1.a Define Research. Elaborate on the objectives and significance of research.

- Research in commonly refers to a search for knowledge.
- Once can also define research as a scientific and systematic search for pertinent information on a specific topic.
- In fact, research is an art of scientific investigation.
- Redman and Mory define research as a "systematized effort to gain new knowledge."
- Research is an academic activity and as such the term should be used in a technical sense.
- According to Clifford Woody research comprises defining and redefining problems, formulating hypothesis or suggested solutions; collecting, organising and evaluating data; making deductions and reaching conclusions; and at last carefully testing the conclusions to determine whether they fit the formulating hypothesis.
- D. Slesinger and M. Stephenson in the Encyclopaedia of Social Sciences define research as "the manipulation of things, concepts or symbols for the purpose of generalising to extend, correct or verify knowledge, whether that knowledge aids in construction of theory or in the practice of an art."

Research objectives as falling into a number of following broad groupings: OBJECTIVES OF RESEARCH

- 1. To gain familiarity with a phenomenon or to achieve new insights into it (studies with this object in view are termed as exploratory or formulative research studies);
- 2. To portray accurately the characteristics of a particular individual, situation or a group (studies with this object in view are known as descriptive research studies);
- 3. To determine the frequency with which something occurs or with which it is associated with something else (studies with this object in view are known as diagnostic research studies);
- 4. To test a hypothesis of a causal relationship between variables (such studies are known as hypothesis-testing research studies).

The possible motives for doing research may be either one or more of the following: MOTIVATION IN RESEARCH

- 1. Desire to get a research degree along with its consequential benefits;
- 2. Desire to face the challenge in solving the unsolved problems, i.e., concern over practical
- 3. problems initiates research;
- 4. Desire to get intellectual joy of doing some creative work;
- 5. Desire to be of service to society;
- 6. Desire to get respectability.

However, this is not an exhaustive list of factors motivating people to undertake research studies. Many more factors such as directives of government, employment conditions, curiosity about new things, desire to understand fundamental relationships, social thinking and awakening, and the like may as well motivate (or at times compel) people to perform research operations.

1b. Explain the different types of research with an example for each

Different types of research are:

(i) Descriptive vs. Analytical

TYPES OF RESEARCH

- (ii) Applied vs. Fundamental
- (iii) Quantitative vs. Qualitative
- (iv) Conceptual vs. Empirical
- v) Some Other Types of Research

Descriptive vs. Analytical

- Descriptive research(Ex post facto research) includes surveys and fact-finding enquiries of different kinds, including comparative and correlational methods.
- The major purpose of descriptive research is description of the state of affairs as it exists at present.
- The main characteristic of this method is that the researcher has no control over the variables; he can only report what has happened or what is happening for example frequency of shopping, preferences of people, or similar data.
- In analytical research, on the other hand, the researcher has to use facts or information already available, and analyze these to make a critical evaluation of the material.

Applied vs. Fundamental

- Research can either be applied (or action) research or fundamental (to basic or pure) research.
- Applied research aims at finding a solution for an immediate problem facing a society or an industrial/business organization. Research to identify social, economic or political trends that may affect a particular institution/organization.

Ex: study to improve customer retention for a company

• Fundamental research is mainly concerned with generalizations and with the formulation of a theory. Research concerning some natural phenomenon or relating to pure mathematics are examples of fundamental research. Research studies, concerning human behaviour with a view to make generalizations, are examples of Fundamental research.

Quantitative vs. Qualitative

• Quantitative research is based on the measurement of quantity or amount. Gathering quantifiable data and performing statistical or computation techniques.

Ex: For instance, when we are interested in investigating the reasons for human behavior

— Motivational Research:- This type of research aims at discovering the motives and desires, used in depth interviews.

- Qualitative research, on the other hand, is concerned with qualitative phenomenon, i.e., phenomena relating to or involving quality or kind.

 Ex:
- Attitude or opinion research:- This research designed to find out how people feel or what they think about a particular subject or institution.

Conceptual vs. Empirical

- Conceptual research is that related to some abstract idea(s) or theory. It is generally used by philosophers and thinkers to develop new concepts or to reinterpret existing ones.
- empirical research relies on experience or observation alone, often without due regard for system and theory. In such a research, the researcher must first provide himself with a working hypothesis or guess as to the probable results. He then works to get enough facts (data) to prove or disprove his hypothesis. Empirical research is appropriate when proof is sought that certain variables affect other variables in some way.

Some Other Types of Research

- one-time research or longitudinal research: In the former case the research is confined to a single time-period ex: population research. whereas in the latter case the research is carried on over several time-periods ex: panel study.
- field-setting research or laboratory research or simulation research: manipulates the factors
- clinical or diagnostic research: going deep into the causes of understanding customer problems.
- exploratory research: Development of hypothesis without being tested.
- formalized research: Development of structure with hypothesis testing.

2a. Distinguish between Research Method and Research Methodology.

- Research methods or techniques, thus, refer to the methods the researchers use in performing research operations. In other words, all those methods which are used by the researcher during the course of studying his research problem are termed as research methods.
- Research methods can be put into the following three groups:
- 1. In the first group we include those methods which are concerned with the collection of data. These methods will be used where the data already available are not sufficient to arrive at the required solution;
- 2. The second group consists of those statistical techniques which are used for establishing relationships between the data and the unknowns;
- 3. The third group consists of those methods which are used to evaluate the accuracy of the results obtained.

Research Techniques refer to the behaviour and instruments we use in performing research operations such as making observations, recording data, processing data.

Research Methods refer to the behaviour and instruments used in selecting and constructing research technique.

Research methodology

- Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically.

 Researchers not only need to know how to develop certain indices or tests, but also must know how to calculate the mean, the mode, the median or the standard deviation or chi-square, how to apply particular research techniques, but they also need to know which of these methods or techniques, are relevant and which are not.
- For example, an architect, who designs a building, has to consciously evaluate the basis of his decisions. when we talk of research methodology we not only talk of the research methods but also consider the logic behind the methods we use in the context of our research study and explain why we are using a particular method or technique and why we are not using others.

2b. Illustrate the various steps. involved in Research process with a neat diagram

Research process consists of series of actions or steps necessary to effectively carry out research and the desired sequencing of these steps.

The chart shown below well illustrates a research process.

RESEARCH PROCESS IN FLOW CHART (FF) Review the literature Review concepts Define Design research and theories Analyse data Formulate Collect data Interpret (Test hypotheses hypotheses (Execution) and report problem Review previous research finding sample design) if any) VII Ш Where F = feed back (Helps in controlling the sub-system

to which it is transmitted) = feed forward (Serves the vital function of

providing criteria for evaluation)

• One should remember that the various steps involved in a research process are not mutually exclusive; nor they are separate and distinct. They do not necessarily follow each other in any specific order.

However, the following order concerning various steps provides a useful procedural guideline regarding the research process:

(1) formulating the research problem;

- (2) extensive literature survey;
- (3) developing the hypothesis;
- (4) preparing the research design;
- (5) determining sample design;
- (6) collecting the data
- (7) execution of the project;
- (8) analysis of data;
- (9) hypothesis testing;
- (10) Generalizations and interpretation, and
- (11) preparation of the report or presentation of the results, i.e., formal write-up of conclusions reached.

3a. Define a research problem. Summarize the main techniques involved in defining a research problem.

A research problem, in general, refers to some difficulty which a researcher experiences in the context of either a theoretical or practical situation and wants to obtain a solution for the same.

TECHNIQUE INVOLVED IN DEFINING A PROBLEM

Let us start with the question: What does one mean when he/she wants to define a research problem? The answer may be that one wants to state the problem along with the bounds within which it is to be studied. In other words, defining a problem involves the task of laying down boundaries within which a researcher shall study the problem with a pre-determined objective in view.

How to define a research problem is undoubtedly a herculean task. However, it is a task that must be tackled intelligently to avoid the perplexity encountered in a research operation. The usual approach is that the researcher should himself pose a question (or in case someone else wants the researcher to carry on research, the concerned individual, organisation or an authority should pose the question to the researcher) and set-up techniques and procedures for throwing light on the question concerned for formulating or defining the research problem. But such an approach generally does not produce definitive results because the question phrased in such a fashion is usually in broad general terms and as such may not be in a form suitable for testing.

Defining a research problem properly and clearly is a crucial part of a research study and must in no case be accomplished hurriedly. However, in practice this a frequently overlooked which causes a lot of problems later on. Hence, the research problem should be defined in a systematic manner, giving due weightage to all relating points.

The technique for the purpose involves the undertaking of the following steps generally one after the other:

- (i) statement of the problem in a general way;
- (ii) understanding the nature of the problem;
- (iii) surveying the available literature
- (iv) developing the ideas through discussions; and
- (v) rephrasing the research problem into a working proposition.

3.b. Explain the issues involved in defining a research and discuss on the necessity of defining the problem.

Researchers in India, particularly those engaged in empirical research, are facing several problems. Some of the important problems are as follows:

- 1. The lack of a scientific training in the methodology of research
- 2. There is insufficient interaction between the university research departments on one side and business establishments, government departments and research institutions on the other side.
- 3. Most of the business units in our country do not have the confidence that the material supplied by them to researchers will not be misused and as such they are often reluctant in supplying the needed information to researchers.
- 4. Research studies overlapping one another are undertaken quite often for want of adequate information.
- 5. There does not exist a code of conduct for researchers and inter-university and interdepartmental rivalries are also quite common.
- 6. Many researchers in our country also face the difficulty of adequate and timely secretarial assistance, including computerial assistance. This causes unnecessary delays in the completion of research studies.
- 7. Library management and functioning is not satisfactory at many places and much of the time and energy of researchers are spent in tracing out the books, journals, reports, etc., rather than in tracing out relevant material from them.
- 8. There is also the problem that many of our libraries are not able to get copies of old and new Acts/Rules, reports and other government publications in time. This problem is felt more in libraries which are away in places from Delhi and/or the state capitals.
- 9. There is also the difficulty of timely availability of published data from various government and other agencies doing this job in our country.
- 10. There may, at times, take place the problem of conceptualization and also problems relating to the process of data collection and related things.

4. literature review

One of the essential preliminary tasks when you undertake a research study is to go through the existing

literature in order to acquaint yourself with the available body of knowledge in your area of interest. Reviewing the literature can be time consuming, daunting and frustrating, but it is also rewarding. The **literature review** is an integral part of the research process and makes a valuable contribution to almost every operational step. It has value even before the first step; that is, when you are merely thinking about a research question that you may want to find answers to through your research journey. In the initial stages of research it helps you to establish the theoretical roots of your study, clarify your ideas and develop your research methodology. Later in the process, the literature review serves to enhance and consolidate your own knowledge base and helps you to integrate your findings

with the existing body of knowledge. Since an important responsibility in research is to compare your findings with those of others, it is here that the literature review plays an extremely important role. During the write-up of your report it helps you to integrate your findings with existing knowledge – that is, to either support or contradict earlier research. The higher the academic level of your research, the more important a thorough integration of your findings with existing literature becomes.

In summary, a literature review has the following functions:

- It provides a theoretical background to your study.
- It helps you establish the links between what you are proposing to examine and what has already been studied.
- It enables you to show how your findings have contributed to the existing body of knowledge in your profession. It helps you to integrate your research findings into the existing body of knowledge.

In relation to your own study, the literature review can help in four ways. It can:

- 1. bring clarity and focus to your research problem;
- 2. improve your research methodology;
- 3. broaden your knowledge base in your research area; and
- 4. contextualise your findings.

4.b. Techniques for LR

There are four steps involved in conducting a literature review:

- 1. Searching for the existing literature in your area of study.
- 2. Reviewing the selected literature.
- 3. Developing a theoretical framework.
- 4. Developing a conceptual framework.

The skills required for these tasks are different. Developing theoretical and conceptual frameworks is more difficult than the other tasks.

Out of all of this, the following themes were selected to construct the theoretical framework for the evaluation study:

- Community responsiveness: what does it
- mean? Philosophies underpinning
- community responsiveness. Historical development of the concept in Australia.
- The extent of use in health planning?
- Strategies developed to achieve community
- responsiveness. Indicators of success or failure.
- Seeking community participation.

- Difficulties in implementing community responsiveness.
- Attitude of stakeholders towards the concept of community responsiveness.

5. Importance of Research Design

Dependent and independent variables: A magnitude that varies is known as a variable. The concept may assume different quantitative values like height, weight, income etc. Qualitative variables are not quantifiable 17 in the strictest sense of the term. However, the qualitative phenomena may also be quantified in terms of the presence or absence of the attribute(s) considered. The phenomena that assume different values quantitatively even in decimal points are known as continuous variables. But all variables need not be continuous. Values that can be expressed only in integer values are called _non-continuous variables. In statistical terms, they are also known as discrete variables. For example, age is a continuous variable, whereas the number of children is a non-continuous variable. When changes in one variable depend upon the changes in other variable or variables, it is known as a dependent or endogenous variable, and the variables that cause the changes in the dependent variable are known as the independent or explanatory or exogenous variables. For example, if demand depends upon price, then demand is a dependent variable, while price is the independent variable. And, if more variables determine demand, like income and price of the substitute commodity, then demand also depends upon them in addition to the price of original commodity. In other words, demand is a dependent variable which is determined by the independent variables like price of the original commodity, income and price of substitutes.

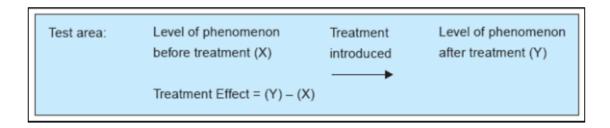
5b. Important Experimental

Designs. (a) Informal

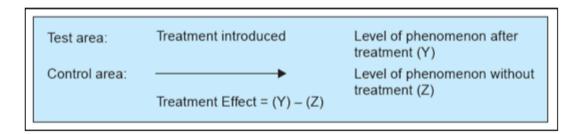
experimental designs:

(i) <u>Before-and-after without control design</u>-A single test group or area is selected and the dependent variable is measured. the treatment is then introduced and then the dependent variable is measured again.

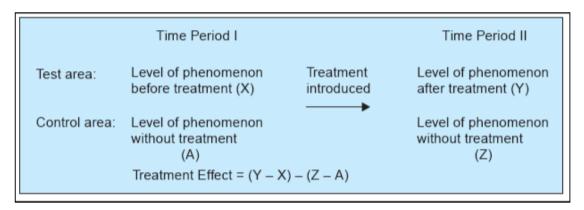
the effect of the treatment:the level of the phenomenon after the treatment-the level of the phenomenon before the treatment.



(ii) After-only with control design-Two groups or areas (test area and control area) are selected and the treatment is introduced into the test area only.



(iii) Before-and-after with control design-



6.a. Design of Sampling:

Introduction: The use of sampling in making inferences about a population is possible and has been in operation right from beginning. When one has to make an inference about a lot of large size and it is not practicable to examine each individual unit, then few units of the lot are examined and on the basis of the information of those units, one makes decisions about whole lot. For example, a person would like to purchase a bag of rice may examine a handful of rice from the bag and on the basis of that he/she makes his/her decision about the purchase of full bag.

Population - A group of individuals having same characteristics in same surrounding is known as population

Census - In census, we study about each and every unit of the population. Population means total units of investigation area. In census, whole group related to investigation is investigated and the information are collected, i.e. Census of population of a country, Census of import and export, etc

Sample - A finite subset of statistical individuals in a population is called a sample and the number of individuals in a sample is called the sample size.

Sample Design: Essentials of Sampling For obtaining the unbiased and real result by a sampling method, a sample should have the following factors (characteristics):

- 1. Homogeneity The nature of each and every unit of the population should not contain much difference. If two or more samples are selected then they should be similar in nature not in their response/output.
- 2. Representativeness The sample should represent all the characteristics of the population that can be possible only when the selection of items or units has been done unbiased and each and every unit have an equal probability of chance to be selected in the sample.
- 3. Independency Each and every unit of the population should be independent. In other words, the selection of a unit in the sample should not be dependent on the selection of other units.
- 4. Adequacy The number of units or elements which are to be selected in the sample should be sufficient. If the sample size is not sufficient then results cannot be reliable. The more the sample units in the sample, more reliable results would occur.

6b.

Solution: Let us put the information as under



Since in the given problem, we have 500 departmental stores from which we have to select a sample of 10 stores, the appropriate sampling interval is 50. As we have to use the starting point of 10*, so we add successively increments of 50 till 10 numbers have been selected. The numbers, thus, obtained are: 10, 60, 110, 160, 210, 260, 310, 360, 410 and 460 which have been shown in the last column of the table (Table 4.1) against the concerning cumulative totals. From this we can say that two stores should be selected randomly from city number five and one each from city number 1, 3, 7, 9, 10, 11, 12, and 14. This sample of 10 stores is the sample with probability proportional to size.

City number	No. of departmental stores	Cumulative total	Sample	
1	35	35	10	
2	17	52		
3	10	62	60	
4	32	94		
5	70	164	110	160
6	28	192		
7	26	218	210	
8	19	237		
9	26	263	260	
10	66	329	310	
11	37	366	360	
12	44	410	410	
13	33	443		
14	29	472	460	
15	28	500		

7a.

CHART SHOWING BASIC SAMPLING DESIGNS

	Representation basis		
Element selection technique	Probability sampling	Non-probability sampling	
Unrestricted sampling	Simple random sampling	Haphazard sampling or convenience sampling	
Restricted sampling	Complex random sampling (such as cluster sampling, systematic sampling, stratified sampling etc.)	Purposive sampling (such as quota sampling, judgement sampling)	

7b.

Interpretation is essential for the simple reason that the usefulness and utility of research findings lie in proper interpretation. It is being considered a basic component of research process because of the following reasons:

(i) It is through interpretation that the researcher can well understand the abstract principle that works beneath his findings. Through this he can link up his findings with those of other studies, having the same abstract principle, and thereby can predict about the concrete

world of events. Fresh inquiries can test these predictions later on. This way the continuity in research can be maintained.

- (ii) Interpretation leads to the establishment of explanatory concepts that can serve as a guide for future research studies; it opens new avenues of intellectual adventure and stimulates the quest for more knowledge.
- (iii) Researcher can better appreciate only through interpretation why his findings are what they are and can make others to understand the real significance of his research findings.
- (iv) The interpretation of the findings of exploratory research study often results into hypotheses for experimental research and as such interpretation is involved in the transition from exploratory to experimental research. Since an exploratory study does not have a hypothesis to start with, the findings of such a study have to be interpreted on a post-factum basis in which case the interpretation is technically described as 'post factum' interpretation.

8a.

Interpretation refers to the task of drawing inferences from the collected facts after an analytical and/or experimental study.

One should always remember that even if the data are properly collected and analysed, wrong interpretation would lead to inaccurate conclusions. It is, therefore, absolutely essential that the task of interpretation be accomplished with patience in an impartial manner and also in correct perspective. Researcher must pay attention to the following points for correct interpretation:

- (i) At the outset, researcher must invariably satisfy himself that (a) the data are appropriate, trustworthy and adequate for drawing inferences; (b) the data reflect good homogeneity; and that (c) proper analysis has been done through statistical methods.
- (ii) The researcher must remain cautious about the errors that can possibly arise in the process of interpreting results. Errors can arise due to false generalization and/or due to wrong interpretation of statistical measures, such as the application of findings beyond the range of observations, identification of correlation with causation and the like. Another major pitfall is the tendency to affirm that definite relationships exist on the basis of confirmation of particular hypotheses. In fact, the positive test results accepting the hypothesis must be interpreted as "being in accord" with the hypothesis, rather than as "confirming the validity of the hypothesis". The researcher must remain vigilant about all such things so that false generalization may not take place. He should be well equipped with and must know the correct use of statistical measures for drawing inferences concerning his study.
- (iii) He must always keep in view that the task of interpretation is very much intertwined with analysis and cannot be distinctly separated. As such he must take the task of interpretation as a special aspect of analysis and accordingly must take all those precautions that one usually observes while going through the process of analysis viz., precautions concerning the reliability of data, computational checks, validation and comparison of results.
- (iv) He must never lose sight of the fact that his task is not only to make sensitive observations of relevant occurrences, but also to identify and disengage the factors that are initially hidden to the eye. This will enable him to do his job of interpretation on proper lines. Broad generalisation should be avoided as most research is not amenable to it because the coverage may be restricted to a particular time, a particular area and particular conditions. Such

- restrictions, if any, must invariably be specified and the results must be framed within their limits.
- (v) The researcher must remember that "ideally in the course of a research study, there should be constant interaction between initial hypothesis, empirical observation and theoretical conceptions. It is exactly in this area of interaction between theoretical orientation and empirical observation that opportunities for originality and creativity lie." He must pay special attention to this aspect while engaged in the task of interpretation.

8 b.

Technical Report

In the technical report the main emphasis is on (i) the methods employed, (it) assumptions made in the course of the study, (iii) the detailed presentation of the findings including their limitations and supporting data.

A general outline of a technical report can be as follows:

- 1. Summary of results: A brief review of the main findings just in two or three pages.
- 2. *Nature of the study:* Description of the general objectives of study, formulation of the problem in operational terms, the working hypothesis, the type of analysis and data required, etc.
- 3. *Methods employed:* Specific methods used in the study and their limitations. For instance, in sampling studies we should give details of sample design viz., sample size, sample selection, etc.
- 4. *Data*: Discussion of data collected, their sources, characteristics and limitations. If secondary data are used, their suitability to the problem at hand be fully assessed. In case of a survey, the manner in which data were collected should be fully described.
- 5. Analysis of data and presentation of findings: The analysis of data and presentation of the findings of the study with supporting data in the form of tables and charts be fully narrated. This, in fact, happens to be the main body of the report usually extending over several chapters.
- 6. *Conclusions:* A detailed summary of the findings and the policy implications drawn from the results be explained.
- 7. Bibliography: Bibliography of various sources consulted be prepared and attached.
- 8. *Technical appendices:* Appendices be given for all technical matters relating to questionnaire, mathematical derivations, elaboration on particular technique of analysis and the like ones.
- 9. Index: Index must be prepared and be given invariably in the report at the end.

9 a.

- Intellectual property law protects the results of human creative endeavor.
- Intellectual property is generally thought to comprise four separate fields of law: trademarks, copyrights, patents, and trade secrets.
- A trademark is a word, name, symbol, or device used to identify and distinguish one's goods or services and to indicate their source.

- Copyright protects original works of authorship, including literary, musical, dramatic, artistic, and other works. Just as trademarks are protected from the moment of their first public use, copyright exists from the moment of creation of a work in fixed form; registration of a copyright with the Copyright Office, while affording certain benefits, is not required.
- A patent is a grant from the government that permits its owner to exclude others from making, selling, using, or importing an invention.
- A trade secret consists of any valuable commercial information that, if known by a competitor, would provide some benefit or advantage to the competitor.
- There are three distinct types of property that individuals and companies can own:
- real property refers to land or real estate;
- personal property refers to specific items and things that can be identified, such as jewelry, cars, and artwork;
- intellectual property refers to the fruits or product of human creativity, including literature, advertising slogans, songs, or new inventions.
 - Thus, property that is the result of thought, namely, intellectual activity, is called intellectual property (IP). In some foreign countries, intellectual property (especially patents and trademarks) is referred to as industrial property. Intellectual property can be bought, sold, and licensed. Similarly, it can be protected against theft or infringement by others.
- Intellectual property is a field of law that aims at protecting the knowledge created through human effort in order to stimulate and promote further creativity.
- Authors who write books and musicians who compose songs would be unlikely to engage in further creative effort unless they could realize profit from their endeavors.

9b.

Salient features

The Indian Patent Act of 1970 has several salient features, including:

- Product and Process Patents: The Act provides for the grant of both product and process patents, allowing inventors to protect both the final product and the specific method or process of production.
- Term of Patent: The term of a patent in India is generally 20 years from the date of filing the patent application.
- Examination: The Act allows for examination of patent applications upon request. This ensures that the invention meets the criteria of novelty, non-obviousness, and industrial applicability.
- Pre-Grant and Post-Grant Opposition: The Act includes provisions for both pre-grant
 - and post-grant opposition, allowing interested parties to challenge the grant or validity of a patent.
- Fast Track Mechanism: There is a fast track mechanism in place for the expedited disposal of patent-related appeals, reducing the time taken for resolving disputes.
- Protection of Biodiversity and Traditional Knowledge: The Act includes provisions for the protection of biodiversity and traditional knowledge, ensuring that the rights of indigenous communities and their traditional knowledge are safeguarded.

Publication of Applications: Patent applications are published after 18 months from the filing date or priority date, whichever is earlier. There is also an option for early publication.

Compulsory Licensing: The Act provides for compulsory licensing in certain circumstances, such as when a patented invention is not being worked in India or when it is deemed necessary in the interest of the public.

Exclusive Marketing Rights: The Act allows for the grant of exclusive marketing rights

to pharmaceutical and agrochemical products for a limited period, which serves as an incentive for the development of new drugs.

10a.

The Increasing Importance Of Intellectual Property Rights

- Although people have always realized the importance of protecting intellectual property rights, the rapidly developing pace of technology has led to increased awareness of the importance of intellectual property assets.
- Some individuals and companies offer only knowledge. Thus, computer consultants, advertising agencies, Internet companies, and software implementers sell only brainpower. Similarly, some forms of intellectual property, such as domain names and moving images shown on a company's Web page, did not even exist until relatively recently.
- Internet domain names such as "www.ibm.com" are valuable assets that must be protected against infringement.
- Nearly \$126 billion of U.S. exports now depend on some form of intellectual property protection, including pharmaceuticals, motor vehicles, and aircraft and associated equipment.
- Moreover, the rapidity with which information can be communicated through the Internet has led to increasing challenges in the field of intellectual property. Books, movies, and songs can now be copied, infringed, and sold illegally with the touch of a keystroke.
- The Office of the United States Trade Representative has estimated that U.S. industries lose between \$200 billion and \$250 billion annually from piracy, counterfeiting of goods, and other intellectual property infringements.

10b.

- Copyright deals with the rights of intellectual creators in their creation. The copyright law deals with the particular forms of creativity, concerned primarily with mass communication.
- The Copyright Act, 1957 protects original literary, dramatic, musical and artistic works and cinematograph films and sound recordings from unauthorized uses. There is no copyright protection for ideas, procedures, methods of operation or mathematical concepts as such.

Why Copyright?

• Copyright ensures certain minimum safeguards of the rights of authors over their creations, thereby protecting and rewarding creativity. Creativity being the keystone of progress, no civilized society can afford to ignore the basic requirements of encouraging the same.

Meaning of Copyright

Section 14 of the act defines copyright as:

- 1. In case of literary, dramatic or musical work:
- a) Reproducing the work in any material form which includes storing of it in any medium by electronic means,
- b) Issuing copies of the work to the public which are not already in circulation, c) Performing the work in public or communicating it to the public,
- d) Making any cinematograph film or sound recording in the respect of work, e) Making any translation or adaptation of the work.
- 2. In case of a computer program:
- a) To do any of the acts specified in respect of a literary, dramatic or musical works,
- b) To sell or give on commercial rental or offer for sale or for commercial rental any copy of the computer program.
- 3. In the case of artistic works:
- a) To reproduce the work in any material from including storing of it in any medium by electronic or other means, depiction in three dimensions of a two dimensional work and depiction in two dimensions of a three dimensional work,
- b) Communicating the work to the public,
- c) Issuing copies of work to the public which are not already in existence, d) Including work in any cinematograph films,
- e) Making adaptation of the work, and to do any of the above acts in relation to an adaptation of the work.
- 4. In the case of cinematograph film:
- a) To make a copy of the film, including photograph of any image forming part thereof or storing of it in any medium by electronic means or otherwise.
- b) To sell or give on commercial rental or offer for sale or for such rental, any copy of the film, c) To communicate the film to the public.
- 5. In the case of sound recording:
- a) To make any other sound recording embodying it "including storing of it in any medium by electronic or other means,
- b) To sell or give on commercial rental or offer for sale or for such rental, any copy of the sound recording,
- c) To communicate the sound recording to the public.