PART - 1

GUIDELINES FOR THE PREPARATION OF A PROJECT REPORT

1.1 INTRODUCTION

Project Report is one of the evaluation components in the Practice School programme. After completing a project, the student submits a report on the project work carried out by him. This report is usually termed as Project Report. The report is a formal document. It should therefore be presented with a lot of care and thought.

Writing a report requires skills. It is a written presentation of the work which tells about the project, methodology used, final findings and results, etc. It is not a document which is meant only for the author. It is infact a valuable record which is often referred to by various persons working in that area. It is written to inform the reader and to acquaint him with the results arrived at and the conclusions reached. It is therefore essential to ensure that the report is written, organised and presented in such a manner that a reader has no difficulty in understanding it.

Having done a course on Report Writing the students doing PS are supposedly well-versed in the art of writing reports. However it is still worthwhile to recapitulate the important points regarding the layout, style and presentation techniques of a report. As we all know a report is a formal piece of subject matter written for a specific purpose. It conveys information in an impartial and objective manner. The objective is to convey ideas and information and not to impress the reader.

The following section provides a format and certain guidelines on how to write a report for a Practice School project. There are many forms of a report but we have chosen the one which is usually called a 'formal' report having all the compulsory elements of a technical report in it. It is therefore, expected that all the reports submitted by the PS students conform to the suggested format and guidelines.

1.2 APPEARANCE

The size of the report should be such that it is easy to use and handle. For this purpose, the following points are worth noting:

(a) **Size:** 9" X 11", is called the quarto size. It is commonly called the "thesis size".
(b) **Writing of the Report** : The report should be typed in double space on one side of the sheet and the pages should be numbered serially.
(c) **Margin:** About 1" on all the four sides of the sheet.
(d) **Number of Copies**: Two (one for the PS Division, one for the organisation) plus as many as the authors require.

(e) **Distribution** : One copy to the PS Faculty (the PS Faculty will submit this copy to the Practice School Division), and one to the Host Organisation.

1.3 ELEMENTS (Inner Matter)

A formal report usually contains the following elements:
(i)   Cover
(ii)   Title page
(iii)   Acknowledgements
(iv)   Abstract Sheet
(v)   Table of Contents
(vi)   Introduction
(vii)   Main Text
(viii) Conclusions and/or Recommendations
(ix)   Appendices
(x)   References.
(xi)   Glossary

We now elaborate these elements in some detail.

(i) Cover

The Cover is meant to protect the manuscript besides giving preliminary information like (i) the title of the report; (ii) the Name & ID No. of the student; (iii) the name of the organization; (iv) the date of submission, etc. (see appendix-A).

(ii) Title Page

This is the first page of the report. A PS report should contain the title of the report; the Name(s), ID No(s) and Discipline(s) of the students; PS course No.; the name of the organisation and the Institute. The format of this page is given in Appendix – B.

(iii) Acknowledgements

It is presented on the second page of report for thanking the persons who may have helped students during the work carried out by them. Customarily, in PS reports, thanks are given to the following in the order given below :

- Head of the organisation,
- Co-ordinator of the PS programme at the organisation,
- Professional Expert / Incharge of the project,
- PS Faculty,
- Other persons (from the organisation and /or outside the organisation, etc.)

(iv) Abstract Sheet

This is the third page of the report, and also one of the important pages. A reader, on going through it, should be able to know what the project is all about, like who did it and under whose supervision. A format of this page is given in Appendix-C.

This page contains a brief abstract of the project work. The abstract is written to enable the reader to know the kind of information given in the report and its key features. It mentions what the report is about, what has been accomplished and what is the importance and utility of the results. It is never intended as a substitute for the original document, but it must contain sufficient information to allow a reader to sustain his interest. The abstract should always be concise. It should not contain more than 200 words. The nomenclatures used should be meaningful, i.e., only standard terminologies should be used.

This page also contains information about **Project Area** and **Key Words**. Project Area is the name given to an area of specialization in a discipline. For example, in Computer Science some project areas can be Networking, Database Management etc. Keywords are the words or phrases which can be used to specifically locate a project report. A report can have more than one keyword and project area.

(v) Table of Contents

The table of contents is in the same form as it is found in any book. The main division as well as the sub-divisions are listed together with the number of the first page on which it appears. The page numbers for the matter preceding the Introduction are given in small Roman numerals i.e. (i), (ii), (iii) etc. and in Arabic numerals i.e. 1, 2, 3 etc. from Introduction onwards.

For establishing a suitable relationship among topics and sub-topics one should follow a single numbering scheme. Usually schemes like decimal numbering or letter numbering are generally followed. The scheme of decimal numbering which is more commonly used is as follows:

1.
  1.1
  1.2
  1.3
    1.3.1
    1.3.2
    1.3.3

<pre>
        1.3.3.1
        1.3.3.2
        1.3.3.3
</pre>

       The words, phrases and sentences used for writing the topics and sub-topics should have a parallel grammatical construction. For this an example is given below.

<pre>
   2. Causes of Food Problem
       2.1 Defective Distribution System
       2.2 Lack of Proper Storage Facilities
       2.3 Hoarding
       2.4 Natural Calamities
       2.5 Floods
       2.6 Drought
</pre>

(vi) Introduction

       In Introduction, the problem is defined and introduced. The Introduction therefore contains the purpose of writing the report and sufficient background material, including the literature surveyed to present the reader a clear picture of the project work. A paraphrased outline of the work should also form a part of the Introduction. In the Introduction of a report the author discusses the scope, and the limitations of his work. It is also required to discuss the sources, methods and procedure employed in collecting and organising the data. The author is also expected to highlight the value of his work besides indicating the need for writing the report.

       A proper and effective Introduction should include a brief history of the problem under discussion, coupled with the statement of the immediate problem under examination, the reasons for undertaking it and a discussion of the methodology adopted. Generally for PS project report, an Introduction may not be more than a couple of pages.

(vii) Main Text

       The actual work, the method of treatment and the results are presented in this part of a report. It may run into many sections and sub-sections   under different headings and sub-headings. That should be numbered and phrased appropriately. In order to maintain consistency, you are required to follow the same pattern as given in the Table of Contents of your report.

       The main text contains the discussion on the experimental work done or the data collected, the survey done, a description of activities, analysis and the results obtained. It also includes illustrations and interpretations. This is the main body of the report. All illustrations (graphs, diagrams, tables, figures, etc.) should always be accompanied by a number and an appropriate title. This helps the reader understand the illustration in a better way. It also helps the writer to refer to these in the subsequent discussion.

Significant discrepancies in results should be called to the reader's attention, even when it is admitted that no reasonable explanation can be offered. If the author himself discovers these discrepancies and does not mention them, the technical credibility of the report gets adversely affected.

(viii) Conclusions and/or Recommendations

The conclusions and recommendations are derived from the discussions and interpretations of the results obtained. It would be helpful to the reader if other possibilities pertaining to the stated conclusions and recommendations are also discussed. The purpose of the conclusions is to draw the attention of the reader to significant findings. Sometimes conclusions contain a very brief summary of the main discussion. Recommendations suggest ways and means of bringing about improvement.

(ix) Appendices

The contents of an appendix are essentially those which support or elaborate the matter given in the main text. The matter, which is essential but will unnecessarily divert the attention of the reader from the main problem, is generally placed in the Appendix. We give below some items which normally form a part of the Appendix. These are: (a)calculation sheets; (b) lengthy derivations of mathematical formulae; (if that is not the project itself) (c) supplementary details of instructions; (d) flow charts; (e) computer programmes; (f) questionnaires & interview sheets; (g) large maps; (h) the nomenclature; etc.

If the project itself is about making of a computer programme of some problem, then the flow chart and the computer programme have to be in the main body. It is for the author to decide, what matter would be placed in the Appendices according to nature of the project work and problem definition.

(x) References

All the references to books, journals, documents, web site links etc. should be given in the section called References. Two examples of how to write a reference are given below:

Suppose you have referred to a paper entitled 'An Integral Equation Satisfied by the Square of Weber's Parabolic Cylinder Function', whose author is S.C.Mitra, which appeared in the Journal of London Mathematical Society whose volume number is 11, the year of publication is 1936, and the article is published on pages 252 to 256; you would write it as follows:

1. Mitra, S.C. , "An Integral Equation Satisfied by the Square of Weber's Parabolic Cylinder Function" *The Journal of London Mathematical Society*, Volu. 11, 1936, pp. 252-256.

Again, in case you have referred to a book on An Introduction to Linear Algebra by Dr. V. Krishnamurthy and others which was published by Affiliated East-West Press, New Delhi in the year 1976, the reference should be cited as given below:

2. Krishnamurthy, V. et al, "*An Introduction to Linear Algebra*," 1st edition, New Delhi; Affliated East-West Press, 1976, p.25.

The serial number of the reference should correspond to the number of citation in the text of the report.

(xi) Glossary

Glossary is the list of technical words and terms used by the author in his report. It normally includes the meaning of the word / term and the page no(s) where it occurs in the text of the report.

1.4 STYLE OF WRITING THE REPORT

Write the first draft. Take reasonable care in the choice of words and sentence structure; choose simple and familiar words. Similarly, write smaller sentences instead of long ones with a number of clauses.

In case the project work is undertaken by a group of students then different sections of the report are drafted by different members of the group. This is acceptable but these sections must then be integrated into a final report and can be done best by a single writer who can easily spot repetition, redundancy, and omission to make sure that the message flows smoothly. The integration of the sections and polishing of the style is essential. Unnecessary words and phrases must be avoided. The draft of the report should be given to the faculty and also to the expert, who in turn will return it to the authors after making the necessary corrections and suggestions.

In the light of these corrections and suggestions, prepare your second draft and now see that it is in the desired format and structure. Having done so, send it for typing. But your responsibilities do not get over because you have to proof-read the typed sheets; correct the spelling mistakes if any, and check its total presentation before submitting it.

PART 2

GUIDELINES FOR THE PREPARATION OF A SEMINAR

2.1 INTRODUCTION

Seminar is an oral component of PS evaluation. It serves several important purposes. Some of them are:

- To convey results quickly to interested parties.
- To emphasize the most important aspects of the project.
- To allow the interplay of questions and answers and cross - fertilization of ideas.

In this part, some essential principles of a good oral communication are discussed, which are vital to the proper planning and presentation of a seminar.

2.2 PREPARATION

The preparation for a seminar is two-fold. The first is to have a thorough knowledge of the subject and a full understanding of it . The second is the selection of the material for the presentation.

A thorough understanding of the subject matter gives confidence to the speaker; liberates him from dependence on notes and enables him to concentrate on the audience. To achieve this, speaker should have a command on the background material, should identify the critical points in the presentation, should also have specific ideas, concepts and thoughts. Having laid the foundation, it is easy to build the edifice. The knowledge of the background of the audience helps the speaker in arranging the material in an agreeable form. This is a part of the communication and not an attempt to be servile. The beginning should be brisk and to the point. The audience should be told why they are there and what the speaker wishes to accomplish. The ending should have well-stated conclusion. A summary should also be given at the end.

2.3 ORGANISATION

Orderly progression through the material is the first element of organization. You should move from a specific point to a critical idea. Emphasize the key issues and build the logic to support them. Clarity of expression leads to understanding. Therefore always organize your thoughts so as to make them look coherent and comprehensive. Keep the break-up data ready for the critical points. Explanations should be tuned to the audience. Beginning of the presentation should be interesting and the ending forceful. Aids like

transparencies and slides should be clear and concise as their purpose is to provide due emphasis with a visual clue. A slide should therefore have only a few points. Do not read continuously from the slide or chart. Keep the presentation short. It should be within the attention span of the audience. End the seminar on a forceful note.

2.4 PRESENTATION

In the presentation a special emphasis needs to be given to the voice and body language. The tone, voice modulation and expressive gestures are vital source of communication since they convey definite meaning and message. Therefore avoid monotony with lively presentation. Do not stay stiff and do not jump around either. Deliver the thoughts with vitality. Indicate the mood changes. While the basic tone is one of seriousness, an occasional smile is always refreshing. Similarly, a timely humorous remark is always welcome as it rejuvenates the speaker as well as the listener. Be dynamic but not excited. Feel as one among the audience. While you are an expert on the subject, you are still their 'Comrade' . Be positive and confident . Explain your ideas and define your terms. Ensure that each thought is complete in itself. You may be critical of ideas. However do not be critical of people. Talk to the audience. Do not lecture. Accept questions and criticism with grace for their positive value. Answer only those questions which you can handle. You are on the stage like an actor. Rehearse and practice before a few critical friends of yours.

2.5 VISUAL AIDS

In a seminar, the use of visual aids is always important. Visual aids are used to explain a concept or an idea to the audience or to demonstrate visually a verbal message. The speaker may utilize as many aids as possible to communicate an idea to his audience. It is essential that the use of visual aids be appropriate. It should also be noted here that visual aids should only be used when they serve a useful purpose. While using a visual aid, the overall objective should be kept in mind. It should serve the function of reinforcing the understanding of the audience. There are many types of visual aids like:

- Black-board and chalk
- Overhead projector
- Slide projector
- Prepared line drawings and charts
- Three dimensional models
- Power point/ Computer

All the above visual aids may not be available at a PS station; so whatever is available, may be used. The visual aid which is available at almost all stations is the black-board and chalk. Charts and line drawings can be made by the speaker himself.

In case charts and drawings are made for use as a visual aid, always keep in mind that:

(a)   The drawings and letters are large enough to be seen even from the last row of the audience.
(b)   Two or more simple charts are better than a single complex chart.
(c)   Use of different colours, wherever possible, is advantageous.

A successful use of the black-board is not only an art but a professional requirement. It is discussed in the next section.

2.6 BLACK-BOARD PRESENTATION

Black-board is one of the most common visual aids available almost at all the PS stations. While utilizing this aid for seminar, a speaker should plan for the use of whole black-board. The fact that the speaker is moving about while using the board sustains the interest of the audience. They watch his movement and observe what he does. It is important that the audience grasps technical terms . So writing a brief list of such terms and points covered on the black-board ensures that these points are known to them. As a "point clincher" the black-board is unequalled. The important points are conveyed by a piece of chalk and black-board. A black-board may be used for the following:

- Drawings
- Sketches
- Maps
- Diagrams
- Technical words
- Definitions
- Key words
- Outlines
- Reviews
- Problem Statement
- Rules
- Directions
- Illustrating procedure
- Derivations

The use of black-board in an effective manner is in itself an art. To make it more emphatic and to convey your ideas more efficiently, keep in mind the following points:

➢ Clean the board neatly. Use a duster or a piece of clean cloth for this purpose. Do not use your hand or fingers for this purpose. From time to time all unrelated matters should be erased. Do not erase an item immediately after writing. Allow the audience to understand it.

> Avoid black-board glare. If necessary, cover the window and turn on the room light.

> Get everything you need for the black-board together.

> Write neatly in big letters so that the audience sitting in the last row can also read it.

> Plan your black-board work in advance.

> Write only the key points which are necessary to write on the board. Black-board is not good for descriptive work. Don't crowd the black-board.

> Keep the material simple; concise statements are more effective than the lengthy ones.

> Start writing from the left hand corner in straight lines. Normally the length of the line should not be more than 3 to 4 feet. Do not write in a haphazard way.

> Use common notations and nomenclatures only.

> Stand on one side of the board. Do not cover the board by standing in front of it.

> Underline the important points.

> While using the black-board always maintain an eye contact with the audience.

> Avoid talking to the black-board and always focus on the audience.

> Clean the board regularly.

> Use coloured chalks, if necessary to emphasize on certain points or issues.

> Clean the board after the seminar.

2.7 PLATFORM MANNERS

The first impression which a speaker makes on his audience is through his appearance. The speaker should try to look relaxed, confident, well-groomed and poised. If the speaker does not bother to tell any one, no one will know he is nervous. Therefore, avoid giving outward signs of nervousness. In order to improve your platform manners, avoid the following:

- Giving outward signs of nervousness.

- Clearing the throat repeatedly.

- Jingling change in pockets.

- Keeping hands in pockets.

- Fumbling with clothing or buttons.

- Scratching the head.

- Leaning on the lectern.

- Slouching around the platform.

- Appearing aggressive and defiant.

- Juggling or fidgeting with chalk, duster, table or any other object used in seminar.

- Apologizing for being nervous.

- Looking at your PS faculty and not making eye - contact with others in the audience.

The points given above create a crippling effect on one's performance and hence, should be avoided. Some hints on developing pleasant platform manners are:

➢ Establish rapport with the listeners. Frequent direct eye contact with different members of the audience helps in establishing such a rapport.

➢ Keep your hands relaxed and at your sides most of the time.

➢ When you feel the necessity to take a step in any direction or to gesture, do so as smoothly as possible.

➢ Avoid doing things that are awkward or distracting to the audience, e.g., waving your hand, swaying back and forth, throwing chalk pieces here and there.

➢ Remember that the audience has nothing to do while they are sitting except watching you. Consequently, they will look at whatever attracts their attention. Every awkward movement, every distraction will catch their eye.

➢ Be sure to avoid any mannerism which might divert the attention of your audience, e.g., staring out of the window or over their heads, while speaking.

➢ Speak to the audience and not to the podium, black-board or to only one man.

➢ Relax; a little showmanship can be useful, but be careful not to overdo it.

➢ Avoid exaggerated body language.

➢ Employ only those gestures which do not draw the attention of the audience to themselves and distract them from your message.

2.8 FEATURES OF VOICE

The effectiveness of the seminar is influenced by the way a speaker uses his voice. There are five main features of the voice.

(a) Volume (b) Rate (c) Pitch (d) Articulation (e) Pauses

(a) Volume

The volume of the speaker's voice should be such that the person sitting far away from the speaker can hear him without any strain. Speaking too softly will impair the concentration of audience and too high a volume will distract them.

(b) Rate

The rate refers to the number of words uttered per minute. Therefore the rate at which a speech is delivered is also important. When a speaker talks too rapidly, the audience strains to find where one word ends and where the next one begins. A slow delivery may be boring, monotonous and vapid in effect. Therefore the speaker should be careful to maintain a rate which is neither too fast nor too slow.

(c) Pitch

Pitch is the tone of sound depending upon the rate of vibration of the vocal cord. The characteristic tone of a voice is its quality. The tone of voice used by a speaker is therefore important. An unenthusiastic speaker will often appear bored to an audience. It is necessary for the speaker to talk to the audience, not down at the audience. If he remembers that he is speaking to a number of individuals, rather than to a unified group, his tone will improve. An audience may infer from an unenthusiastic delivery that the speaker is not interested in his topic and that the quality of the work is, therefore, questionable.

Perhaps the most important attribute a speaker can have is the ability to vary his tone, speed and volume to emphasize key points and to avoid monotony. The speaker can easily highlight key points by raising or lowering the volume; increasing or decreasing the pitch; speeding up or slowing down the speech; and stressing the key word by pausing before and after the word.

It is of prime importance that the speaker recognizes the need for variety in his delivery and the need to emphasize the important points. Use of proper pitch, clear enunciation and exact pronunciation are particularly important when speaking to a large audience.

(d) Articulation

Articulation is the ability to utter the words in a distinct manner. For an effective speech try to speak each word distinctly and, crisply. Slurring and mumbling of words must be avoided.

(e) Pauses

Use timely pauses so as to appear natural and poised. Remember to pause at the end of thought units and not in the middle. Avoid however, the vocalized pauses.

After the preparation for a seminar, it is suggested that a student rehearses his talk in front of colleagues and /or PS faculty and asks for their comments and suggestions for improvement or alternatively, rehearses in front of a mirror and seeks self-feedback.

2.9 A FEW TIPS

A few significant tips are given below. These will help the speaker in preparing for a seminar and will also make his presentation a lively and effective one.

(i) **Planning**

> ➢ Gather the data and define the objective.

> ➢ Have a well-defined title /topic for the seminar.

> ➢ Prepare an outline, with a well-thought out Introduction, Main-body and Conclusion.

> ➢ Determine the key words /phrases which you wish to stress on.

> ➢ Find out the time allotted to you and plan your entire presentation accordingly. In other words, make a judicious choice of connected ideas of what you can present in that allotted time.

> ➢ Be clear of what you wish to skip. For example, after initiating an analysis, you can directly come to the result, omitting the detailed steps.

> ➢ Decide on the visual aids and also locate the places in your presentation where you plan to use them.

> ➢ Plan also what to write and where on the black-board.

- If you wish to keep some matter on the black-board throughout the talk, choose a proper location for such material.

- You can also use slides/transparencies/ flip sheets.

- A slide / transparency should have only a few points neatly and legibly written for the audience to be able to read even from a distance.

- Remember, a large number of visual aids is no substitute for your talk.

(ii) **Presentation**

- To begin with, introduce yourself to the audience by telling your name and discipline.

- Give a brief outline of what you propose to present. Also tell the audience what your own contribution was to the project.

- Before you go into details, it is helpful to state the lead idea.

- Look at your audience and establish eye-contact.

- Talk forcefully, with proper modulation of your voice. Keep the interest of the audience sustained and avoid monotony.

- A proper stance, posture and habit of looking at the audience have to be cultivated. Do not walk around and do not slouch.

- Follow your plans but avoid being stilted.

- Finish your presentation within the allotted time.

- Conclude it and indicate what you chose to omit.

- However, if you have run out of time , stop your presentation. Only summarize the remaining part. Do not ignore the time signal.

- Remember reading from pieces of paper, writing on the blackboard or transparency with no deliberate intention of doing so, and general slouching not only show disrespect to the audience but are also demeaning to the speaker.

(iii) **Question time**

- Listen to the question and respond to it in a friendly manner.

- If you don't know the answer to a specific question, say so. Don't make a guess.

- While defending your point of view, look out for a new angle or another point of view and show your appreciation.

- Keep the answers as brief and precise as possible.

- Be patient and tolerant when discussion is going on. Discussion is a part of the seminar.

- Be specially polite during the discussion when you have to disagree.

After the seminar, discuss your presentation with other students and the PS faculty and note down the errors of delivery. Note also how you can make your presentation better next time.

PART 3

GUIDELINES FOR PARTICIPATION IN A GROUP DISCUSSION

3.1 INTRODUCTION

In a Group Discussion (GD) a small number of persons (preferably five) meet face-to-face. The group exchanges information through free oral interaction among themselves on a topic or problem and try to arrive at a commonly acceptable decision or a solution. The purpose of all group discussions is to provide an opportunity to participants to think, listen and speak. This is a good method of helping members in crystallizing their abstract thoughts into practical ideas.

GD helps in generating a variety of ideas on the topic under discussion, resulting in a common view on the topic. It is believed that while one member presents his ideas, other ideas get triggered off and the ensuing discussion slowly has the involvement and participation of all the members of the group. It should be remembered that the group should be able to define the problem at hand, analyze it from all angles and generate potential solutions for it.

Members should desist from rigid views to pave the way for a lively discussion. It is not necessary that one should persist in one's first idea throughout the discussion. It is advisable not to pose any restriction about the area of discussion at the beginning, whoever at this stage lateral thinking should be welcomed. The narrowing down of the area can take place as the discussion progresses. There should not be an excessive stress on complete agreement among members. What is needed is an exploration of ideas close to the topic under discussion, and this requires participation of everyone in the discussion.

3.2 ORGANIZATION

Like a seminar, GD is also an oral presentation of your ideas on the topic under discussion. Therefore, vocal elements,   your ability to think logically and present your thoughts cogently are of crucial importance. If the topic has been announced a day or two before, refer to books, journals,   materials from the organization itself and jot down key points and ideas. Think about your own point of view. Arrange your ideas in a logical sequence.

3.3 PROCEDURE

Each participant should briefly present his ideas before the discussion actually begins. Platform manners and the use of voice discussed earlier would be helpful here too.

3.4 PARTICIPATION

Each participant should be given a fair chance to express his ideas. The following should be borne in mind for effective participation in a group discussion:

- ➢ Listen carefully to others' point of view and accept a plurality of views whenever it is valid.

- ➢ Grab the opportunity to explore wide ideas and discard them only when they have no relevance to the topic.

- ➢ Avoid converting the discussion into a dialogue or a debate with only two members talking.

- ➢ The monopolization of the discussion by two members can be avoided if other participants pick up the thread and move the discussion off the dead centre.

- ➢ See that the discussion does not go off at a tangent.

- ➢ Encourage every participant to take part in the discussion; if necessary, provoke the silent spectator in the group to speak out.

- ➢ As there is no designated leader for such discussion groups, one or two participants are expected to emerge as leaders.

- ➢ Such a leader guides the discussion and ensures that the opinions/comments are relevant to the topic. He also solicits the opinions of all group members; helps them resolve their personal conflicts and helps the group reach consensus on its final suggestions. The leader however should not monopolize the discussion or dominate the scene.

- ➢ Listen carefully and patiently to others before giving your own reaction. Such courtesy adds to the grace of a group discussion and enhances the warmth of the exchange no matter how divergent the views may be.

- ➢ Remember, a heated discussion need not be a loud one.

- ➢ Speak politely and extend co-operation.

- ➢ Don't be stubborn or have a rigid attitude.

- ➢ Avoid aggressive language.

- ➢ Don't be aloof or keep silent.

- Avoid being persistent and adamant regarding your point of view. Convince others or get convinced by them.

- Avoid using exaggerated body language.

- Avoid interpersonal conflicts.

- Don't deviate from the main topic, encourage participation of other members.

- It is customary to have a summary of the GD by one or two members of group at the end of the discussion.

      Appendix D gives two lists of topics for Group Discussion. **List I** has those topics which are related to the projects students usually do or that are relevant to the organizations. **List II** has topics which should not be given for Group Discussion as they are not related either to the projects or to the organizations.

A REPORT

ON

(Title of the Project in Capital Letters)

BY

Name(s) of the   ID.No.(s)
Student(s)

_____   _____
_____   _____
_____   _____

AT

(Station Name and Centre)

A Practice School-I/II station of

BIRLA INSTITUTE OF TECHNOLOGY & SCIENCE, PILANI

(Month, Year)

A REPORT

ON

(Title of the Project in Capital Letters)

BY

Name(s) of the Student(s)	ID.No.(s)	Discipline(s)
_____	_____	_____
_____	_____	_____
_____	_____	_____

Prepared in partial fulfilment of the
Practice School-I/II Course

AT

(Station Name and Centre)

A Practice School-I/II station of

BIRLA INSTITUTE OF TECHNOLOGY & SCIENCE, PILANI

(Month, Year)

(Specimen of Abstract Sheet)   (Appendix-C)

BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE
PILANI (RAJASTHAN)
Practice School Division

Station: …………………………..   **Centre** ....…………………..

Duration ....…………………   **Date of Start**...................……………

Date of Submission ....……………………………………………………

Title of the Project:

ID No./Name(s)/
Discipline(s)/of
the student(s)

Name(s) and
designation(s)
of the expert(s):

Name(s) of the
PS Faculty:

Key Words:

Project Areas:

Abstract:

Signature(s) of Student(s)   Signature of PS Faculty

Date   Date

Topics for Group Discussion

List I

Topics related to students' projects or the organization for Group Discussion:

1. Should we prefer high capacity or low capacity units?

2. Power plants and their impact on the environment.

3. Effect of industrial automation on paper industry.

4. The importance of industrial safety.

5. Technology development in an Indian bank.

6. Basic concepts used in satellite applications.

7. Benefits of computerization in India.

8. Current trends in computer based education.

9. Is automation needed in process industry?

10. Cement industry -- an overall perspective.

11. HPCL -- the plans for years ahead.

12. Measures to revive a shipyard.

13. Is the automation of an industry-good or bad?

14. Impact of multinationals on the Indian market.

15. Control of air and water pollution .

16. Need and importance of training in industry.

17. How far are exhibits and displays of the Birla Museum effective in communication?

18. Advertising and the new graphical packages.

19. NPL as the major contributor to the Indian industry.

20. R&D and the role of university-research labs in industries.

21. Public sector vs private sector.

22. The power of advertisements.

23. Interlinking space and defence programme: concerns for regional security.

24. R&D efforts in Indian policies and directions.

25. Information technology is an extension of the era of industrial revolution.

26. Privatization of Indian industries.

27. Liberalization of Indian economy and brain drain.

28. In India, should more investments be made in R&D?

29. Present energy scenario and future prospects.

30. Privatization of sick, public sector units.

31. Environmental pollution control at NALCO.

32. Is a management degree essential for becoming a manager?

33. Inclusion of medical profession in consumer forums.

34. Economic reforms: impact on Indian economy.

35. Effect of electronic media in advertising.

36. The problem of unemployment in India.

37. Does the infrastructure of transportation in India meet the needs of Indian economy.

38. The problem of brain - drain in India.

39. Prevention of road accidents -- the role of the government.

40. Career choices-their impact on future.

41. Information Highways.

42. Industrial automation.

43. Generation of employment/unemployment due to technological advances.

44. Privatization of Indian Industries -- its impact on Indian economy.

45. New Industrial Policy and the future of Indian industries.

46. The role of Information Technology for development in India.

47. Advertising strategies for stuffed toys (in a toy company).

48. Technology transfer -- the necessary conditions.

49. Advertising and consumerism.

50. Remote sensing and its applications.

51. Role of NISTADS in S&T development.

52. Technology Transfer -- the Government's role.

53. ISO 9000 -- the Indian scenario.

54. What should be India's strategy to become a technological power?

55. Hazards of self-medication.

56. The role of BHEL in Indian economy.

57. Should technological advance be done at the cost of environmental degradation?

58. Role of the Quality Control Department in an industry.

59. Impact of Environmental pollution.

60. Quality assures market - reality or myth?

61. Relevance of emerging technologies to ECEL.

62. Paper industry: modernization & problems.

63. Recent trends in paper industry with reference to environmental factors in mind.

64. Role of engineers in nation-building.

65. Strategies for a shift from monopoly to open market.

66. University Industry Linkage -- the need of the day.

67. Role of computers in ordnance factory.

68. ISRO'S activities and their benefit to common man.

69. Government's expenditure in research -- pros and cons.

70. Future of Petrochemical Industries in India.

71. Effective management of people is the key to success in any organization.

72. India's education policy - a critical review.

73. Industrial automation will increase productivity in public sector units.

74. Control of wastage in an industry -- a case study of ship building industry.

75. Control of pollution.

76. Advertising media.

77. Indian Leather Industry.

78. International marketing of leather and leather goods.

79. Relevance of management education to the industry.

80. Development of Information Technology would lead to socio- economic growth.

81. Recent developments in cancer research.

82. Role of physics vs role of electronics in science museums.

83. Factors influencing site selection for construction.

84. Controlled systems in industry and processes.

85. Safety or production: which should be given more importance?

86. Nuclear energy and its usage.

87. Energy alternatives and nuclear option in the Indian context.

88. Expectations of overseas customers.

List II

(Topics **not related** to the projects or organizations and therefore **Not to be given** to students)

1. Women's Liberation.
2. Linguistic chauvinism in India.
3. Why India does not produce champions in sports.
4. Aping of western culture -- pros and cons.
5. Freedom of press in India.
6. Marriages are made in heaven.
7. Should India be made a Hindu Rashtra?
8. Godman in India: can they be trusted upon?
9. Indian politics -- drama in real life.
10. Is perfect automation anti-social for India?
11. Invasion of Star TV on India.
12. Love marriages vs arranged marriages.
13. Will perpetuating caste and communal identities lead ultimately to national disintegration.
14. Indian film music.
15. Do you support reservation policy?
16. Combating terrorism.
17. India's stand on signing NPT/CTBT.
18. Indo Pak relations -- a solution to Kashmir problem.
19. Is god a myth or a reality?
20. Abolition of the examination system will help in improving the standards of education.
21. Influence of cinema on society and youth.
22. Liquor and cigarette ads should be permitted on Door Darshan.
23. If India must survive her politicians must disappear.
24. Indian cricketers perform well on home soil only.
25. Ethics in business.
26. Industrial relations today.
27. Democracy vs communism.

28. Are women as good as men?

29. Is quality of Indian cinema going up or down?

30. Is non -violence applicable to present day India?

31. Child labour - a festering wound in society.

32. Effect of movies on new generations.

33. Cricket: five -day matches or one-day matches?

34. Reservation: should it be scrapped ?

35. Is capitation fee a boon or a bane ?

36. Is a working woman responsible for the break-up of homes?

37. Peace with Pakistan is impossible to achieve.

38. Delinking of degrees will help solve the unemployment problem.