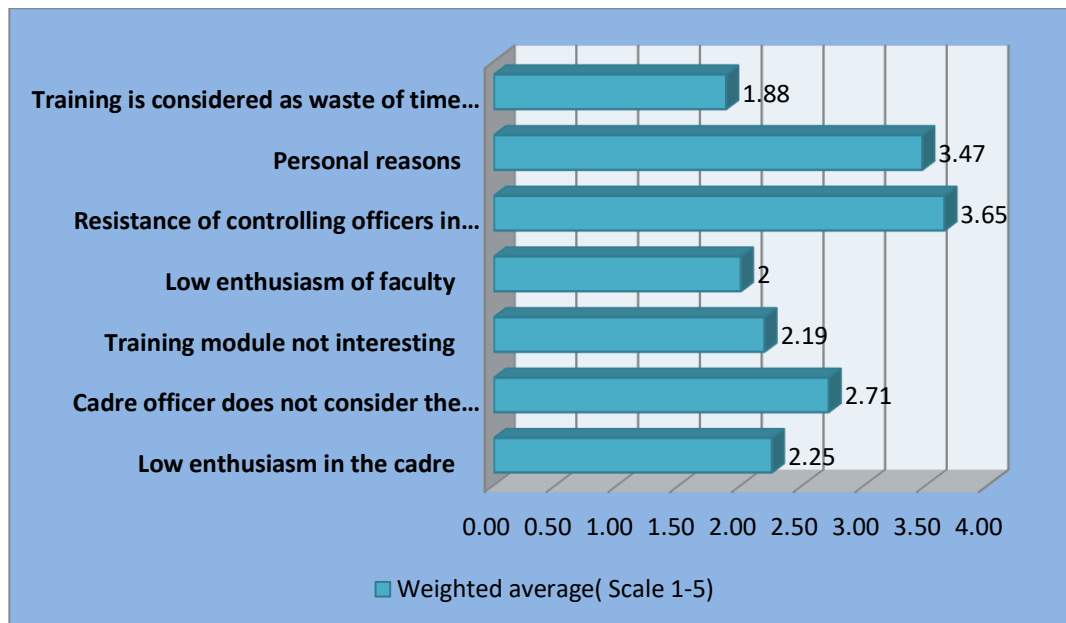


Fig. 4.32: Ratings of Reasons for not attending training by nominated officers

Personal reasons of nominated officers and Resistance of controlling officers in reliving nominated officers have emerged as the top two significant reasons for non-participation in training programs, despite nominations. Other reasons, though marked as low in significance, are Cadre officer does not consider the training programme to be useful, low enthusiasm in trainees and training module not interesting. However, all these factors need to be seen collectively as they contribute to success of the training programs and its objectives.

Faculty were also asked to specify any other information which is significant in their opinion for poor participations in training, the reasons given are listed under:

- Un-availability of proper and decent hostel rooms suitable for stay of senior officers.
- Officers are not sure about the practical application of training imparted in their actual field of work.
- Un-availability of fund for giving TA/DA advances also sometimes creates issues for officers not to attend the program.
- Due to over-dependence of office on some officers, sometimes officer could not be relieved.
- Other logistic issues .

4.15 General Feedback of the training programmes by faculty and training division

The views/ opinions of Faculty and Training divisions were also taken on overall training programmes of Telecom Officers. Their view/opinion on training need analysis(TNA), linkage of the training programmes contents to job profile, design of training programmes, training material provided, method of evaluation adopted, level of interaction between the faculty/speakers and trainees, about training facilities, infrastructure, overall feedback are detailed under:

4.15.1 Training Need analysis for the training for telecom officers

Training Needs Assessment (TNA) is very much essential for development of competencies for the Telecom Officers, taking into consideration the specialized needs for the cadres, as per National Training Policy, by adopting a systematic approach to training at the various stages of their career progression for their effective utilization to Department of Telecommunications.

Therefore, views of faculty/ training division were taken on this important aspect. Responses received are indicated in Fig 4.33 shows varied opinion, 26.3 % officers opined as TNA satisfactory but equal percentage opined it Unsatisfactory. 21.1% officers as Very Good but, 15.8% as Good and 10.5% as Excellent. This indicates more efforts are required for improvements in TNA for desired outcomes.

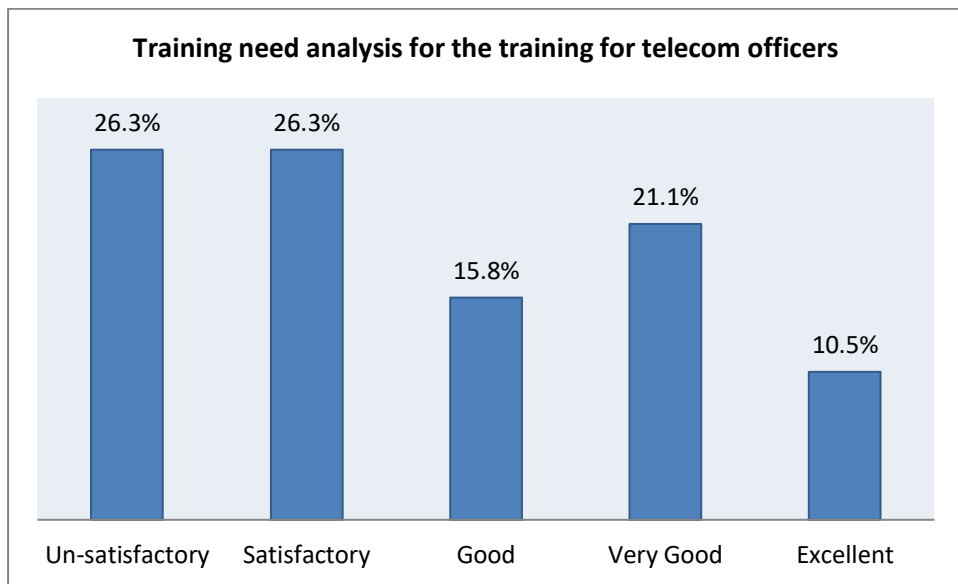


Fig. 4.33: Response on Training Need analysis for telecom officers

4.15.2 The design of training programmes-Faculty view

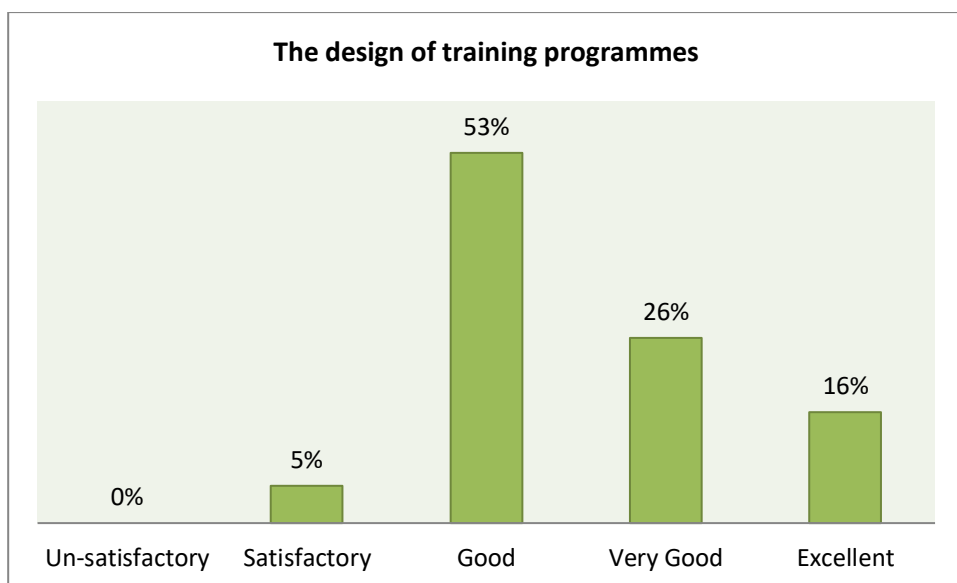


Fig. 4.34: Faculty response on design of training programmes

Response of faculty and training division in regard of design of training programmes is indicated in Fig 5.34. 53% respondent opined that design is Good, 26% as Very Good, 16 % as Excellent. Therefore, further improvement is required in the design of training programmes.

4.15.3 Training material provided during the training courses- Faculty view

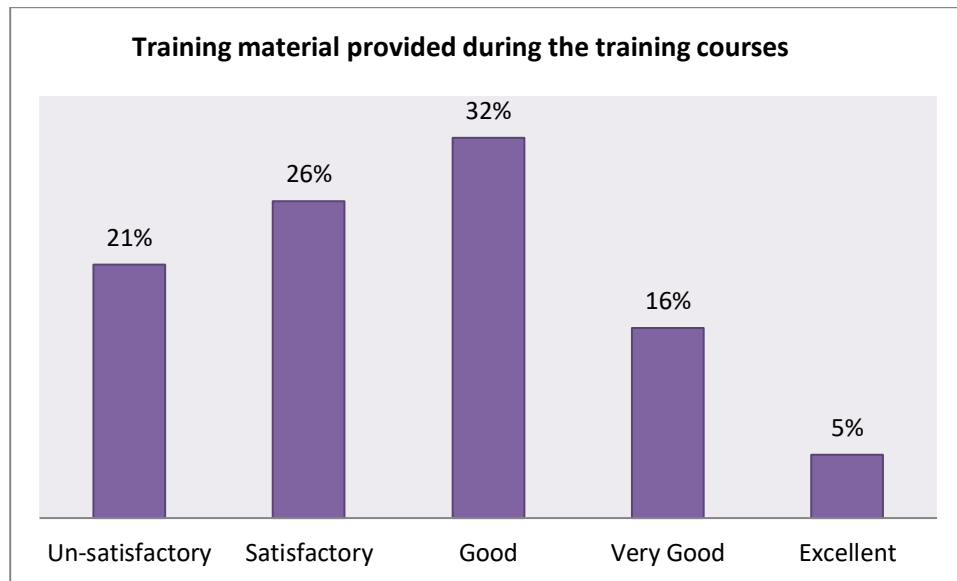


Fig. 4.35: Faculty response on Training material provided during the training

Opinion of faculty was sought on the provisioning of training material to the trainees. Response received in Fig 4.35 indicated that 79% respondent has rated either Good or Satisfactory or Unsatisfactory, that implies more efforts are required for improvements in case of training material.

4.15.4 The method of evaluation adopted for the training conducted- Faculty view

Method of evaluation of training is very critical part of Systematic Approach to Training for continuous updation of contents and delivery of the program, to make it relevant in current scenario. Therefore, response was sought in this aspect from faculty.

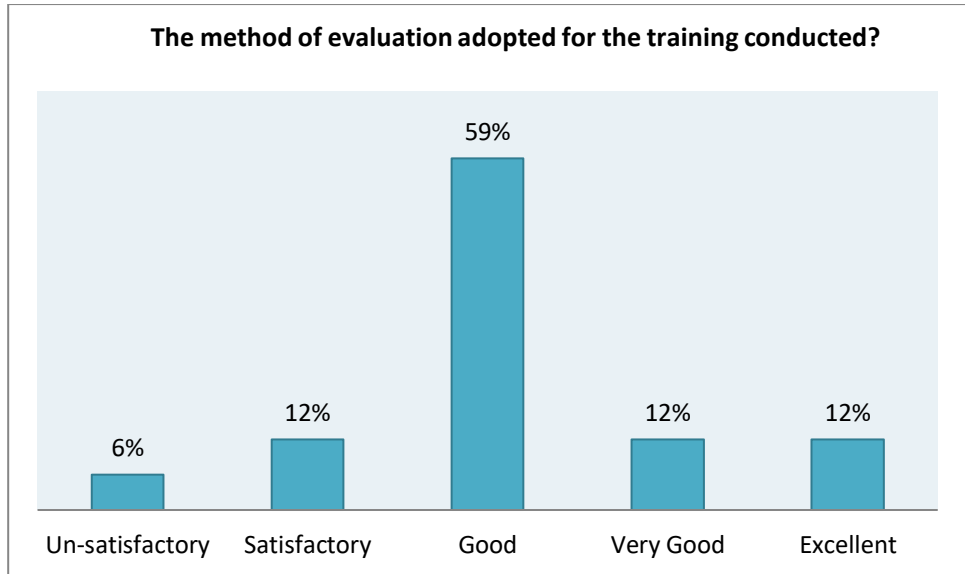


Fig. 4.36: Faculty response on the method of evaluation adopted

59% respondent (Fig 4.36) opined that method of evaluation adopted for training is Good and 12 % of respondent each opined as Excellent or very good or satisfactory.

4.15.5 The level of interaction between the faculty/speakers and trainees-

Faculty view

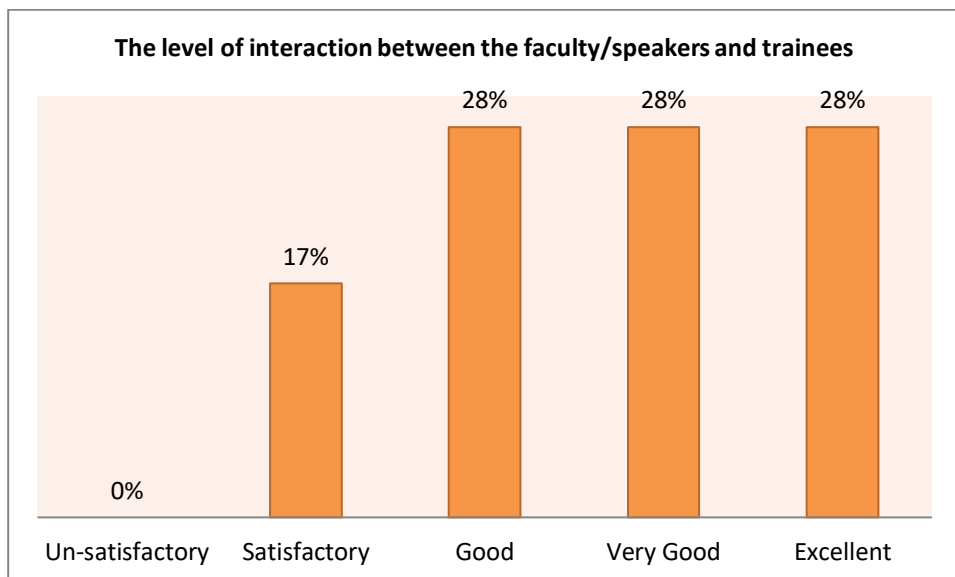


Fig. 4.37: Faculty response on the level of interaction

Faculty opinion is indicated in Fig 4.37 shows a varied opinion among faculty members about interaction with trainees.

4.15.6 The classroom sessions conducted for training courses- Faculty view

Opinion of faculty members also sought about the classroom sessions conducted for training courses. Responses received are indicated in Fig 4.38. About 59% faculty members are of view that sessions conducted are Excellent or Very Good and 35% as Good.

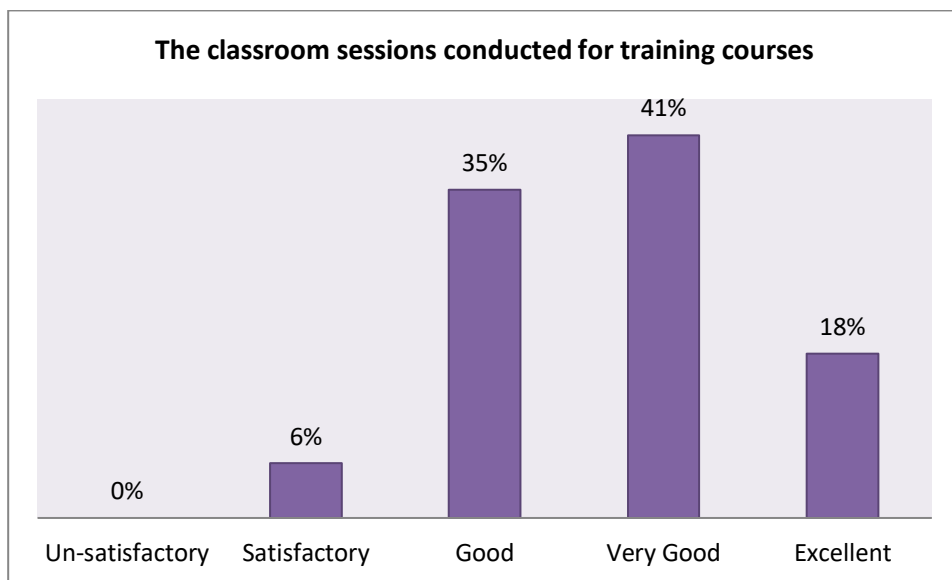


Fig. 4.38: Faculty response on the classroom sessions

4.15.7 The field training/practical training/study tour conducted during training courses- Faculty view

In contrast of opinion of trainees participants officers about field training/practical training/study tour conducted during training courses, which is indicated in Fig 4.13, Faculty view indicated in Fig 4.39, which shows that 50% of faculty members rated this as Good, 22 % as Very Good, 11% as Excellent but same number rated as Satisfactory.

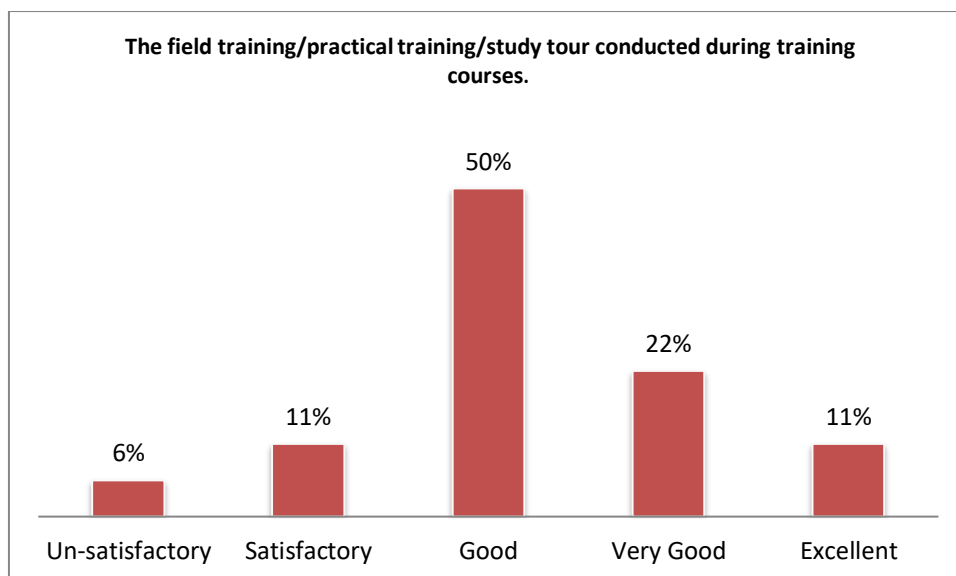


Fig. 4.39: Faculty response by on field training/study tour

4.15.8 Infrastructure availability at NTIPRIT Ghaziabad- Faculty view

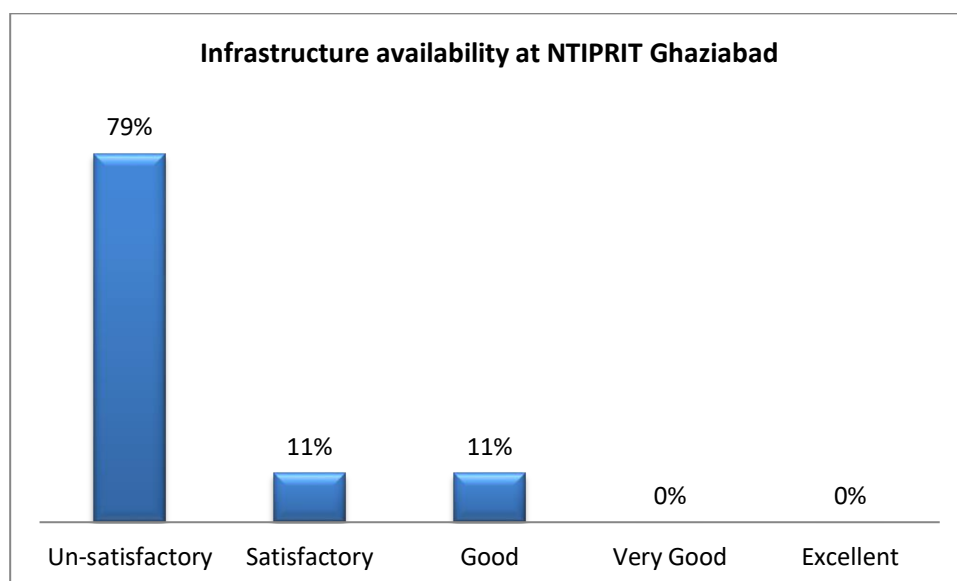


Fig. 4.40: Faculty response on Infrastructure availability at NTIPRIT

Response sought on Infrastructure availability at NTIPRIT is indicated in Fig 4.40 wherein, 79% respondents are not satisfied with the infrastructure of NTIPRIT Ghaziabad. This signifies that an immediate intervention is required by department for improvement of infrastructure of NTIPRIT, Ghaziabad.

4.15.9 The overall training programmes being conducted for Telecom Officers –Faculty view

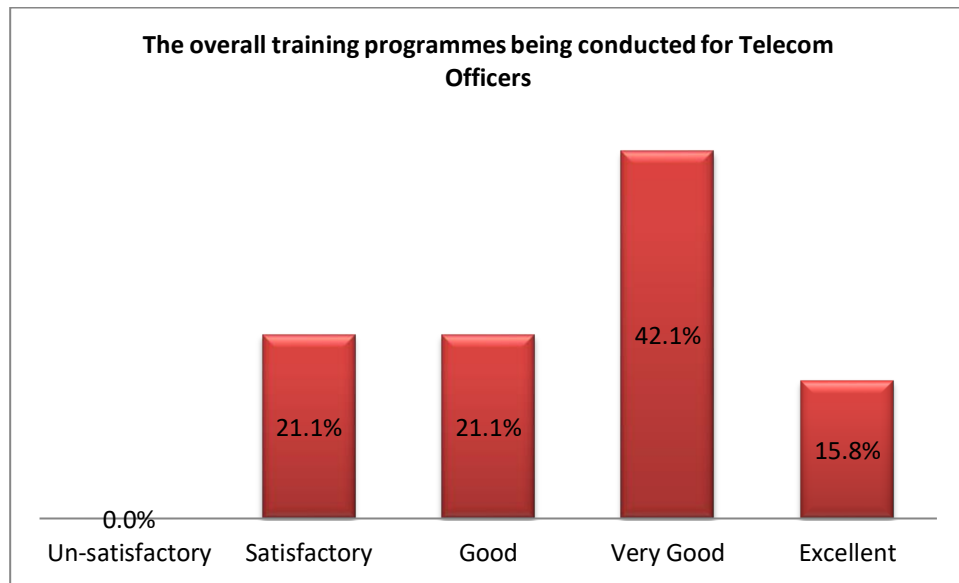


Fig. 4.41: Faculty response on overall training programmes

Opinion of faculty members on overall training programmes being conducted for Telecom Officers is indicated in Fig 4.41 42.1% opined that overall programmes are Very Good, 21.1% each rated it as Good or Satisfactory and 15.8% as Excellent.

4.16 Opinion of Faculty about Feedback mechanism

The training programmes are planned with expense of good resources e.g. time, infrastructure, budget, etc. The evaluation of trainees helps determine whether the programs are achieving their intended objectives. Therefore, it is important to collect accurate feedback about trainees as well as faculty so that the same can be made available to training planners for future course corrections.

Therefore, information about feedback mechanism was sought from faculty members. Response received, indicated in Fig 4.42, conveys that feedbacks are taken only at the end of the training programmes/modules/courses.

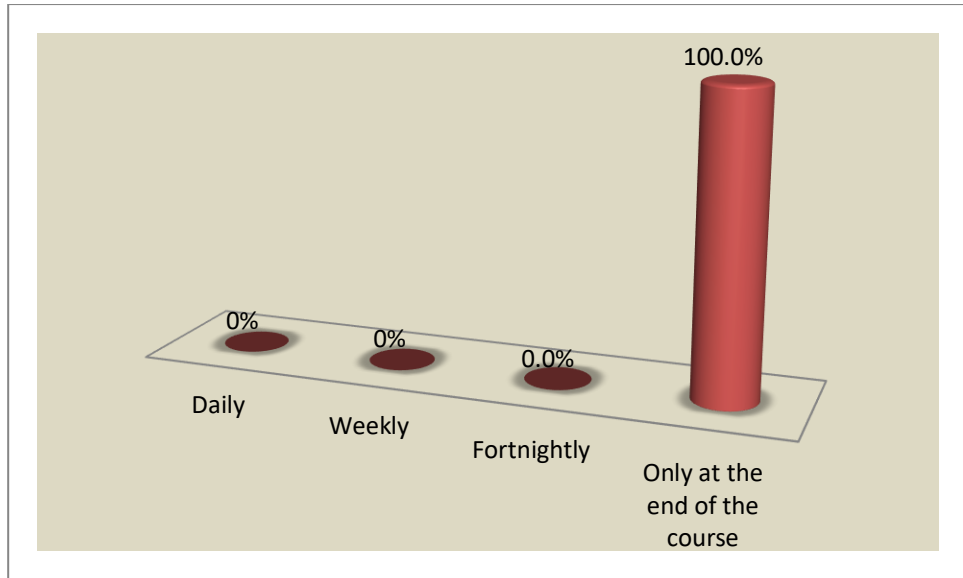


Fig. 4.42: Faculty response on frequency of feedback taken from the trainees

Response of faculty was also sought on, how is the feedback taken from the participants given due consideration? Response received in Fig 4.43 indicates that 29% faculty rated that Adequate consideration is given on feedback, 24% each rated as Average or to a little extent, 18% rated as to a large extent but 6% rated as Inadequate.

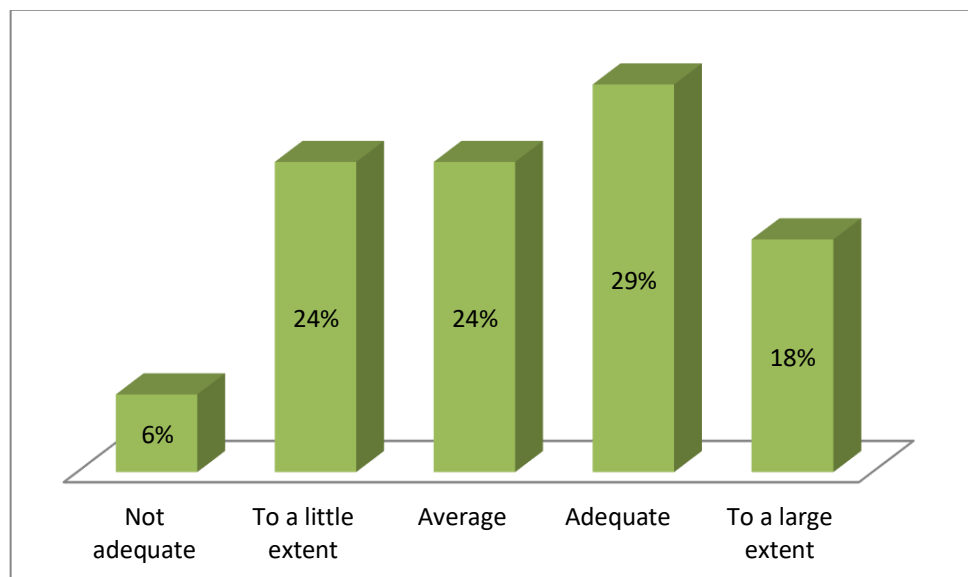


Fig. 4.43: Faculty response on consideration given on feedback taken from the trainees

4.17 Adequacy of training programmes for Telecom Officers (Group ‘A’ & Group ‘B’) to meet present requirements, opinion of faculty

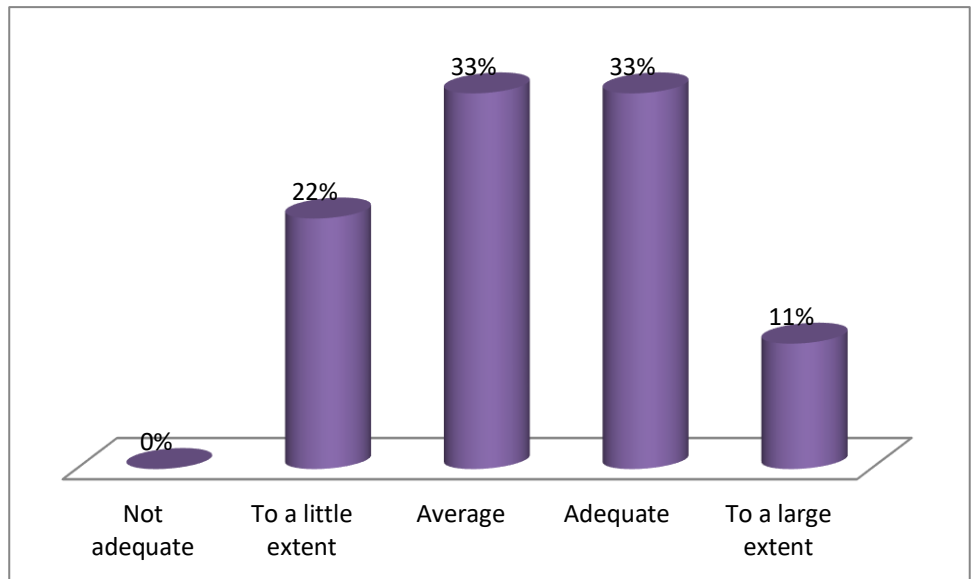


Fig. 4.44: Faculty response on adequacy of Training programmes to meet present requirements of for Telecom Officers

This question was asked to faculty members for ascertaining the present status of the training for Telecom Officers. The response received (Fig 4.44) indicates that 33 % officers opined that present training programmes are Adequately meeting the requirements however equal percentage of officers opined that it is average. 22% rated as To little extent and 11% as to large extent meet the requirements.

4.18 Competency mapping of Telecom Officers

The fundamental principle of the competency framework, as enunciated in NTP-2012, is that each job should be performed by a person who has the required competencies for that job. It was envisaged that implementation of this concept by the Ministries/Departments would bring to light the various Competency gaps of employees that need to be bridged through a range of Training interventions to enhance their performance.

To check the status of Competency framework in the Department of Telecommunications (DoT), faculty & training division of DoT were asked following questions:

- i. In your opinion, is competency mapping of Telecom Officers as envisaged in NTP 2012 necessary?
- ii. Whether the competency mapping of all the Telecom Officers has been carried out? If No, the reasons may be indicated.

Response received in Fig 4.45 indicates that 72% officers are either Strongly Agree or Agree for necessity of competency mapping of Telecom officers. 22% respondents are neutral about it and 6% are in disagreement of it.

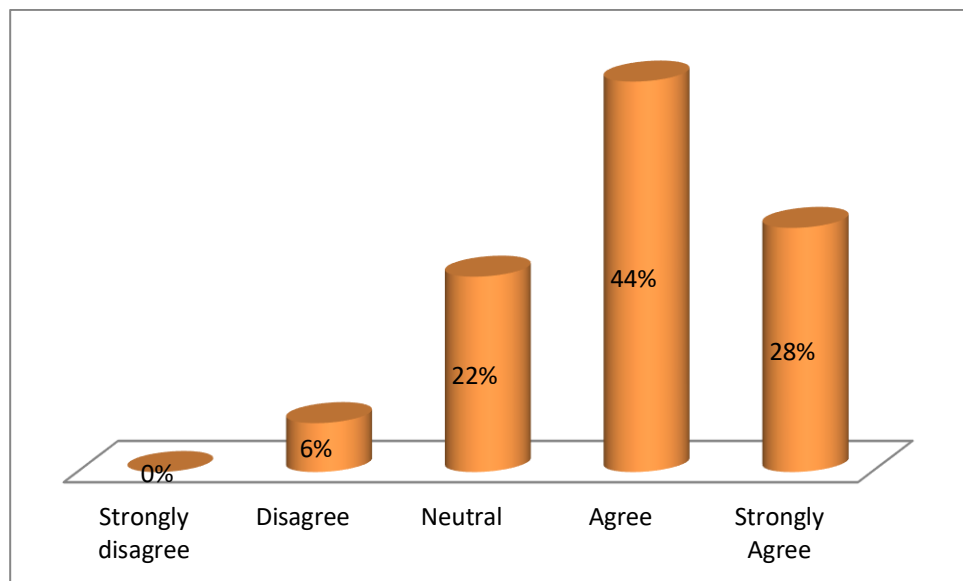


Fig 4.45: Faculty view on need of competency mapping as envisaged in NTP 2012

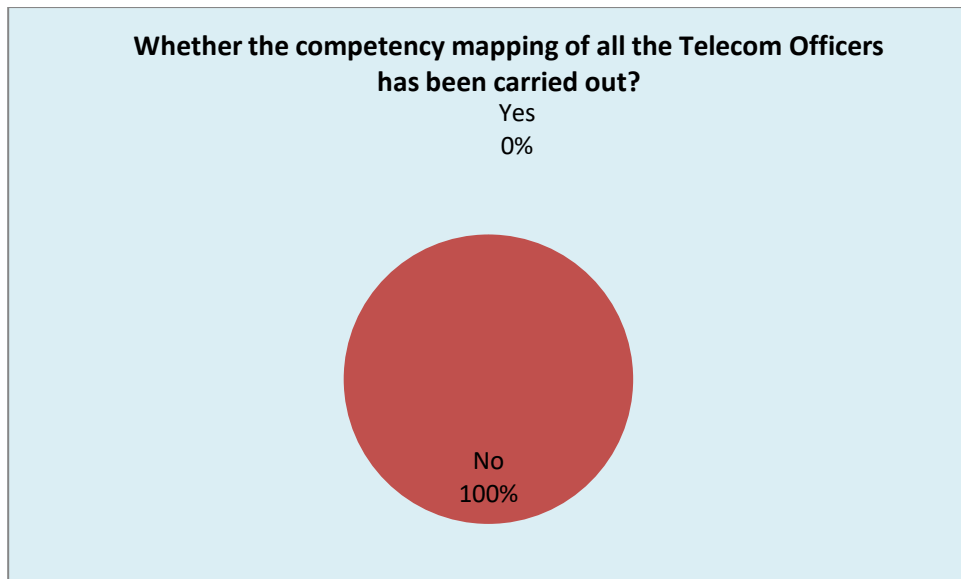


Fig 4.46: Status of competency mapping of Telecom officers

The status of competency mapping of Telecom Officers as indicated in Fig 4.46, all respondents agreed that mapping has not been carried out so far. However, training division has conveyed that work has been initiated in this regard.

Few reasons in opinion of respondents for not happening of competency mapping of Telecom Officers so far are listed under:

- The cadre strength, the jobs / works to be carried out by Telecom officers at what scale is itself debated. The turn of competency mapping comes only after above are settled.
- Role reversal of department from being an operator to a license.
- No clear demarcation of job profile
- It has not invited due weightage so far.
- A new process the department to be made aware of this
- Lack of resources and support staff.
- It may be due to the general issue of human resource and fluidity in organizational structure of different units of DoT

This indicates that though there is large acceptance of competency mapping concept, the implementation of the aspect is still a challenge in the department. This may be due to various constraints e.g. Pendency of Role/Responsibilities revisions/reassignments for Telecom Officers in the department necessitated after restructuring of the department i.e. role reversal of it from being an operator to a license, availability of resources, lack of expertise, lack of required infrastructure etc.

4.19 Cadre Training Plan (CTP) for Telecom Officers

The Cadre Training Plan (CTP) is a comprehensive training plan for the employees belonging to a particular cadre/service, to be developed and implemented by the respective Cadre Controlling Authority, incorporating suitable Training interventions at regular intervals during the entire service period after taking into consideration the various duties and responsibilities to be performed by them from the stage of recruitment to the retirement.

As per NTP 2012, the concerned Ministry/Departments have to ensure the development of Cadre Training Plans (CTPs), based on the competencies required and training needs, for ensuring that all cadres under the Ministry/Department or its attached/sub-ordinate offices have a clearly articulated scheme for the development of their competencies while also indicating the programmes that are mandatory and prepare an annual training plan for all the cadres under its control.

Accordingly, following questions were asked from Faculty/ Training Division of DoT to ascertain the status of Cadre Training Plans (CTPs) for Telecom Officers:

- Whether any Cadre Training Plan (CTP) has been prepared for ITS Group 'A' and TES Group 'B' cadre?

- If No CTP, then what are the main issues/ challenges faced in the implementation of Cadre Training Plan?
- Steps/ways to overcome these challenges.

The responses with respect to the status of availability of Cadre Training Plans, main issues/ challenges faced in the implementation and steps/ways to overcome the challenges are as under:

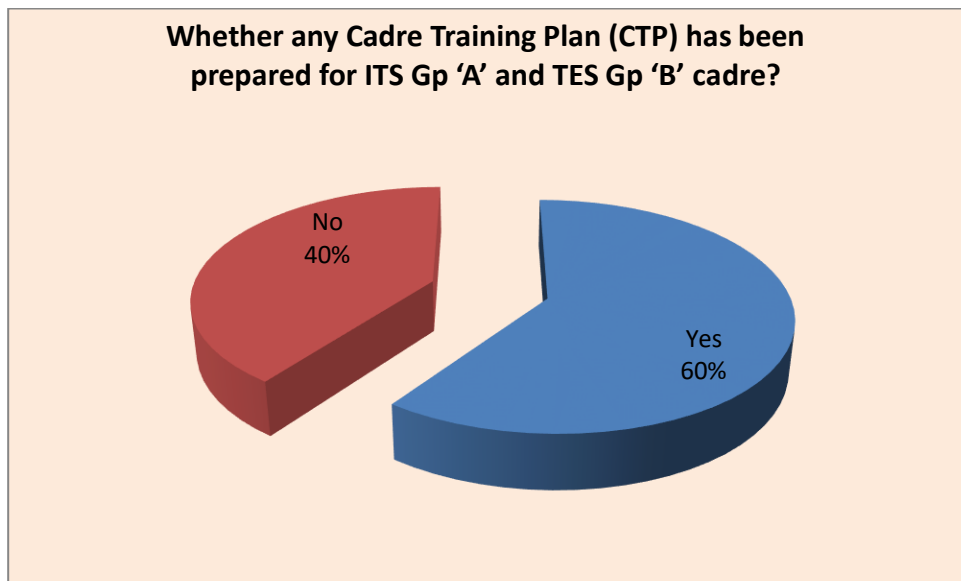


Fig 4.47: Status regarding implementation of Cadre Training Plan

Response received vide Fig 4.47 indicates that 60% respondent agreed that there is cadre training plans (CTPs) for ITS Group ‘A’ and TES Group ‘B’ officers but, 40% respondents are in disagreement of it. However, it is confirmed from training division of DoT that CTPs for both the cadre are yet to be prepared and works is in progress.

The reason for varied opinion are due to response of some officers, who might have considered that Induction training at the time of recruitment and Mid-career training programmes which have just started for ITS cadre, both are part of a cadre training plan.

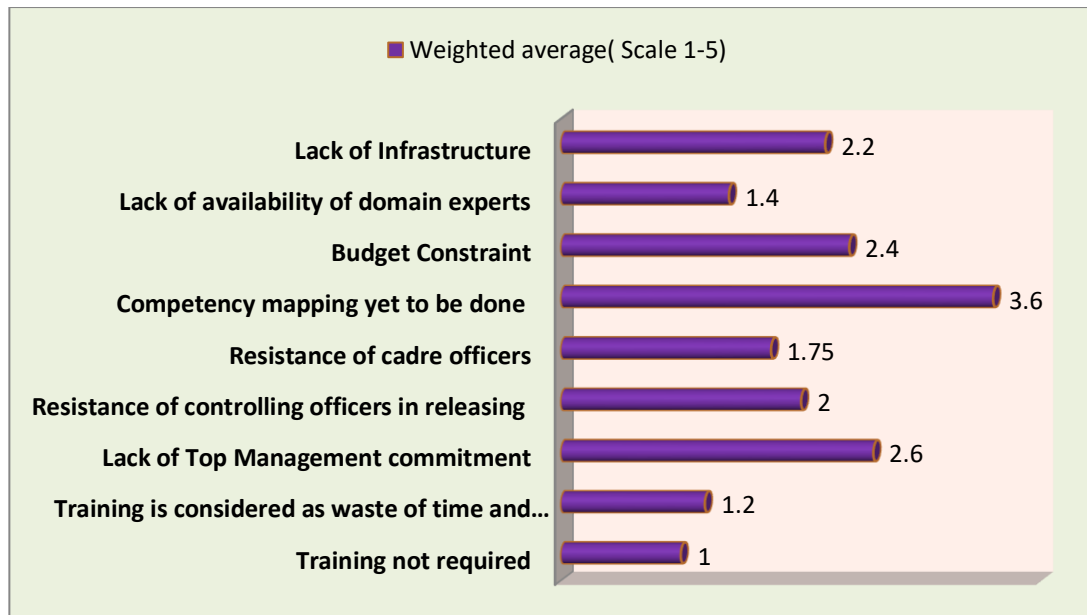


Fig 4.48: Response on issues/ challenges faced in the implementation of Cadre Training Plan

Response received depicted in Fig 4.48 indicated that Competency mapping yet to be done has got highest weighted average (3.6) in scale of 1 to 5, which is the significant factor in implementation of Cadre Training Plan. In addition to that, Lack of Top Management commitment (2.6), Budget Constraint (2.4) and Lack of Infrastructure (2.2) are also considered by respondents as significant factor in implementation of it.

Respondents also provided some ways/suggestions to overcome above challenges which are listed under:

- Cadre training plan has been chalked out in an operational manner only. It is more serene towards general management skills requirement of the officers at different levels before their promotion to next level.
- Training requirement for current and future needs of DoT in specific areas, especially new technology areas is yet to be done. It will involve identification of different technology areas in which competence could be

required for DoT in future and also identification of officers in terms of the pre-requisite experience, qualifications and interest in these identified technology areas.

- In addition, properly designed long term training program activity into different phases along with engagement of proper training institutions/academic institutions could be necessarily required for achieving the objective of the training program.
- Gather the information about all the Officers, i.e. information about previous postings, trainings, specific expertise, areas where the Officer can impart training and areas where the Officer requires training. This information may be compiled and accordingly, the training requirements of cadre may be brought out.
- Further, exposure to emerging technologies, trends, models in global scenario is essential. Keeping all this in mind, specific requirements of individual Officers may be brought out.
- DoT being technical Department, it may be made compulsory for every Officer to undergo at least one week training in a year to earn the annual increment.
- Career progression should be linked with CTP and every up gradation in duties and responsibilities may be initially covered in CTP.

In view of above observations made, it is concluded that apart from mandatory trainings like Induction Training, Mid- career trainings etc., Telecom Officers, both Group 'A' and Group 'B' require robust Cadre Training Plans to develop desired competencies in them in their career span.

4.20 Response on Mid-Career Training (MCT) as one of mandatory requirement and essential conditions for promotions-faculty view

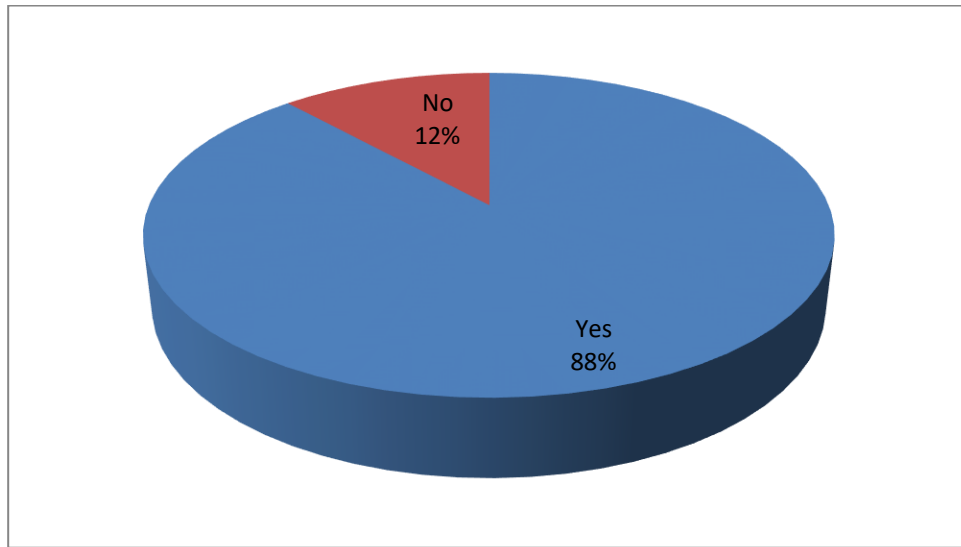


Fig 4.49: Faculty response on Mid-Career Training (MCT) for promotions

Response received (Fig 4.49) indicates that 88% of Faculty members are in agreement with rest of participants officers (87%), as indicated in Fig 4.19, that Recruitment Rules/ Service Rules should be provisioned for Mid-Career Training (MCT) as one of mandatory requirement and essential conditions for promotions. However, some respondents cautioned that criteria and policy of training (MCT) should be objectively defined to avoid sub judice discretion.

4.21 Faculty views on focus areas of cadre training modules

Focus areas of cadre training modules are analyzed in detail in paragraph 4.4, wherein, participants officers views on the possible focus areas to be incorporated in cadre trainings modules are taken. The views of faculty were also sought in this regard. The faculties' views on the possible focus areas for cadre trainings are indicated in weighted average on scale of 1 to 5 in Fig 4.50.

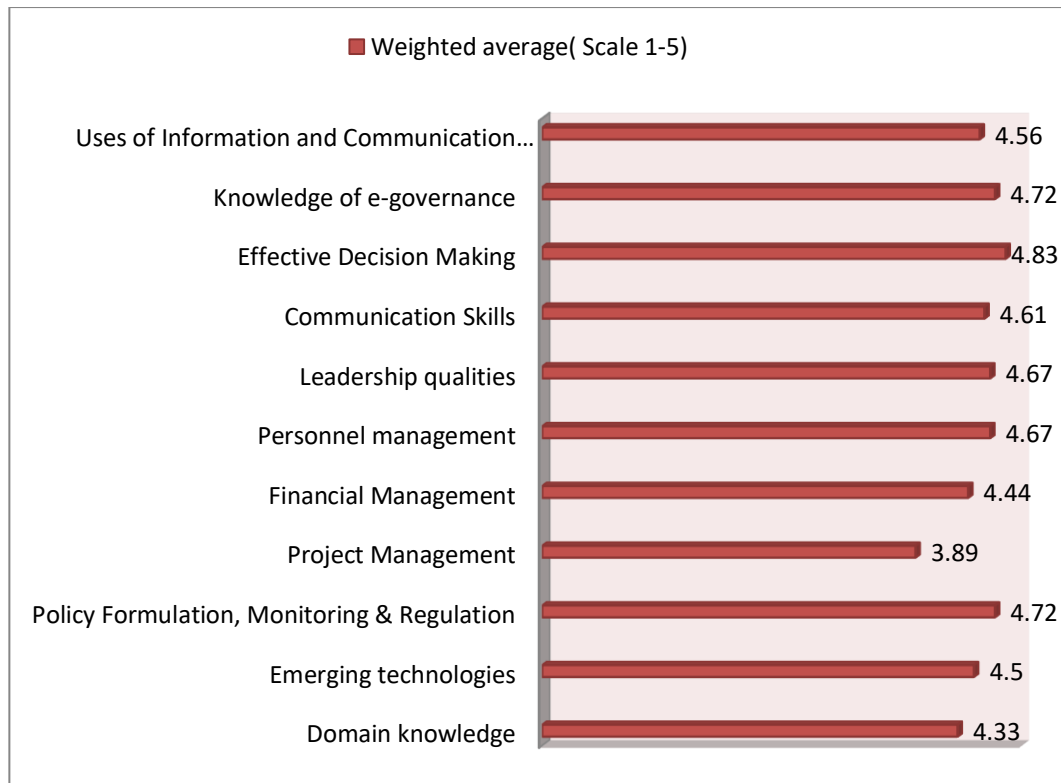


Fig 4.50: Faculty Response on focus areas of cadre training modules

Responses received from faculty are almost in agreement of participants views that Emerging Technologies (5G, AI, IoT, Cloud and Big Data etc), Effective Decision Making, Policy Formulation, Monitoring & Regulation, Leadership qualities, Communication skills, Domain Knowledge, Knowledge of e-governance, Uses of Information and Communication technologies in daily work, Personnel Management, are seen as most significant & essential components of training plans.

Faculty also rated little significance to Project management which may be due to the functional areas handled by these officers. However, Effective Decision Making has emerged as the most recommended area of training, which they feel for their effective working in the department.

Respondents were also asked to specify any other area which is not covered above and is significant in their opinion. Some members responded on this as under:

- Use of 5G in different sectors i.e. Health Sector, Agriculture Sector, Transportation Sector, Public Safety Sector etc.
- Security threats due to IoT technology. Networking of cyber security.
- Application of Big Data Analytics in telecom.
- Preventive ethics.

4.22 The steps need to be taken to improve the training outcomes- Faculty views

Suggestions were also asked from Faculty and Training division for improvement of training outcomes. Responses received are listed under:

- Training courses should be well designed to improve the minimum aspirations of the departmental officers.
- Training courses related with latest technologies i.e. AI, ML, Big Data Analytics, 5G, IoT, Smart City, Cloud Compounding etc. in more interest of officers.
- Courses which have direct relation with working of field officers will definitely attract more officers.
- For senior level officers, proper stay arrangement is basic requirement for them to attend the training. Therefore, very good hostel with proper facilities in the room and proper food arrangement is necessary requirement to attract officers in training.
- One or two sessions of experience sharing and interaction give opportunity for the officers to speak out their field level problems.

- Suitable blend of industry experts with broad sector outlook along with departmental experience is highly appreciated.
- Competency mapping of all the Telecom Officers are not yet done. Training Need Analysis must be done in scientific manner keeping in mind current experience and competence of the individual officer for achieving the desired level of competence for pressing need of DoT in new technology areas.
- Creating a proper learning ambience for the training courses.
- Immediate infrastructure up gradation along with proper lodging facility.
- Posting of highly motivated and interested officers at training centers as instructors.
- Mandatory training schedule based on competency and area of development
- The contents of the training should be relevant and contemporary as per the needs of the audience.
- The contents of the training may include labs, demos, field visits, etc in addition to lectures.
- Identification of areas where the training to be provided and identifying the officers, who need training in each area.
- The training contents need to be in relation with the roles and responsibilities assigned to the officers. It should help in bringing efficiency and effectiveness in his performance.
- Training activity is 70% logistics and 30% content. Without good support infra/ logistics, adhoc approach affects the training outcomes

- Proper selection of topics for in service courses related with the current scenario of functioning of the department is required to be done. Traditional courses do not attract attention of senior level officers to attend the courses.
- Duration of course matters a lot at higher position officers due to their inability to leave office for long duration such as a week or so.
- More case studies to be included to have deeper insight on the subject.
- To improve the training outcomes, *inter alia*, following process needs to be followed scrupulously:
 - Compilation of feedbacks from trainees, preferably in soft copy (like using Google forms)
 - Review of the compiled data, mandatorily by competent authority after each module.
 - Performing addition / deletion / modification in course schedule / course facilities based on objective analysis of feedback.
- A portion of training topics should have direct relevance to the day-to-day working of Officers. Training needs should be clearly identified in collaboration with target audiences.
- Rather than mere presentations, activity/ demonstration/ hands-on based teaching-learning methods should be incorporated. Group Discussions should also be included.
- Role/ Potential of emerging technologies in bringing efficiency of work of Officers should be included.
- Trainees should not be selected on Application basis; rather it should be on Nomination basis. At present trainees themselves apply, however after

proper need assessment and requirement of competence, the officers should be nominated in the training to bridge the competence gap.

4.23 Facilities at training centre NTIPRIT, Ghaziabad- Faculty views

Proper and sufficient facilities at training centre are prime requirement for successful execution of training programmes of a department. It also affects target achievement of its training objectives. Therefore, the opinion / views of faculty members and training division were taken for facilities at NTIPRIT likes; Requisite staff, Training Budget/Funds, Delegation of powers, Distance and e-Learning courses, Knowledge repositories facility, Faculty Development Programmes, Revision/Modification of courses curricula, contents, training methodologies and Infrastructure of NTIPRIT.

Respondents were asked to give their opinion/view on various facilities, whether are Adequate or Not. Responses received are depicted in following Figures.

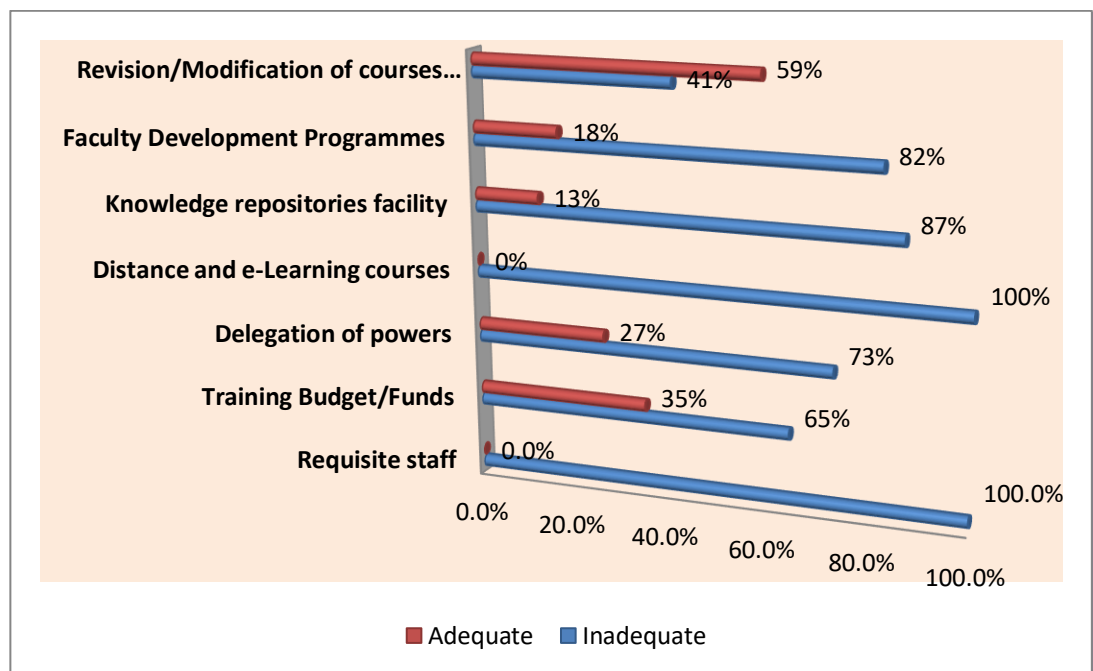


Fig 4.51: Faculty Response on facilities at NTIPRIT

Responses received depicted in Fig 4.51 indicates that majority of respondent agreed that except Revision/Modification of courses curricula, other items/facilities are not adequate. It is imperative to note that all faculty members agreed that requisite staff is not adequate at NTIPRIT, which required urgent attention to address. Distance and e-Learning facility is yet to start. Knowledge repositories facilities, Faculty Development Programmes, which are critical for any training center, are also inadequate in opinion of majority of respondents. 73% respondent that Delegation of power to NTIPRIT is not sufficient and 65 % agreed that Training Fund/ budget is not adequate.

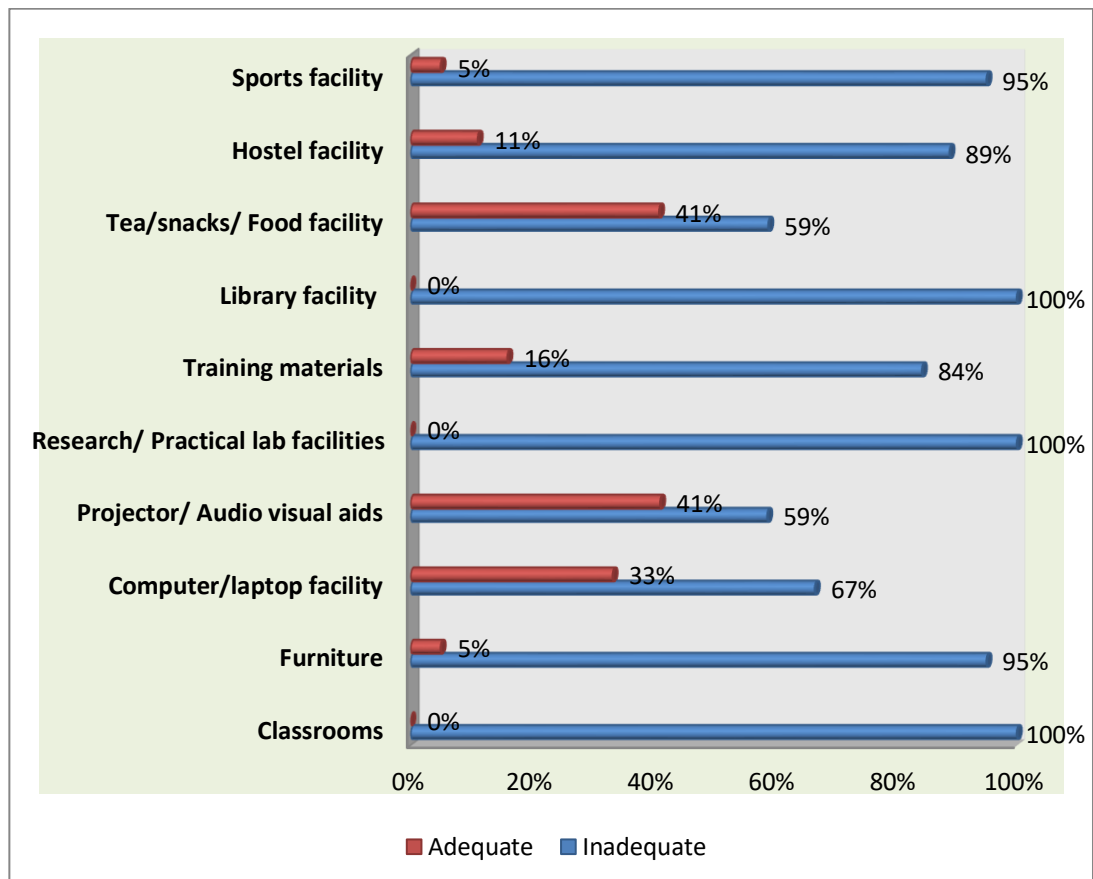


Fig 4.52: Faculty Response on Infrastructure facilities at NTIPRIT

Similar, response is also received in respect of infrastructure facilities at NTIPRIT, which is depicted in Fig 4.52, wherein majority of respondents opined

that all listed infrastructure facilities are not adequate. All respondents agreed that classrooms, Research/Practical labs, Library facilities are not adequate. It is also reported that currently NTIPRIT is not having any practical lab facility and they are dependent on other organisations/units for hands on demonstrations of technologies etc. to the trainees. This indicates a critical short coming in part of NTIPRIT which is having mandate of imparting training to the technical cadres of DoT.

In addition to above, NTIPRIT is not having any Hostel for their trainees. They always depend on BSNL's hostel facility existing in same campus, which is not adequate as opined by majority (89%).

95% respondents also opined that furniture and sports facility are not sufficient. Similarly training materials provided to trainees are not adequate. Computers/laptops, projectors/ audio visual aids, Tea snakes/food facilities are inadequate in opinion of majority.

In views of above responses it is concluded major efforts are required for improvement of infrastructures facilities at NTIPRIT for better training outcomes.

4.24 Measures/steps should be taken for development of NTIPRIT as Centre of Excellence- Faculty views

As National Telecommunications Institute for Policy Research, Innovation and Training (NTIPRIT) of Department of Telecommunications is mandated to impart trainings to Telecom Officers to fill their competency gaps for improvements in their outcomes and efficient utilization of them in the department. Therefore, NTIPRIT should have infrastructure and facilities at par with reputed institutes of country or in world.

Therefore, response was sought from Faculty and training division of DoT on, what measures/ steps should be taken for development of NTIPRIT as Centre of Excellence. The response received suggested that following important measures are necessary required to be taken for development of NTIPRIT as centre of excellence.

- NTIPRIT to have its own infrastructure (hostels, conference hall, seminar hall, library and amenities for participants and faculties.)
- Availability of proper academic infrastructure including class rooms, conference hall etc.
- Well-developed academic infrastructure providing sense of academic and research environment.
- Association of large number of academic and research institutions to provide proper exposure to the trainees.
- Hostel facility and well maintained wash rooms etc. Hygienic and good quality mess facility.
- Establishment of various labs in emerging technologies. Development of lab facility for coming needs of training to officers.
- Autonomy with adequate financial power to the head of NTIPRIT to maintain and support of activities.
- Posting of proper motivated senior officers along with support staff.
- Posting of financial advisor to head of NTIPRIT.
- Proper budget allocation to NTIPRIT. More Funds/ delegation of power to NTIPRIT.

- Core emphasis of NTIPRIT should be on moulding the officers for the telecom sector's best utilization of government resources for general public and economy of nation.
- Improve faculty development program, Training the trainer programmers and Foreign exposure to faculty
- Availability of resources / knowledge of latest development in the field of Telecom around the world.
- MOU's and collaboration with institutions of repute.
- Doing some relevant courses which can be visible to concerned authorities.
- Sufficient number of Group B/ C Staff and OA/ MTS should be posted.
- Introducing courses required in view of convergence of telecom sector with IT.
- Proper support facility for the trainees.

In view of above observations made by respondent it concluded that foremost prime requirement of NTIPRIT, to be a Centre of Excellence, is to have its own independent building and infrastructure with proper and sufficient classrooms, labs, hostel, faculty, support staff, fund etc. After meeting out this, other measures as recommended above may be implemented to make it a centre of excellence in training in telecom sector.

4.25 Any other suggestions by Faculty for improvement in Training Programmes of Telecom Officers

Suggestions were called from faculty in regard of following items which may have direct or indirect impacts in training programmes of Telecom Officers.

- a) Infrastructure
- b) Training Fund allocation
- c) Delegated Financial Powers
- d) Staff/ manpower
- e) Facilities
- f) Any other items or the suggestions

Suggestions received are mentioned in following paragraphs:

a) **Infrastructure:**

- NTIPRIT must have its own infrastructure
- Building is primary requirement for institute to develop proper infra.
- Comfortable residential accommodation for trainee officers
- Infrastructure: Classrooms/ Office Chambers for all Officers/ Labs/ Hostels etc

b) **Training Fund allocation:**

- Adequate funds required
- Needs to be improved

c) **Delegated Financial Powers:**

- Needed more financial powers to head of the institute
- To be delegated to improve efficiency and quality of programs.
- It is to be further delegated for competence building of in-house faculty.

d) **Staff/ manpower:**

- Adequate staff/man power is the major challenge in proper functioning of NTIPRIT which must be sorted out as early as possible
- Manpower particularly at lower level is not available at present.
- ADG/ AD / JTO / PS to be posted at least as per sanctioned / agreed strength.

e) **Facilities:**

- Canteen/ Pantry/ Library/ Sports Facilities/ Recreation/ Membership to Professional bodies (e.g., IEEE, etc.)
- sports, wellness fitness facility, recreation

f) **Any other items or the suggestions:**

- Transport and logistics facilities to be provided for trainees as trainees have to make their own arrangements to arrive/depart from training centre
- Establishment of Accounts section in NTIPRIT as Accounts/financial matters of NTIPRIT are still dealt in other unit TEC located in New Delhi, which is far away from NTIPRIT.

Chapter 5

Conclusion and Recommendations

5.0 Conclusion

It is recognized that training as an essential function for an organization to keep up pace with changes in rapid changing technology environments, work practices, globalization, changing social-economical-demographic conditions. Training is necessary for employees of organization to enhance their knowledge, skills set and to improve their efficiency and outputs.

As telecommunications is a rapidly evolving field with the advent of new emerging technologies, Telecom Officers of Department of Telecommunications dealing with policy making, regulation and execution of National projects of Government of India in the field of Information and Communication Technology (ICT), needs continuous up-gradation of their competencies and skill set through regular training interventions in their career.

It is acknowledged by the most of respondents that current training programmes provided to Telecom Officers are not adequate to meet requirements. Almost all respondent officers and Faculty members are of opinion that a lot more efforts are needed to improve the current training scenario of Telecom Officers.

However, it is observed that various training programmes; likes Induction, Mid-Career, Short duration In-service courses, Seminars, Workshops etc. are organized regularly for Telecom Officers. Apart from this, the officers are also given opportunity to attend long term/ short term domestic trainings under different schemes of DoPT. The officers also attend the seminars, workshops at national and international level to enhance their domain knowledge.

Though Mid-Career training of ITS officers has been started recently but it is learnt that, only part of its approved programme i.e. 'Technical Modules' only of all three phases of MCTP for ITS officers have been conducted so far. However, Management module of all three phases and foreign training component of phase-II, which are very important parts of MCTP programme, have not been started yet for eligible officers.

Due to non-conduction of remaining modules of MCTP, the competencies of officers may not fully developed, hence may defeat the very purpose of MCTP. Therefore, there is need to conduct remaining modules of MCTP for all three phases, without further delay, to provide full benefits of the programme to eligible officers.

It is also observed that apart from Induction training and Mid-career training, no structured periodic training programmes covering all Telecom officers are there. Moreover, trainings conducted are ad hoc in nature and are not well-planned and organized. This fact is confirmed by the analysis that only 40 % of respondents have attended any other training programmes in addition to mandatory trainings and these training interventions are sometimes happened by their own initiative and individual drive.

It is concluded that the prominent factors in non-attending training by the nominated officers are due to their personal reasons, resistance of controlling officers in reliving them and poor training infrastructure and facilities of NTIPRIT. Not attending training by nominated officers not only defeats the purpose of the training but also increases the cost of training and makes it uneconomical.

A fully equipped well facilitated training centre of an organization provides major contribution in achieving its training objectives. This fact is established through current study wherein it has been observed that poor facilities and insufficient training infrastructure have an impact in training outcomes of Telecom Officers.

Almost all respondents of this study recommended that there is a pressing need for immediate up gradation of infrastructure and training facilities of NTIPRIT. NTIPRIT is presently dependent on support from ALTTC for these facilities. Most of the respondents even suggested that DoT should take over back ALTTC from BSNL for meeting out infrastructure requirements of NTIPRIT.

Due to lack of basic facilities at NTIPRIT viz.; insufficient classrooms, no proper hostels accommodation for trainees, paucity of space for accommodation of faculty and support staff, lacks in lab facility for practical demonstration etc., NTIPRIT could not function properly on its mandate. Therefore, there is urgent requirement for improvement of training infrastructure as a whole is need of time. Top management of DoT should take a note of this.

The National Training Policy emphasizes on competency mapping of all the employees and identification of the competencies required to perform the duties assigned to different posts. Accordingly, Ministry/Departments are required to do Training Needs Analysis based on competency framework of its employees. It is observed that DoT has not yet initiated competency mapping exercise for Telecom Officers. However, all respondents agreed that it is very essential component of the training management.

The main focus of the National Training Policy-2012 is on 'Training for All' which means that concerned authorities in the Ministry/ Departments prepare the Cadre Training Plan (CTP) with provision of imparting training to their

employees at the time of their entry into service and at appropriate intervals in the course of their careers. However, it is noticed that Cadre Training Plans for Telecom Officers are still not formulated.

The main reasons for non-initiation of competency mapping exercise and the not formulating Cadre Training Plans of Telecom Officers have emerged as pendency of Roles and Responsibilities revisions/reassignments work of Telecom Officers in the Department necessitated after restructuring of the department, lack of top management commitment, budget constraint, availability of resources, lack of expertise, lack of required infrastructure etc.

Training policy provides for linking of promotions with completion of mandatory training by suitably amending the Recruitment Rules. But it was observed that DoT has not yet amended the Service/ Recruitment Rules of Telecom officers by incorporating the Mid-Career training as compulsory for their promotion.

The main reason highlighted for this is due to fact that Mid – Career trainings for ITS officers have recently started. Therefore, few officers have made apprehensions on making MCT as a mandatory before their next promotion if there is delay in organization of MCT by the department. However, linkage of MCT with next promotion can be a great motivator for officers to undertake trainings seriously.

It is also observed that sufficient funds have been allotted by the department for various training activities of Telecom officers in past three years. However, it is concluded that more funds and budgetary support are required for improving training facilities and upgrading infrastructure of NTIPRIT, to be as a Centre of Excellence in the telecom sector.

5.1 Recommendations

To improve the training scenario of Telecom Officers in current needs, the following recommendations are made based on the analysis of findings, personnel experience, and the steps suggested by respondents:

i. Training Policy of Department of Telecommunications:

Department of Telecommunications may frame its own comprehensive training policy in line with the provisions made in the National Training Policy 2012 covering all the aspects related to training i.e. provision for Cadre Training Plan, Annual Training Plan, Training infrastructure, Faculty Development Programmes, Training Budget/fund allocation, Competency Mapping, Training Need analysis, Methods of evaluation of training programs and trainees/faculty, Nodal officers for monitoring of training etc.

ii. Competency Mapping:

As that Department of Telecommunications (DoT) has not yet initiated exercise of competency mapping for Telecom Officers. For moving to competency based approach, it would be necessary to classify distinct posts and to indicate the competencies required to perform work in such posts. After this exercise, development of officers can be objectively linked to the competencies needed by them for their current or future job/assignments.

For this purpose, DoT may use the Competency Mapping Dictionary and Competency Mapping Implementation Tool Kit issued by DoPT in 2014

for mapping the posts of telecom cadres. DoT may exercise this activity internally or get it done through external experts in the field.

iii. Training Needs Analysis

Training needs analysis is first stage of a systematic approach to training to identify the competency area in which an employee requires training in order to discharge the assigned duties efficiently and effectively.

Competency mapping will be helpful in conducting training needs analysis to find out the training requirements of Telecom Officers. Accordingly, DoT may plan training programmes for Telecom Officers to fill their competency gaps or provides opportunities to develop the requisite competencies in them.

iv. Cadre Training Plan

Cadre Training plan should be prepared for both ITS Group 'A' & TES Group 'B' cadres. Cadre Training Plan should contains mandatory Induction training at the time of appointment in the service and Mid-career trainings at suitable intervals during the progression of the career. Mid- Career training may be linked with the promotion.

As the technologies changes at a very rapid rate, there is need for telecom officers to keep themselves abreast of these emerging ICT technologies like 5G, AI, IoT, Cloud computing, Big Data Analytic, etc. Therefore, for technical awareness of officers to these technologies, a short duration training programme may be provisioned under CTP. These training programmes may be made mandatory to attend by every officer in every two to three years.

The foreign training component may also be included in mid- career training of all three phases of officers to give them the exposure of emerging technologies and best industry practices in other countries.

These mandatory trainings may be made prerequisite to get next promotion/ up gradation/ increments to make the officers more serious about the trainings and discouraging them from not attending training on superficial personal reasons.

Linking of training with promotion etc., may act as deterrent for the controlling officer in not releasing the nominated officer for these programme as officer himself/ herself will put pressure for his/her release.

v. Annual Training Plan

Annual Training Plan (ATP) is required for implementation of Cadre Training Plans. ATP should be made well in advance in consultations of all stakeholders keeping in consideration of CTP of both Group 'A' and Group 'B' officers.

The details of mandatory training programmes along with the list of nominated officers may be released well in advance so that officers and concerned units may aware about it well in time. It will help in making necessary alternate arrangements in the cases where the officer is handling some specified project, assignment or on important post.

vi. Evaluation of Training

Training that has been conducted should be evaluated against its objectives, for its usefulness to the Department. This enables the

Department to take corrective actions and course corrections in their future training programmes and training system.

Evaluation may be done at the end of the program to get feedback on the design of the program and its delivery, the trainers and logistics involved.

It may also be done after certain time gaps for analyzing its impacts on the performance of trainees. Based on the feedback received, improvement measures can be taken and implemented in future programmes.

Training evaluation can be done either internally and externally through outsourcing.

vii. Design of Training Programmes

Training programmes for Telecom Officers should be designed in such a way that, these not only improve their domain knowledge being from specialized cadres but also enhance requisite skills and proficiency to handle different functions or job responsibilities at higher levels.

As Telecommunications is specialized sector, Telecom Officers would need frequent up gradation of their knowledge and skills due to rapid changes and advancement happen in this sector. This necessitates specific training programmes design in emerging technologies viz. 5G, AI, IoT, Cloud Computing, Big Data Analytic etc. In this regard, short duration training program, workshops/ seminars can be organized frequently to keep them up dated.

Apart from specialized training programme, some other training programmes pertain to Effective Decision Making, Policy Formulation, Monitoring & Regulation, Leadership qualities, Communication skills, Domain Knowledge, Knowledge of e-governance, Uses of Information

and Communication technologies in daily work, Personnel Management, would be significant to increase their proficiency.

Training programmes may be reviewed and redesigned every two to three years to keep in pace with rapid advancements happened in the sector and to meet out the requirements of the Department.

viii. Training Content

The training should be designed in such a way that the contents are commensurate with the roles and responsibilities of officers at different levels. It should help in bringing efficiency and effectiveness in his performance. Therefore, training contents may have following subjects, topics, technologies, methods relevant in current scenario:

- Prevailing emerging technologies to keep pace with latest developments like; 5G, Cloud computing, Artificial intelligence, Block chain, Internet of Things, Machine Learning, Big Data Analytic, cyber-security etc.
- Technical modules may have field visits to industries/ telecom service providers' establishments to make officers understand and visualize the real time working of technologies and practices.
- Policy formulation, Data collection for policy formulation, Impact assessment and formulation of effective regulations in present telecom scenario.
- One or two sessions of experience sharing and interaction give opportunity for the officers to speak out their field level problems.
- Suitable blend of industry experts with broad sector outlook along with departmental experience is highly appreciated.

- The middle level and the top level officers should be imparted training on leadership qualities and effective decision making.
- Foreign training component in MCTP in all phases is needed to gain exposure to international best practices with differing models of development and governance specific in Telecom sector.
- As most of the work now involves dealing with companies, knowledge of Companies act and corporate finance is essential.
- Functioning of the government, Cabinet notes preparation, noting, drafting, other office related procedures etc.
- Vigilance, Audit and judicial procedures
- Role of NITI AYOOG and how they collect data.
- Ethics in governance etc.

Training contents should be reviewed on periodic basis so that these are relevant and contemporary in current scenario. The new content should be added and out-dated content should be deleted on basis of feedbacks received from trainees/trainers.

ix. Training Institute

National Telecommunications Institute of Policy Research, Innovation & Training (NTIPRIT) at Ghaziabad is the only training institute of DoT organizes training programmes for Telecom officers. The quality and way of its functioning have a direct impact on trainees, what they gain or take away with them.

As there is a pressing need for up gradation of infrastructure of NTIPRIT to become a Centre of Excellence in telecommunications sector.

Following measures should be necessarily required to be taken up for this purpose:

- NTIPRIT must have an independent campus and building. If it is not possible in present setup than at least sufficient space and infrastructure of ALTTC should be reoccupied by DoT for NTIPRIT. This occupied space/structure should be upgraded and refurbished.
- Development of proper academic infrastructure including sufficient well designed class rooms with latest teaching aids and smart boards, conference rooms, webinar- video conferencing facility etc.
- Lab facilities, for existing and emerging technology like; 4G-5G, AI, Big Data, M2M, Cyber Security, Optical –wireless transport, etc. may be provided. Establishment of test beds also.
- Library having reach collections of books, magazines, journals, research papers related with technologies, administration and management subjects.
- Subscription of International Journal, periodicals and research papers from ITU, IEEE etc. along with online membership for faculty/ trainees for their research work.
- Development of Knowledge Repository in the areas of telecommunications/ICT sector.
- Wi Fi facility with high speed broadband internet facility in campus and hostels.
- A well-equipped computer lab with LAN and internet facility for trainees.

- Adequate space/rooms for proper accommodation of faculty and support staff.
- Should have own hostels with well-maintained rooms and good mess facility for trainee officers.
- Canteen/Pantry, Recreation, Sports, wellness fitness facilities for trainees.
- Provisioning of Transport and logistics facilities for trainees/ trainers.
- Autonomy with adequate financial powers to the head of NTIPRIT for development of infrastructure and to improve the quality of training programmes.
- More budget/fund allocation for up gradation of infrastructure of NTIPRIT.
- Posting of financial advisor to head of NTIPRIT and Establishment of Accounts section in NTIPRIT as Accounts/financial matters of NTIPRIT are dealt in other unit i.e. TEC located in New Delhi, which is far away from NTIPRIT Ghaziabad.
- NTIPRIT can be associated with regional ITU so as to facilitate training for regional countries coming under ITU regional south area.
- Tie up/ collaboration / MoUs with premier domestic/ international academic and training institutions/ industries to share learning resources, experience and expertise.
- Adequate staff/man power is the major challenge in proper functioning of NTIPRIT which must be sorted out as early as possible. Manpower, particularly at lower levels; i.e. Group 'B', Clerical, Data feeders,

Office Assistance, Multi-Tasking Staff (MTS) should be sufficiently available for proper functioning of NTIPRIT.

x. Faculty Development Programme

It is observed that faculties at NTIPRIT are posted on recommendations of a higher level committee at DoT HQ after well scrutiny of willing officers keeping in consideration of their field experience and academic interest they have.

However, due to continuous technological advancement happened in the sector and new developments in the training techniques in international best practices, there is a need for frequent training of trainers to upgrade their knowledge and teaching/delivery skills.

For this purpose, faculty may be sent for training in reputed institutes in the country or out of country to upgrade their knowledge, expertise on the subject and to improve their training skills.

xi. Training Database

A training database of telecom officers should be developed at DoT HQ for improvements of training outcomes. This data may contain the details of the training programmes attended by officer along with duration of training and detail of training institute. This information may be used in competency mapping of officers and to decide their training needs to fill their competency gaps based on future roles and responsibilities they would have.

This data may also be used by Personnel/ Staff section in transfer and posting of officers keeping in consideration of competencies required for specific posts.

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Annexure-1

Questionnaire for participant officers

Q1. The details of training programmes attended by you in your career may please be provided in following format

Categories of Training	Training detail	Duration of the Training	Nominated by office or own Initiative	Over all grading* of the Training
Induction/ Foundation Training				
Mid-career Training Programme Levels				
Short-term thematic Training Programme				
Long-term Training Programme				
Orientation Training				
Foreign Training				
Workshops/ Seminars/C onferences				

* Excellent-5, Very Good-4, Good-3, Average-2, Below Average-1

Pl specify the reasons/comments, if any, for the grading marked above:

Q2. In your opinion, training programmes for Telecom Officers (Gp 'A' & Gp 'B') is adequate to meet present requirement?

(Tick mark \surd one option)

Not adequate To a little extent Average Adequate Very large extent

Q3. General Feedback of the training programmes attended by you:

Instructions: Please tick your rating for the listed items	Un-satisfactory	Satisfactory	Good	Very Good	Excellent
The overall training programmes being conducted for Telecom Officers					
The linkage of the training programmes contents to your job profile					
The design of training programmes					
Training material provided during the training courses					
The method of evaluation adopted for the training conducted?					
The level of interaction between the faculty/speakers and trainees					
The level of Training Centre faculties					
The level of guest faculties/ speakers					
The classroom sessions conducted for training courses					
The field training/practical training/study tour conducted during training courses.					

Please specify any other items which are not covered and is significant in your opinion:

Q4. Whether the content of the training is designed so as to enable the officers to handle the higher responsibilities?

Yes/ No

If No, Your suggestions for improving contents:

Q5. In your opinion, what are the steps that need to be taken to improve the training outcomes?

Q6. Pl specify the focus areas of cadre training modules.

(Tick mark one option in each row)

	Insignificant	Less Significant	Can't say	Significant	Most Significant
Domain knowledge					
Emerging technologies (5G, AI, IoT, Cloud and Big Data etc)					
Policy Formulation, Monitoring & Regulation					
Project Management					
Financial Management					
Personnel management					
Leadership qualities					

Communication Skills					
Effective Decision Making					
Knowledge of e-governance					
Uses of Information and Communication technologies in daily work					

Please specify any other area which is not covered and is significant in your opinion:

Q7. The infrastructure facilities at NTIPRIT, Ghaziabad:

Instructions: Please tick your rating for the listed items	Un-satisfactory	Satisfactory	Good	Very Good	Excellent
a, Classrooms					
b, Furniture					
c, Computer/laptop facility					
d, Projector/ Audio visual aids					
e, Practical Lab facility					
f, Training materials					
g, Library facility					
h, Tea/snacks/ Food facility					
i, Support Staff					
j, Hostel facility					
k, Sports facility					

Please specify any other items which are not covered and is significant in your opinion:

Q8. What measures/steps should be taken for development of NTIPRIT as Centre of Excellence?

Q9. Are you aware of the National Training Policy-2012 of Govt. of India?

Yes/No

Q10. Do you think Mid-Career training is essential for your career progression?

Yes/No

Q11. In your opinion should Recruitment Rules/ Service Rules be provisioned for Mid-Career Training (MCT) as one of mandatory requirement and essential conditions for promotions?

Yes/No

Q12. Any other suggestions that would you like to make for improvement in Training of Telecom Officers in regards of:

- a) Course & duration
- b) Course contents
- c) Course design

- d) Field Visits/ Tours
- e) Infrastructure /Facilities
- f) Any other items or the suggestions

Signature:

Name:

Designation:

Annexure-2

Questionnaire for Faculty/Training division

Q1. The details of the training held for Telecom Officers (Gp 'A' & Gp 'B') in last five years may be provided in the format below:

Categories of Training conducted for each cadre	Whether mandatory or optional	Duration of the Training	Number of participants				
			2015	2016	2017	2018	2019
Induction/ Foundation Training							
Mid-career Training Programme Levels							
Short-term thematic Training Programme							
Long-term Training Programme							
Orientation Training							
Foreign Training							
Workshops/Seminars/Conferences							

Q2. Details may be provided of last five years, (a) how much expenditure on training of Telecom Officers has been incurred and (b) their total salary budget?

	2015	2016	2017	2018	2019
Total expenditure on training					
Total salary budget					

Q3. (a) The percentage of nominated officers who attend the training programme:
(Tick mark \surd one option)

0-25% 25-50% 50-75% 75-100%

(b) Pl. mention the possible reasons for not attending the training programme by officers despite being nominated. (Tick mark \surd one option in each row):

	Insignifi- cant	Low Significa- nt	Can't say	Significa- nt	Very Significant
Low enthusiasm in the cadre					
Cadre officer does not consider the training programme to be useful					
Training module not interesting					
Low enthusiasm of faculty					
Resistance of controlling officers in releasing the nominated officer					
Personal reasons					
Training is considered as waste of time and resources					

(c) Please specify any other information which is not covered above and is significant in your opinion:

Q4. In your opinion, what are the steps that need to be taken to improve the training outcomes?

Q5. How do you rate training programmes of Telecom Officers?

Instructions: Please tick your rating for the listed items	Un-satisfactory	Satisfactory	Good	Very Good	Excellent
The overall training programmes being conducted for Telecom Officers					
Training need analysis for the training for telecom officers					
The design of training programmes					
Training material provided during the training courses					
The method of evaluation adopted for the training conducted?					
The level of interaction between the faculty/speakers and trainees					
The classroom sessions conducted for training courses					
The field training/practical training/study tour conducted during training courses.					
Infrastructure availability at NTIPRIT Ghaziabad					

Please specify any other items which are not covered and is significant in your opinion:

Q6. How frequently is the feedback taken from the participants?

Daily Weekly Fortnightly Only at end of the course

Q7. How is the feedback taken from the participants given due consideration?

Not adequate To a little extent Average Adequate Very large extent

Q8. In your opinion, training programmes for Telecom Officers (Gp 'A' & Gp 'B') is adequate to meet present requirement?

(Tick mark \surd one option)

Not adequate To a little extent Average Adequate Very large extent

Q9. In your opinion, is competency mapping of Telecom Officers as envisaged in NTP 2012 necessary?

Strongly Disagree Disagree Neutral Agree Strongly Agree

Q10. Whether the competency mapping of all the Telecom Officers has been carried out?

Yes / No

If No, the reasons may be indicated:

Q11. Whether any Cadre Training Plan (CTP) has been prepared for ITS Gp 'A' and TES Gp 'B' cadre?

Yes / No

Q12. If No CTP, then what are the main issues/ challenges faced in the implementation of Cadre Training Plan? Pl mention the importance of the listed issues/ challenges below.

(Tick mark \surd one option in each row)

	Insignificant	Less Significant	Can't Say	Significant	Most Significant
Training not required					
Training is considered as waste of time and resources					
Lack of Top Management commitment					
Resistance of controlling officers in releasing the nominated officer					
Resistance of cadre officers					
Competency mapping yet to be done					
Budget Constraint					
Lack of availability of domain experts					
Lack of Infrastructure					

Also specify any other information which is not covered in the above that is significant in your opinion.

Q13. Pl. suggest steps/ways to overcome the challenges as mentioned in previous question.

Q14. In your opinion should Recruitment Rules/ Service Rules be provisioned for Mid-Career Training (MCT) as one of mandatory requirement and essential conditions for promotions?

Yes/No

If No, the reasons thereof:

Q15. Pl specify the focus areas of cadre training modules.
 (Tick mark \surd one option in each row)

	Insignificant	Less Significant	Can't say	Significant	Most Significant
Domain knowledge					
Emerging technologies (5G, AI, IoT, Cloud and Big Data etc)					
Policy Formulation, Monitoring & Regulation					
Project Management					
Financial Management					
Personnel management					
Leadership qualities					
Communication Skills					
Effective Decision Making					
Knowledge of e-governance					
Uses of Information and Communication technologies in daily work					

Please specify any other area which is not covered and is significant in your opinion:

Q16. Your opinion/comments about facilities at training centre NTIPRIT, Ghaziabad:

Instructions: Please tick your rating for the listed items	Not Adequate	Adequate
Requisite staff		
Training Budget/Funds		
Delegation of powers		
Distance and e-Learning courses		
Knowledge repositories facility		
Faculty Development Programmes		
Revision/Modification of courses curricula, contents and training methodologies		
Infrastructure facility:		
a, Classrooms		
b, Furniture		
c, Computer/laptop facility		
d ,Projector/ Audio visual aids		
e, Research/ Practical lab facilities		
f, Training materials		
g, Library facility		
h, Tea/snacks/ Food facility		
i, Hostel facility		
j, Sports facility		

Please specify any other items which are not covered and is significant in your opinion:

Q17. What measures/steps should be taken for development of NTIPRIT as Centre of Excellence?

Q18. Any other suggestions that would you like to make for improvement in Training Programmes of Telecom Officers in regards of:

- a) Infrastructure
- b) Training Fund allocation
- c) Delegated Financial Powers
- d) Staff/ manpower
- e) Facilities
- f) Any other items or the suggestions

Signature:

Name:

Designation:

Data Analysis (Telecom Officers)

Analysis of Quantitative Responses-Telecom Officers						
S. N.	Question	Options available for Responses				
Q1. 1	The details of training programmes attended	Weightage to different options				
		Below Average	Average	Good	Very Good	Excellent
1a	Induction/ Foundation Training	1	2	3	4	5
	Number of responses received	1	4	9	44	32
	Percentage of responses	1.11%	4.44%	10.00%	48.89%	35.56%
	Weighted average	4.13				
1b	Mid-career Training Programme Levels	1	2	3	4	5
	Number of responses received	0	1	4	12	12
	Percentage of responses	0.00%	3.45%	13.79%	41.38%	41.38%
	Weighted average	4.21				
1c	Short-term thematic Training Programme	1	2	3	4	5
	Number of responses received	0	1	3	16	12
	Percentage of responses	0.00%	3.13%	9.38%	50.00%	37.50%
	Weighted average	4.22				
1d	Long-term Training Programme	1	2	3	4	5

	Number of responses received	0	0	5	3	10
	Percentage of responses	0.00%	0.00%	27.78%	16.67%	55.56%
	Weighted average	4.28				
1e	Orientation Training	1	2	3	4	5
	Number of responses received	0	0	4	3	3
	Percentage of responses	0.00%	0.00%	40.00%	30.00%	30.00%
	Weighted average	3.90				
1f	Foreign Training	1	2	3	4	5
	Number of responses received	0	1	0	11	12
	Percentage of responses	0.00%	4.17%	0.00%	45.83%	50.00%
	Weighted average	4.42				
1g	Workshops/Seminars/Conferences	1	2	3	4	5
	Number of responses received	0	1	4	19	14
	Percentage of responses	0.00%	2.63%	10.53%	50.00%	36.84%
	Weighted average	4.21				
1.2	Nominated by office or own Initiative	By Office	By Own Initiative			
1a	Induction/Foundation Training					
	Number of responses received	109	0			
	Percentage of responses	100%	0%			

1b	Mid-career Training Programme Levels					
	Number of responses received	31	0			
	Percentage of responses	100%	0%			
1c	Short-term thematic Training Programme					
	Number of responses received	21	7			
	Percentage of responses	75%	25%			
1d	Long-term Training Programme					
	Number of responses received	10	7			
	Percentage of responses	59%	41%			
1e	Orientation Training					
	Number of responses received	12	0			
	Percentage of responses	100%	0%			
1f	Foreign Training					
	Number of responses received	17	4			
	Percentage of responses	81%	19%			
1g	Workshops/Seminars/Conferences					
	Number of responses received	27	7			
	Percentage of responses	79%	21%			

Q2	In your opinion, training programmes for Telecom Officers (Group 'A' & Group 'B') is adequate to meet present requirement					
	OVER ALL	Inadequate	To little extent	Average	Adequate	Very large extent
	Weightage to different options	1	2	3	4	5
	Number of responses received	25	14	32	25	4
	Percentage of responses	25.00%	14.00%	32.00%	25.00%	4.00%
	Weighted average	2.69				
2.1	SAG LEVEL	Inadequate	To little extent	Average	Adequate	Very large extent
	Weightage to different options	1	2	3	4	5
	Number of responses received	0	4	4	4	0
	Percentage of responses	0%	33%	33%	33%	0
	Weighted average	3				
2.2	JAG LEVEL	Inadequate	To little extent	Average	Adequate	Very large extent
	Weightage to different options	1	2	3	4	5
	Number of responses received	14	6	13	7	4
	Percentage of responses	32%	14%	30%	16%	9%
	Weighted average	2.57				
2.3	STS/JTS LEVEL	Inadequate	To little extent	Average	Adequate	Very large extent
	Weightage to different options	1	2	3	4	5
	Number of responses received	9	3	9	4	0

	Percentage of responses	36%	12%	36%	16%	0%
	Weighted average	2.32				
2.4	DEPUTATION	Inadequate	To little extent	Average	Adequate	Very large extent
	Weightage to different options	1	2	3	4	5
	Number of responses received	2	0	4	8	0
	Percentage of responses	14%	0%	29%	57%	0%
	Weighted average	3.29				
2.5	GROUP 'B'	Inadequate	To little extent	Average	Adequate	Very large extent
	Weightage to different options	1	2	3	4	5
	Number of responses received	0	1	2	2	0
	Percentage of responses	0%	20%	40%	40%	0%
	Weighted average	3.2				
Q3	General Feedback of the training programmes attended					
		Options available for Responses				
		Unsatisfactory	Satisfactory	Good	Very Good	Excellent
	Weightage to different options	1	2	3	4	5
3a	The overall training programmes being conducted for Telecom Officers					
	Number of responses received	1	2	3	4	5
	Number of responses received	11	32	21	31	10
	Percentage of responses	10.48%	30.48%	20.00%	29.52%	9.52%
	Weighted average	2.97				
3a.1	SAG LEVEL					

	Number of responses received	1	1	2	7	0
	Percentage of responses	9%	9%	18%	64%	0
	Weighted average	3.36				
3a.2	JAG LEVEL					
	Number of responses received	3	12	10	11	7
	Percentage of responses	7%	28%	23%	26%	16%
	Weighted average	3.16				
3a.3	STS/ JTS LEVEL					
	Number of responses received	6	11	5	4	0
	Percentage of responses	23%	42%	19%	15%	0%
	Weighted average	2.27				
3a.4	DEPUTATION					
	Number of responses received	1	4	2	7	3
	Percentage of responses	6%	24%	12%	41%	18%
	Weighted average	3.41				
3a.5	GROUP 'B'					
	Number of responses received	0	4	2	2	0
	Percentage of responses	0%	50%	25%	25%	0%
	Weighted average	2.75				
3b	The linkage of the training programmes contents to your job profile					
	Number of responses received	1	2	3	4	5
	Number of responses received	14	30	21	34	8

	Percentage of responses	13.08%	28.04%	19.63%	31.78%	7.48%
	Weighted average	2.93				
3c	The design of training programmes	1	2	3	4	5
	Number of responses received	8	21	35	32	10
	Percentage of responses	7.55%	19.81%	33.02%	30.19%	9.43%
	Weighted average	3.14				
3d	Training material provided during the training courses	1	2	3	4	5
	Number of responses received	5	24	37	26	12
	Percentage of responses	4.81%	23.08%	35.58%	25.00%	11.54%
	Weighted average	3.15				
3e	The method of evaluation adopted for the training conducted?	1	2	3	4	5
	Number of responses received	5	24	34	28	13
	Percentage of responses	4.81%	23.08%	32.69%	26.92%	12.50%
	Weighted average	3.19				
3f	The level of interaction between the faculty/speakers and trainees	1	2	3	4	5
	Number of responses received	1	14	25	43	24
	Percentage of responses	0.93%	13.08%	23.36%	40.19%	22.43%
	Weighted average	3.70				
3g	The level of Training Centre faculties	1	2	3	4	5
	Number of responses received	14	25	29	22	17
	Percentage of responses	13.08%	23.36%	27.10%	20.56%	15.89%
	Weighted average	3.03				
3h	The level of guest faculties/ speakers	1	2	3	4	5
	Number of responses received	2	16	22	41	24
	Percentage of responses	1.90%	15.24%	20.95%	39.05%	22.86%
	Weighted average	3.66				

3i	The classroom sessions conducted for training courses	1	2	3	4	5
	Number of responses received	6	18	31	36	14
	Percentage of responses	5.71%	17.14%	29.52%	34.29%	13.33%
	Weighted average	3.32				
3j	The field training/practical training/study tour conducted during training courses.	1	2	3	4	5
	Number of responses received	15	23	23	28	12
	Percentage of responses	14.85%	22.77%	22.77%	27.72%	11.88%
	Weighted average	2.99				
Q4	Whether the content of the training is designed so as to enable the officers to handle the higher responsibilities?	Yes	No			
	Number of responses received	68	32	100		
	Percentage of responses	68%	32%			
Q6	Pl specify the focus areas of cadre training modules (Tick mark ✓ one option in each row)	Insignifi- cant	Less significa nt	Can't say	Signific ant	Most Significa nt
6a	Domain knowledge	1	2	3	4	5
	Number of responses received	1	1	4	56	38
	Percentage of responses	1.00%	1.00%	4.00%	56.00%	38.00%
	Weighted average	4.29				
6b	Emerging technologies					
	(5G, AI, IoT, Cloud and Big Data etc)	1	2	3	4	5
	Number of responses received	1	1	0	46	59
	Percentage of responses	0.93%	0.93%	0.00%	42.99%	55.14%
	Weighted average	4.50				

6c	Policy Formulation, Monitoring & Regulation	1	2	3	4	5
	Number of responses received	0	5	2	39	61
	Percentage of responses	0.00%	4.67%	1.87%	36.45%	57.01%
	Weighted average	4.46				
6d	Project Management	1	2	3	4	5
	Number of responses received	1	10	3	62	29
	Percentage of responses	0.95%	9.52%	2.86%	59.05%	27.62%
	Weighted average	4.03				
6e	Financial Management	1	2	3	4	5
	Number of responses received	2	8	7	57	27
	Percentage of responses	1.98%	7.92%	6.93%	56.44%	26.73%
	Weighted average	3.98				
6f	Personnel management	1	2	3	4	5
	Number of responses received	1	7	7	51	38
	Percentage of responses	0.96%	6.73%	6.73%	49.04%	36.54%
	Weighted average	4.13				
6g	Leadership qualities	1	2	3	4	5
	Number of responses received	4	1	2	43	54
	Percentage of responses	3.85%	0.96%	1.92%	41.35%	51.92%
	Weighted average	4.37				
6h	Communication Skills	1	2	3	4	5
	Number of responses received	3	4	2	40	55
	Percentage of responses	2.88%	3.85%	1.92%	38.46%	52.88%
	Weighted average	4.35				
6i	Effective Decision Making	1	2	3	4	5
	Number of responses received	2	1	3	36	62
	Percentage of	1.92%	0.96%	2.88%	34.62%	59.62%

	responses					
	Weighted average	4.49				
6j	Knowledge of e-governance	1	2	3	4	5
	Number of responses received	3	1	3	64	34
	Percentage of responses	2.86%	0.95%	2.86%	60.95%	32.38%
	Weighted average	4.19				
6k	Uses of Information and Communication technologies in daily work	1	2	3	4	5
	Number of responses received	2	3	5	56	39
	Percentage of responses	1.90%	2.86%	4.76%	53.33%	37.14%
	Weighted average	4.21				
Q7	The infrastructure facilities at NTIPRIT, Ghaziabad:					
		Options available for Responses				
		Unsatisfactory	Satisfactory	Good	Very Good	Excellent
	Weightage to different options	1	2	3	4	5
7a	a, Classrooms					
	Number of responses received	20	20	18	20	11
	Percentage of responses	22.47%	22.47%	20.22%	22.47%	12.36%
	Weighted average	0.00				
7b	b, Furniture	1	2	3	4	5
	Number of responses received	23	17	20	19	10
	Percentage of responses	25.84%	19.10%	22.47%	21.35%	11.24%
	Weighted average	2.73				
7c	c, Computer/laptop facility	1	2	3	4	5
	Number of responses received	27	22	11	21	3
	Percentage of responses	32.14%	26.19%	13.10%	25.00%	3.57%
	Weighted average	2.42				
7d	d, Projector/ Audio visual aids	1	2	3	4	5
	Number of responses	15	21	16	24	14

	received					
	Percentage of responses	16.67%	23.33%	17.78%	26.67%	15.56%
	Weighted average	3.01				
7e	e, Practical Lab facility	1	2	3	4	5
	Number of responses received	35	16	12	10	3
	Percentage of responses	46.05%	21.05%	15.79%	13.16%	3.95%
	Weighted average	2.08				
7f	f, Training materials	1	2	3	4	5
	Number of responses received	16	24	17	21	7
	Percentage of responses	18.82%	28.24%	20.00%	24.71%	8.24%
	Weighted average	2.75				
7g	g, Library facility	1	2	3	4	5
	Number of responses received	28	23	13	11	3
	Percentage of responses	35.90%	29.49%	16.67%	14.10%	3.85%
	Weighted average	2.21				
7h	h, Tea/snacks/ Food facility	1	2	3	4	5
	Number of responses received	25	16	18	24	5
	Percentage of responses	28.41%	18.18%	20.45%	27.27%	5.68%
	Weighted average	2.64				
7i	i, Support Staff	1	2	3	4	5
	Number of responses received	24	18	18	15	12
	Percentage of responses	27.59%	20.69%	20.69%	17.24%	13.79%
	Weighted average	2.69				
7j	j, Hostel facility	1	2	3	4	5
	Number of responses received	47	13	15	6	3
	Percentage of responses	55.95%	15.48%	17.86%	7.14%	3.57%
	Weighted average	1.87				
7k	k, Sports facility	1	2	3	4	5
	Number of responses received	38	19	11	12	4
	Percentage of responses	45.24%	22.62%	13.10%	14.29%	4.76%
	Weighted average	2.11				
Q9	Are you aware of the National Training Policy-2012 of Govt.	Yes	No			

	of India?					
	Number of responses received	73	31	104		
	Percentage of responses	70%	30%			
Q10	Do you think Mid-Career training is essential for your career progression?	Yes	No			
	Number of responses received	106	0	106		
	Percentage of responses	100%	0%			
Q11	In your opinion should Recruitment Rules/ Service Rules be provisioned for Mid-Career Training (MCT) as one of mandatory requirement and essential conditions for promotions?	Yes	No			
	Number of responses received	90	14	104		
	Percentage of responses	87%	13%			

Annexure-4

Data Analysis (Faculty and Training Division of DoT)

Analysis of Quantitative Responses-Faculty and Training Division of DoT						
S.No	Questions					
Q3 a)	(a)The percentage of nominated officers who attend the training programme:					
	Options available for responses	0-25%	25-50%	50-75%	75-100%	
	Number of responses received	0	0	3	6	
	Percentage of responses	0%	0%	33.3%	66.7%	
Q3 b)	(b) Pl. mention the possible reasons for not attending the training programme by officers despite being nominated. (Tick mark √ one option in each row):					
	Options available for responses	Insignificant	Low Significant	Can't say	Significant	Very Significant
	Weightage to different options	1	2	3	4	5
i	Low enthusiasm in the cadre					
	Number of responses received	6	3	4	3	0
	Percentage of responses	38%	19%	25%	19%	0%
	Weighted average	2.25				
ii	Cadre officer does not consider the training programme to be useful					
	Number of responses received	3	4	5	5	0
	Percentage of responses	18%	24%	29%	29%	0%
	Weighted average	2.71				
iii	Training module not interesting					
	Number of responses received	4	7	4	1	0
	Percentage of responses	25%	44%	25%	6%	0%
	Weighted average	2.19				
iv	Low enthusiasm of faculty					
	Number of responses received	7	4	5	1	0
	Percentage of responses	41%	24%	29%	6%	0%
	Weighted average	2.00				

v	Resistance of controlling officers in releasing the nominated officer					
	Number of responses received	0	4	1	9	3
	Percentage of responses	0%	24%	6%	53%	18%
	Weighted average	3.65				
vi	Personal reasons					
	Number of responses received	1	1	7	5	3
	Percentage of responses	6%	6%	41%	29%	18%
	Weighted average	3.47				
vii	Training is considered as waste of time and resources					
	Number of responses received	8	3	5	1	0
	Percentage of responses	47%	18%	29%	6%	0%
	Weighted average	1.94				
Q5	How do you rate training programmes of Telecom Officers?					
	Options available for responses	Un-satisfactory	Satisfactory	Good	Very Good	Excellent
	Weightage to different options	1	2	3	4	5
a	The overall training programmes being conducted for Telecom Officers					
	Number of responses received	0	4	4	8	3
	Percentage of responses	0.0%	21.1%	21.1%	42.1%	15.8%
	Weighted average	3.53				
b	Training need analysis for the training for telecom officers					
	Number of responses received	5	5	3	4	2
	Percentage of responses	26.3%	26.3%	15.8%	21.1%	10.5%
	Weighted average	2.63				
c	The design of training programmes					
	Number of responses received	0	1	10	5	3
	Percentage of responses	0%	5%	53%	26%	16%
	Weighted average	3.53				

d	Training material provided during the training courses					
	Number of responses received	4	5	6	3	1
	Percentage of responses	21%	26%	32%	16%	5%
	Weighted average	2.58				
e	The method of evaluation adopted for the training conducted?					
	Number of responses received	1	2	10	2	2
	Percentage of responses	6%	12%	59%	12%	12%
	Weighted average	3.12				
f	The level of interaction between the faculty/speakers and trainees					
	Number of responses received	0	3	5	5	5
	Percentage of responses	0%	17%	28%	28%	28%
	Weighted average	3.67				
g	The classroom sessions conducted for training courses					
	Number of responses received	0	1	6	7	3
	Percentage of responses	0%	6%	35%	41%	18%
	Weighted average	3.71				
h	The field training/practical training/study tour conducted during training courses.					
	Number of responses received	1	2	9	4	2
	Percentage of responses	6%	11%	50%	22%	11%
	Weighted average	3.22				
i	Infrastructure availability at NTIPRIT Ghaziabad					
	Number of responses received	15	2	2	0	0
	Percentage of responses	79%	11%	11%	0%	0%
	Weighted average	1.32				
Q6	How frequently is the feedback taken from the participants?					
	Options available for responses	Daily	Weekly	Fortnightly	Only at the end of the	

					course	
	Number of responses received	0	0	0	18	
	Percentage of responses	0%	0%	0.0%	100.0%	
Q7	How is the feedback taken from the participants given due consideration?					
	Options available for responses	Not adequate	To a little extent	Average	Adequate	To a large extent
	Number of responses received	1	4	4	5	3
	Percentage of responses	6%	24%	24%	29%	18%
	Weighted average	3.29				
Q8	In your opinion, training programmes for Telecom Officers (Group 'A' & Group 'B') is adequate to meet present requirement?					
	Options available for responses	Not adequate	To a little extent	Average	Adequate	To a large extent
	Number of responses received	0	4	6	6	2
	Percentage of responses	0%	22%	33%	33%	11%
	Weighted average	3.33				
Q9	In your opinion, is competency mapping of Telecom Officers as envisaged in NTP 2012 necessary?					
	Options available for responses	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
	Number of responses received	0	1	4	8	5
	Percentage of responses	0%	6%	22%	44%	28%
	Weighted average	3.94				
Q10	Whether the competency mapping of all the Telecom Officers has been carried out?					
	Options available for responses	Yes	No			
	Number of responses received	0	10	10		
	Percentage of responses	0%	100%			
	Weighted average					
Q11	. Whether any Cadre Training Plan (CTP) has been prepared for ITS Group 'A' and TES Group 'B' cadre?					

	Options available for responses	Yes	No			
	Number of responses received	6	4			
	Percentage of responses	60%	40%			
Q12	If No CTP, then what are the main issues/ challenges faced in the implementation of Cadre Training Plan? Pl mention the importance of the listed issues/ challenges below.					
	Options available for responses	Insignificant	Low Significant	Can't say	Significant	Very Significant
	Weightage to different options	1	2	3	4	5
a	Training not required					
	Number of responses received	5	0	0	0	0
	Percentage of responses	100%	0%	0%	0%	0%
	Weighted average	1				
b	Training is considered as waste of time and resources					
	Number of responses received	4	1	0	0	0
	Percentage of responses	80%	20%	0%	0%	0%
	Weighted average	1.2				
c	Lack of Top Management commitment					
	Number of responses received	1	2	1	0	1
	Percentage of responses	20%	40%	20%	0%	20%
	Weighted average	2.6				
d	Resistance of controlling officers in releasing the nominated officer					
	Number of responses received	2	1	2	0	0
	Percentage of responses	40%	20%	40%	0%	0%
	Weighted average	2				
e	Resistance of cadre officers					
	Number of responses received	2	1	1	0	0
	Percentage of responses	50%	25%	25%	0%	0%
	Weighted average	1.75				

f	Competency mapping yet to be done					
	Number of responses received	1	0	0	3	1
	Percentage of responses	20%	0%	0%	60%	20%
	Weighted average	3.6				
g	Budget Constraint					
	Number of responses received	2	0	2	1	0
	Percentage of responses	40%	0%	40%	20%	0%
	Weighted average	2.4				
h	Lack of availability of domain experts					
	Number of responses received	3	2	0	0	0
	Percentage of responses	60%	40%	0%	0%	0%
	Weighted average	1.4				
i	Lack of Infrastructure					
	Number of responses received	2	2	0	0	1
	Percentage of responses	40%	40%	0%	0%	20%
	Weighted average	2.2				
Q14	In your opinion should Recruitment Rules/ Service Rules be provisioned for Mid-Career Training (MCT) as one of mandatory requirement and essential conditions for promotions?					
	Options available for responses	Yes	No			
	Number of responses received	15	2			
	Percentage of responses	88.2%	11.8%			
Q15	Pl specify the focus areas of cadre training modules					
	Options available for responses	Insignificant	Low Significant	Can't say	Significant	Very Significant
	weightage to different options	1	2	3	4	5
a	Domain knowledge					
	Number of responses received	0	0	0	12	6
	Percentage of responses	0%	0%	0%	67%	33%

	Weighted average	4.33				
b	Emerging technologies					
	<i>(5G, AI, IoT, Cloud and Big Data etc)</i>					
	Number of responses received	0	0	1	7	10
	Percentage of responses	0%	0%	6%	39%	56%
	Weighted average	4.50				
c	Policy Formulation, Monitoring & Regulation					
	Number of responses received	0	0	0	5	13
	Percentage of responses	0%	0%	0%	28%	72%
	Weighted average	4.72				
d	Project Management					
	Number of responses received	0	2	2	10	4
	Percentage of responses	0%	11%	11%	56%	22%
	Weighted average	3.89				
e	Financial Management					
	Number of responses received	0	0	2	6	10
	Percentage of responses	0%	0%	11%	33%	56%
	Weighted average	4.44				
f	Personnel management					
	Number of responses received	0	0	1	4	13
	Percentage of responses	0%	0%	6%	22%	72%
	Weighted average	4.67				
g	Leadership qualities					
	Number of responses received	0	0	1	4	13
	Percentage of responses	0%	0%	6%	22%	72%
	Weighted average	4.67				
h	Communication Skills					
	Number of responses received	0	0	1	5	12
	Percentage of responses	0%	0%	6%	28%	67%
	Weighted average	4.61				

i	Effective Decision Making					
	Number of responses received	0	0	0	3	15
	Percentage of responses	0%	0%	0%	17%	83%
	Weighted average	4.83				
j	Knowledge of e-governance					
	Number of responses received	0	0	0	5	13
	Percentage of responses	0%	0%	0%	28%	72%
	Weighted average	4.72				
k	Uses of Information and Communication technologies in daily work					
	Number of responses received	0	0	0	8	10
	Percentage of responses	0%	0%	0%	44%	56%
	Weighted average	4.56				
Q16	Your opinion/comments about facilities at training centre NTIPRIT, Ghaziabad:					
	Options available for responses	Not adequate	Adequate			
A	Requisite staff					
	Number of responses received	18	0			
	Percentage of responses	100.0%	0.0%			
B	Training Budget/Funds					
	Number of responses received	11	6			
	Percentage of responses	65%	35%			
C	Delegation of powers					
	Number of responses received	11	4			
	Percentage of responses	73%	27%			
D	Distance and e-Learning courses					
	Number of responses received	14	0			
	Percentage of responses	100%	0%			
E	Knowledge repositories facility					

	Number of responses received	13	2			
	Percentage of responses	87%	13%			
F	Faculty Development Programmes					
	Number of responses received	14	3			
	Percentage of responses	82%	18%			
G	Revision/Modification of courses curricula, contents and training methodologies					
	Number of responses received	7	10			
	Percentage of responses	41%	59%			
	Infrastructure facility:					
	Options available for responses	Not adequate	Adequate			
a	Classrooms					
	Number of responses received	18	0			
	Percentage of responses	100%	0%			
b	Furniture					
	Number of responses received	18	1			
	Percentage of responses	95%	5%			
c	Computer/laptop facility					
	Number of responses received	12	6			
	Percentage of responses	67%	33%			
d	Projector/ Audio visual aids					
	Number of responses received	10	7			
	Percentage of responses	59%	41%			
e	Research/ Practical lab facilities					
	Number of	19	0			

	responses received					
	Percentage of responses	100%	0%			
f	Training materials					
	Number of responses received	16	3			
	Percentage of responses	84%	16%			
g	Library facility					
	Number of responses received	18	0			
	Percentage of responses	100%	0%			
h	Tea/snacks/ Food facility					
	Number of responses received	10	7			
	Percentage of responses	59%	41%			
i	Hostel facility					
	Number of responses received	17	2			
	Percentage of responses	89%	11%			
j	Sports facility					
	Number of responses received	18	1			
	Percentage of responses	95%	5%			