sharadha One™

JNTU EXEMPLAR

Low Price Edition

Research Methodology & IPR

Common to all
M.Tech & M.Pharmacy I Year I Semester,
JNTU Hyderabad
As per the latest R19 Curriculum

- Previous Questions are included in every unit with their References
- Important Questions with Key for every Unit
- Solved Model Papers as per the Latest R19 Curriculum
- Adequate short questions with answers for every unit
- Topicwise Essay questions and Answers for every unit

www.sharadhabooks.com

Scanned with CamScanner

SYLLABUS

UNIT - I

Meaning of research problem, Sources of research problem, Criteria Characteristics of a good research problem, Errors in selecting a research problem, Scope and objectives of research problem. Approaches of investigation of solutions for research problem, data collection, analysis, interpretation, Necessary instrumentations.

UNIT - II

Effective literature studies approaches, analysis, Plagiarism, Research ethics.

UNIT - III

Effective technical writing, how to write report, Paper Developing a Research Proposal, Format of research proposal, a presentation and assessment by a review committee.

UNIT - IV

Nature of Intellectual Property: Patents, Designs, Trade and Copyright. Process of Patenting and Development: technological research, innovation, patenting, development. International Scenario: International cooperation on Intellectual Property. Procedure for grants of patents, Patenting under PCT.

UNIT - V

Patent Rights: Scope of Patent Rights. Licensing and transfer of technology. Patent information and databases. Geographical Indications. New Developments in IPR: Administration of Patent System. New developments in IPR; IPR of Biological Systems, Computer Software etc. Traditional knowledge Case Studies, IPR and IITs.

Warning ; Xerox/Photo copying of [illegible] NAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

UNIT 1

RESEARCH PROBLEMS

Short Questions with Answers

Q1. Define research problem ?

Ans :

A research problem is a statement about an area of concern, a condition to be improved, a difficulty to be eliminated or a troubling question that exists in scholarly literature, in theory, or in practice that points to the need for meaningful understanding and deliberate investigation.

A Research is a process that you have to complete in a sequence. A research problem also helps to formulate that sequence. Research problem also helps to avoid unnecessary steps during the research. It is the preliminary step in conducting a research study.

According to Kerlinger "A problem is an interrogative sentence or statement that asks what relation exists between two or more variable. The answer to question will problem what is having sought in the research".

Q2. What are the different sources of research problem ?

Ans :

If the researcher has already selected the topic or question, next step is to identify the sources of research problem. There are many sources of research problem such as books, journal articles and newspapers, when searching and reading literature it is possible to encounter gaps in information and knowledge, and problems for which there is currently no solution.

Most search in the humanities resolves around four "p"s

(1) People

(2) Problems

(3) Programs

(4) Phenomena

(1) Problem Sources :

Supervisor, industry, research papers, conferences, "hot" areas.

(2) Prior research :

One problem leads to another

(3) Needs

(4) New opportunites

(5) Intellectual curiosity - Asking why ? and how ?

Q3. What are the Elements of a Research Problem?

Ans :

A research problem refers to some difficulty either of a theoretical or practical character which an individual or organization is experiencing and wants to obtain a solution for the same. There are a number of elements (components) which a problem must have before it becomes a research problem ready for study. A research problem is a question that a researcher wants to answer or a problem that a researcher wants to solve.

(i) Aim or purpose of the problem for the investigation.

(ii) The subject matter or topic to be investigated.

(iii) The place or location where the research is to be conducted.

(iv) The period of time of study during which the data are to be gathered

(v) Population from whom the data to be collected.

4Q. what are the Components of research problem?

Ans :

A research problem has six components.

- An individual or a group with some difficulty or problem.
- Objectives of research that are to be attained.

Warning : Xerox/Photocopying of this book is a CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

Scanned with CamScanner

- The environment in which the problem exists.
- Two or more course of action or Alternative means for obtaining the objective.
- Two or more possible Outcomes.
- Objective of the study

Q5. Write a short notes on criteria and characteristics of a good research problem ?

Ans :

Criteria and characteristics for selecting a good research problem are

(1) The purpose of research should be clearly defined and common concepts be used.

(2) The analysis of data should be sufficiently adequate.

(3) Research should be carefully planned to yield results that are as objective as possible.

(4) It should be empirical which is related basically to one or more ascepts of a real situation.

(5) Feasibility of addressing of the problem.

(6) Time duration needed to complete the work timing, when it is conduct research, which month/year.

(7) Divide the main problem into sub problems.

(8) Research accepts certain critical assumptions.

Q6. What are the errors in selecting a research problem ?

Ans :

The common errors in selecting a research problem are :

(a) Population specification

(b) Sampling and Sample frame errors

(c) Selection

(d) Non-responsiveness

(e) Measurement

(f) Experimental error

(g) Lack of precision in the instruments

An error can be defined as any difference between the average values that were obtained through a study and the true average values of the population being targeted, whereas error makes up all flaws in a study's results.

Q7. Write about the scope and objectives of a research problem ?

Ans :

Scope and Objectives of a research problem :

Scope refers to how far the research area has explored and parameters in with the study will be operating in. The type of information to be included in the scope of a research project would include facts and theories about the subject of the project.

Scope :

(1) It defines where and when the study is conducted and who the subjects are.

(2) It deals with the extent of the study to be made.

(3) Amount of Research work.

(4) Standard of writing.

(5) Level of independency.

(6) Explain or analyse or understand a problem or finding solution for problem

Objectives :

(1) To gain familirity with a phenomenon or to achieve new insights into it.

(2) Objectives should be clear, achievable and verifiable.

(3) It begin with discover... determine... establish...access... identify... compare... analyze... evaluate.

(4) SMART

S - Specific : The problem should be specifically tested

M - Measurable

A - Achievable

R - Realistic

T - Time bound

Q8. What are the different approaches for research problem ?

Ans :

There are two basic approaches for research problem

(1) Quantitative approach

(2) Qualitative approach

(1) Quantitative approach :

It involves the generation of data in quantitative form which can be subjected to rigorous quantitative analysis in a formal and rigid fashion. This approach is classified into inferential experimental and simulation approaches to search.

(a) Inferential approach :

This research is to form a data base from which to infer characteristics or relationships of population.

Ex : Sample of population is studied (observed or questioned)

(b) Experimental approach :

This variables are manipulated to observe their effect on other variables.

(c) Simulation approach :

It involves the construction of an artificial environment within which relevant information and data can be generated.

Warning : Xerox/Photo copying of this book is a CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

(2) Qualitative approach :

Qualitative approach is concerned with subjective assessment of attitudes, opinions and behaviour. Qualitative research is concerned with qualitative phenomen or involving quality or kind.

Q9. Enumerate the different methods of collecting data ?

Ans :

The task of data collection begins after a research problem has been defined and research design/plan chalked out. While deciding about the method of data collection to be used for the study, the researcher should keep in mind two types of data primary and secondary data.

(1) Collection of primary data :

The primary data are those which are collected a fresh and for the first time and thus happen to be original in character. there are several methods of collecting primary data, particularly in surveys and descriptive researches, the most important are

(i) Observation method

(ii) Interview method

(iii) Questionnaires

(iv) Schedules

Other methods which include

(a) Warranty cards

(b) Distributor audits

(c) Pantry audits

(d) Consumer panels

(e) Using mechanical devices

(f) Through projective techniques

(g) Depth interviews and

(h) Content analysis

(2) Collection of Secondary data :

The secondary data, on the other hand are those which have already been collected by someone else and which have already been passed through the statistical process. The researcher must be very careful in using secondary data. Before using secondary data, it must possess following characteristics.

(1) Reliability of data

(2) Suitability of data

(3) Adequacy of data

Q10. Write a short notes on different type/ elements of analysis of data pointing out the significance of each ?

Ans :

The analysis methodology information gives both in-depth knowledge and best practices for applying, within a function. Analysis, particularly in case of survey or experimental data, involves estimating the values of unknown parameters of the population and testing of hypotheses for drawing inferences. Analysis may be descriptive analysis and inferential analysis.

Descriptive analysis is larglely the study of the distributions of one or more variables involved in the study. Correlation analysis studies the joint variation of two or more variables for determining the amount of correlation between two or more variables. Causal Analysis is concerned with the study of how one or more variables affect changes in another variable.

Multivariate analysis :

(a) Multiple regression analysis

(b) Multiple discriminant analysis

(c) Multivariate analysis of variance (or) multi-ANOVA)

(d) Canonical analysis

Inferential analysis is concerned with the various tests of significance for testing hypotheses in order to determine with what validity data can be said to indicate some conclusion.

Q11. Write a short notes on interpretation ?

Ans :

Interpretation is the process of making sense of numerical data that has been collected, analyzed, and presented. A common method of assessing numerical data is known as statistical analysis, and the activity of analyzing and interpreting data in order to make predictions is known as inferential statistics.

Interpretation is the device through which the factors that seem to explain what has been observed by researcher in the course of the study can be better understood and it also provides a theoretical conception which can serve as a guide for further researches.

The task of interpretation has two major aspects

(1) The efforts to establish continuity in research.

(2) Interpretation is concerned with relationships within the collected data, partially overlapping analysis.

Interpretation also extends beyond the data of the study to inch the results of other research theory and hypotheses.

Q12. What are the techniques and precautions in interpretation ?

Ans :

Techniques of interpretation :

The techniques of interpretation often involves the following steps :

(1) Researcher must give reasonable explanations of the relation which he has found and concepts be formulated.

Warning : Xerox/Photocopying of this book is a CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

Scanned with CamScanner

(2) Extraneous information.

(3) It is advisable to consult someone having insight into the study, who is honest and will not hesitate to point out omissions and errors in logical argumentation.

(4) Avoid false generalization.

(5) Researcher must be in no hurry while interpreting results, for quite often the conclusions.

(6) Consultation will result in correct interpretation and will enhance the utility of research results.

Precautions of interpretations :

Researches must pay attention to the following points for correct interpretation.

(1) Researcher must invariably satisfy himself about data are appropriate, trustworthy and adequate.

(2) Proper analysis has been done through statistical method.

(3) There should be constant interaction between initial hypothesis, empirical observations and theoretical conceptions.

(4) Precautions concerning the reliability of data, computational checks, validation and comparision of results.

(5) Researcher should be well equipped with and must know correct use of statistical measures for drawing inferences concerning his study.

(6) He must remain vigilant about all such things so that false generalisation may not take place.

Q13. What are the necessary instruments used in data collection ?

(or)

What are the instruments used in research methodology ?

Ans :

Instrumentation is the process of constructing research instruments that could be used appropriately in gathering data on the study. The questionnaire, interview and observation are the most commonly used tools in gathering data. Instrument

- Describe as a device used to collect the data.
- Facilitate variable observation and measurements.

The type of instrument used by the researcher depends on the data collection method selected.

"Massey states that the Instrument development requires a high degree of research expertise, as the instrument must be reliable and valid".

Types of Research Instruments :

(1) Questionnaire

(2) Checklist

(3) Distribution

(4) Interview

(5) Observation

(6) Records

(7) Experimental Approach

(8) Survey approach

The different ways of searching for Research instruments.

(i) Read professional journals

(ii) Read books

(iii) Talk with other researchers

(iv) Combine or adapt one or more tools

(v) Develop own instrument to fulfill a specific need

Scanned with CamScanner

Essay Questions with Answers

1.1 MEANING OF RESEARCH PROBLEM. SOURCES OF RESEARCH PROBLEM

Q14. Define research problem and explain the sources of research problem ?

Ans :

In research process, the first and foremost step happens to be that of selecting and properly defining a research problem.

- A researcher must find the problem and formulate it so that it becomes susceptible to Research. Like a medical doctor, a researcher must examine all the symptons (presented to him or observed by him)

  Concering a problem before he can diagnose correctly. To define a problem correctly, a researcher must know : what a problem is ?

SELECTING A PROBLEM

The following points may be observed by a researcher in selecting a research problem or a subject for research :

(i) Subject which is overdone should not be normally chosen, for it will be a difficult task to throw any new light in such a case.

(ii) Controversial subject should not become the choice of an average researcher.

(iii) Too narrow or too vague problems should be avoided.

(iv) The subject selected for research should be familiar and feasible so that the related research material or sources of research are within one's reach.

(v) The importance of the subject, the qualifications and the training of a researcher, the costs involved, the time factor are few other criteria that must also be considered in selecting a problem.

(vi) The selection of a problem must be preceded by a preliminary study.

Sources of Research problem :

(1) Specialization of the researcher.

(2) Current and past researches

(3) Recommendations from Theses, Dissertations and research journals

(4) Original and creative ideas of the Researcher based one the problems met in the Locality and Country

(5) People (a group of individuals, organizations, communities)

(6) Problems (an issues, needs, situations)

(7) Programmes (contents, structure, outcomes)

(8) Phenomenon (cause and effect, relationships)

(9) Personal Experiences

(10) Practical Experiences

(11) Critical Appraisal of Literature

(12) Previous Research

(13) Existing Theories

(14) Consumer Feedback

(15) Performance improvement

(16) Social issues

(17) Brainstroming

Q15. Explain any five Elements of a Research Problem?

Ans :

A research problem is a definite or clear expression [statement] about an area of concern, a condition to be improved upon, a difficulty to be eliminated, or a troubling question that exists in scholarly literature, in theory, or within existing practice that point to a need for meaningful understanding and deliberate.

A research problem is the main organizing principle guiding the analysis of your paper. The problem under investigation offers us an occasion. A situation for which we have no ready and successful response by instinct or by previous acquired habit. We must find out what to do i.e. the solution can be found out only after an investigation.

The elements of research problem:

The following are the elements considered before selecting a research.

(1) OBJECTIVE:

Objective or aim of the problem which is to be investigated. This answers the question "Why?" Why is there a need for investigation, inquiry or study?

(2) TOPIC :

The topic or theme which needs to be investigated. This answers the question "What?" What is to be researched or studied?" For example: What would a rival company do if we decrease our prices by 25%? What would sales be if prices were Rs.89? Rs.99? How would a rival firm's action influence our sales and profits? The right question needs to be addressed if research is to help decision makers. The decision maker can't acquire all the information, but it is often feasible to identify the factors that are critical to the existing problem. These factors are then included in the problem definition.

Warning : Xerox/Photocopying of this book is a CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

Scanned with CamScanner

(3) TIMING :

The time dimension of a decision problem is always the future. The period or time of the study when the data are to be gathered. This answers the question "When?" When is the research to be performed?" Managers frequently run the risk of making the correct decision at incorrect time. It is essential that the decision maker as well as the researcher determine the right time reference for-the decision.

(4) AREA :

The area or location in which the study is to be conducted. This answers the question "Where?" Where we need to conduct the study? The space coordinates give you the geographic boundaries within which the action is to be taken. In the problem definition, these lines are hardly ever neat political divisions or subdivisions. The universe of interest should be defined either conceptually or by enumeration.

(5) SAMPLE SIZE :

Population or universe from whom the data needs to be gathered. This answers the question "Who?" or "from whom?" Who are the respondents? From who are the data to be collected?" They may include persons, groups of persons, business establishments.

16Q. Explain the different types of research problem?

Ans:

There are mainly three types of research problem

(1) Theoretical research problem

(2) Applied research problem

(3) Action research problem

(1) Theoretical Research Problem :

Theoretical research is a logical exploration of a system of beliefs and assumptions. This type of research includes theorizing or defining how a cyber system and its environment behave and then exploring or playing out the implications of how it is defined. It is the theoretical explanation of a research problem. It gives only theory and meaning of the problem. It defines the problem theoretically. This type of research has no need of hypothesis and verification.

Features

(1) It is exploratory

(2) It is theoretical in nature

(3) It provides basic meaning.

(2) Applied Research Problem :

An applied social research problem is a practical use of the theoretical knowledge. In that type the field work and visits to the problematic situation is necessary. It has the design of hypothesis and verification. Applied research is a methodology used to solve a specific, practical problem of an individual or group. The study and research is used in business, medicine and education in order to find solutions that may cure diseases, solve scientific problems or develop technology.

Features

(1) It is practical in nature

(2) It has exploratory hypothesis

(3) It wants the verification

(4) Solve scientific problems mostly and develop technology

(3) Action Research Problem:

Action research problem is that one for which the immediate solution is required. It has millions of problems in the world that type of research is continuous and needs quick solution in emergency basis. Through case studies, this paper explores problems teachers face when doing action research for instance, teachers may misunderstand the research, mistrust university researchers, lack the time or adequate library resources to conduct research, lack theoretical guidance or knowledge of research methodology, and feel pressure or frustration during the process of research. Strategies for solving these problems are included.

Features

(1) It is welfare oriented.

(2) It is service oriented.

(3) It is sensitive and immediate decision required for solution.

Steps to conduct Action research:

(i) Identification of the problem

(ii) Defining the problem

(iii) Listing of probable causes of problem

(iv) Analysis of probable causes and formulation of Action hypothesis.

(v) Action programme

(vi) Follow-up and communicating the findings to others.

Warning : Xerox/Photocopying of this book is a CRIMINAL Act. Anyone found guilty is liable

Scanned with CamScanner

1.2 CRITERIA CHARACTERISTICS OF A GOOD RESEARCH PROBLEM

Q17. Explain about criteria of a good research problem ?

Define criteria and characteristics of a good research problem ?

Ans :

A Research problem is one which may arise in practice or theory, which needs some solution by way of investigation. The selection of a research problem it is essential to understand what is a problem and its components.

Criteria for selecting a good research problem :

(1) Significance to the discipline

(2) Originality

(3) Feasibility

(4) Administrative support

(5) Availability of subject

(6) Researcher's competency

(7) Ethical considerations

(8) Solvable/Researchable

(9) Interesting

(10) Clear & Unambiguous

(11) Empirical & Verifiable

(12) Relevant and Systematic

(1) Significance to the discipline :

A problem which the researcher is selecting should have significance to the profession or discipline. The consumers/stakeholders benefit from the research findings. Result will improve current practices and promotes theory development or testing.

(2) Originality :

Every research should be new and unique in itself. So, the researcher's responsibility to research innovative knowledge is used for selecting a research problem.

(3) Feasible :

A research should be feasible in terms of time, availability of subjects, facilities, equipment & money and ethical considerations.

(4) Administrative support :

Research require administrative support such as financial, psychological support is essential to conduct research.

(5) Availability of subjects :

Sometimes, the potential subjects may not meet the study criteria or may be unwilling to participate in the study or already participating in another studies therefore availability of subjects should be well ensured in advance.

(6) Researcher's competence :

A researcher should be capable to handle a given research problem.

(7) Ethical soundness :

Research cannot be considered feasible until and unless it is in accordance with the ethical guidelines and cleared by the ethical committee without undue hurdles.

(8) Solvable/Researchable :

A research problem should be solvable is considered to be good and minimize the chances of insolvability.

(9) Current and Interesting :

A good research problem must be based on the current Problems, more number of the professionals will be interested in the research conducted on the current issues of their profession.

(10) Clear and Unabiguous :

Research problem selected should be clear in its ability to reflect or give clues regarding the various aspects of methodology.

(11) Empirical and Verifiable :

It should be verifiable by scientific calculations.

(12) Relevant and Systematic :

Research should be relevant to the profession, time, need and competency of the researcher and problem should be systematic in the sense the researcher arrived at the problem statement following relevant selection parameters or criteria.

Characteristics of Good research problem :

(1) Originates with a question or problem.

(2) Requires clear articulation of a goal.

(3) Follows a specific plan or procedure.

(4) Often divides main problem into sub-problems.

(5) Guided by specific problem, question or hypothesis.

(6) Accepts certain critical assumptions.

(7) Requires collection and interpretation of data.

(8) Cyclical (helical) in nature.

(9) Data be adequately analyzed and explained.

Illegal : Xerox/Photocopying of this book is a CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

Scanned with CamScanner

(10) Research questions must be feasiable.

(11) Research should be finished within the allotted time.

(12) Theoretically/Practical significance.

1.3 Errors in Selecting a Research Problem

Q18. Explain in brief about the errors in selecting a research problem ?

Ans :

The common errors in selecting a research problem are :

(1) Quantitative errors :

(a) Population specification error

(b) Sampling error

(c) Selection error

(d) Non Response error

(e) Surrogate Information error

(f) Measurement error

(g) Experimental error

(2) Qualitative errors :

(a) Selective observation

(b) Inaccurate observation

(c) Over generalization

(d) Made-up information

(e) Illogical reasoning

(f) Ego involvement in understanding

(g) Premature closure of inquiry

(h) Mystification

Common Errors in Research

Questionnaire studies :

Not giving enough care to the development of the questionnaire and not pretesting it, Asking too many questions, overlooking details of format, grammer, printing can lead to errors.

Interview studies :

Not adequately planning the interview or developing the interview guide, failing to establish safeguard against interviewer bias.

Experimental studies :

Treating the experimental and control group differently, thus leading to biased findings, failing to divide the main group into subgroups in situations where subgroups analysis may produce worthwhile knowledge.

Observational studies :

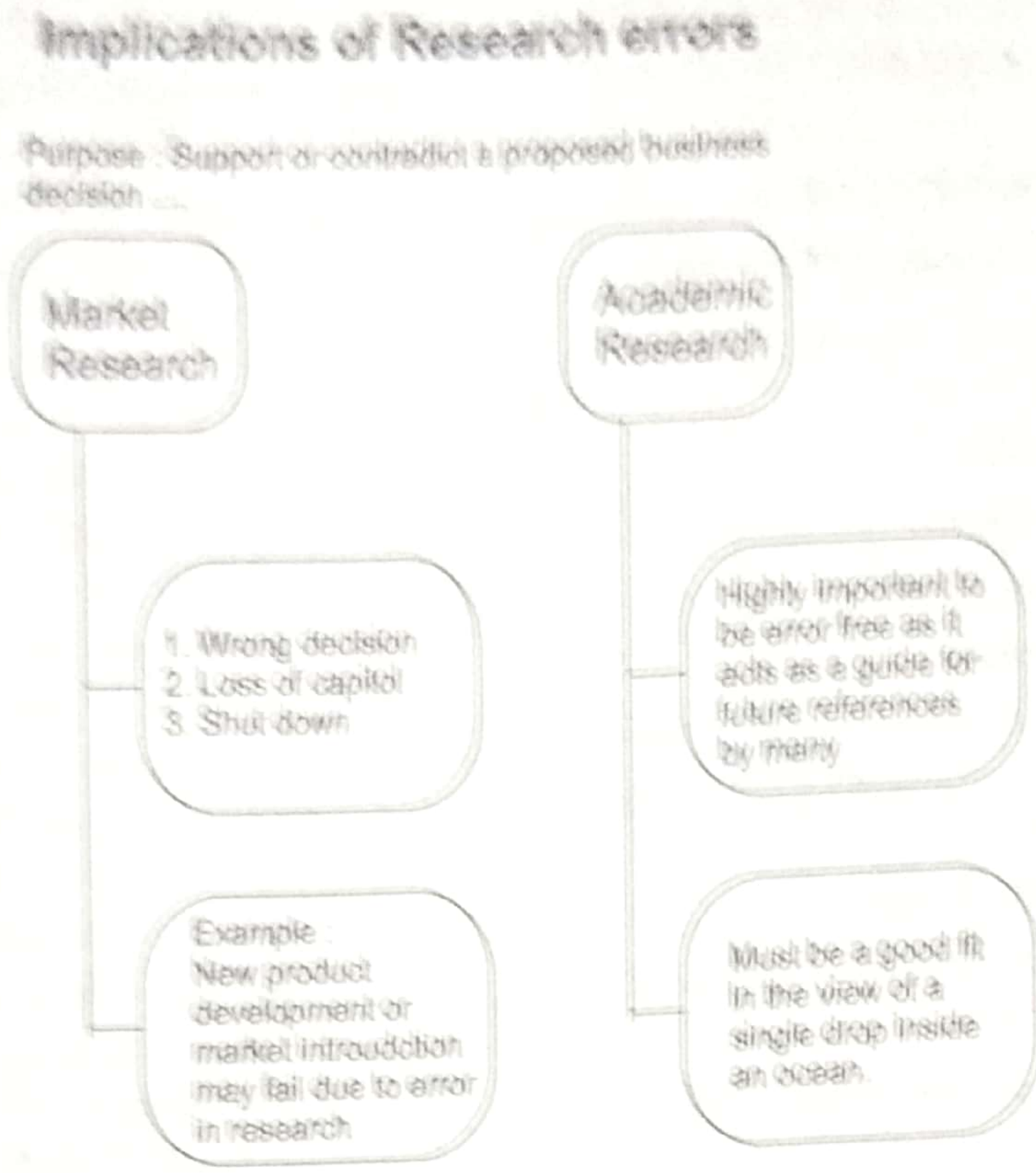
Not sufficiently training observers and thus obtaining unreliable data, changing the situation being observed.

Relationship (correlation) studies :

Assuming that correlation between pieces of data is proof of a cause and effect relationship selecting variables for correlation that have been found unproductive in previous studies.

Warning : Xerox/Photocopying of this book is a CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

Scanned with CamScanner



Steps to minimise errors :

(1) A proper literature review

(2) Increase in sample size

(3) Pilot testing

(4) Training for interviews and observers

(5) Double entry of data

(6) Statistical tools for adjusting measurement error

1.4 Scope and Objective of Research Problem

Q19. What is the Scope and Objective of a research problem ?

Ans :

Scope of a research problem :

It defines where and when the study is conducted & who the subjects are. It deals with the extent of the study to be made. Scope refers to how far the research area has explored and parameters in with the study will be operating in.

(1) Identify alternative course of action.

(2) Helps in economic use of resources.

(3) Helps in project identification.

(4) Solves investment problems and pricing problems.

(5) Solves decision making issues in HR.

(6) Defines various operational and planning problems of business and industry.

(7) Solves allocation problems.

(8) Provides the basis for all government policies in our economic system.

(9) For philosophers and thinkers, research means the outlet for new ideas and insights.

Warning : Xerox/Photocopying of this book is a CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

Scanned with CamScanner

(10) For analysts and intellectuals, research means generalization of new theories.

(11) Helps social scientists in studying social relation ships and in seeking answers to various social problems.

Objectives of a Research problem :

(1) Exploratory or Formulative Research :

To gain familiarity with a phenomenon or to achieve new insights into it.

(2) Descriptive Research :

To portary accurately the characteristics of a particular individual, situation or a group.

(3) Diagnostic Research :

To determine the frequency with which something occurs or with which it is associated with something else.

(4) Hypothesis Testing Research :

To test a hypothesis of a casual relationship between variables.

The objective of the project should be "SMART". They should be

S - Specific, clear about what, where, when and how the situation will be changed.

M - Measurabe, able to quantify the targets and benefits.

A - Achievable, able to attain the objectives.

R - Realistic, able to obtain the level of change reflected in the objective.

T - Time bound, stating the time period in which they will each be accomplished.

1.5 APPROACHES OF INVESTGATION OF SOLUTIONS FOR RESEARCH PROBLEM

Q20. Explain in brief about the approaches for research problem ?

Ans :

Research is a systematic investigation to find answers to a problem. Sociological research is a systematic, careful and controlled process of collecting information and answering questions. The different approaches for research problem are

(1) Quantitative approach

(2) Qualitative approach

(3) Pragamatic approach (mixed approach)

(1) Quantitative approach :

Quantitative research is generally associated with positivist paradigm. It usually involves collecting and converting data into numerical form so that statistical calculation can be made and conclusions drawn. This approach further sub-classified into :

(a) Inferential

(b) Experimental

(c) Simulation approach

(a) Inferential Appraoch :

To research is to form a data base from which to infer characteristics or relationships of population. This usually means survey research where a sample of population is studied (questioned or observed) to determine its characteristics, and it is then inferred that the population has the same characerstics.

(b) Experimental Approach :

Is characterised by much greater control over the research environment and in this case some variables are manipulated to observe their effect on other variables.

(c) Simulation Approach :

It involves the construction of an artifical environment within which relavant information and data can be generated. This permits an observation of the dynamic behaviour of a system or its sub system under controlled conditions. The term simulation in the context of business and social sciences applications refers to the operation of a numerical model that represent the structure of a dynamic process. Simulation approach can also be useful in building models for understanding future conditions.

(2) Qualitative approach :

To research is concerned with subjective assessment of attitudes, opinions and behaviour. Research in such a situation is a function of researcher's insights and impressions. Such as approach to research generates results either in non-quantitive form on in the form which are not subjected to rigorous quantitative analysis. Generally, the techniques of focus group interviews, projective techniques and depth interviews are used.

(3) Pragmatic approach :

A pragmatic way of dealing with something is based on practical consideration rather than theoretial ones. Solving problems in a sensible was that suits the conditions that really exists now, rather than obeying fixed theories, ideas or rules. In business, the pragmatic approach to problems is often more successful than the idealistic one.

Warning : Xerox/P ... CRIMINAL Act. Anyone ...

Scanned with CamScanner

1.6 Data Collection

Q11. Enumerate the different methods of collecting data ?

(or)

Explain in detail about data collection ?

Ans :

Data collection is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypotheses, and evaluate outcomes.

The task of data collection begins after research problem has been defined and research design/plan chalked out.

Types of data :

(i) Primary data

(ii) Secondary data

(iii) **Primary data :**

The primary data are those which are collected a fresh and for the first time and thus happen to be original in character and known as primary data.

Collection of Primary data :

There are several methods of collecting primary data, particularly in surveys and descriptive researches. In descriptive research, we obtain primary data either through observation or through direct communication with respondents in one form or another or through personal interviews.

Methods of data collection : Primary data

(1) Observation method :

(a) Structured and unstructured observation

(b) Participant and Non-participant observation

(c) Controlled and uncontrolled observation

(2) Interview method

(a) Personal interview

(b) Telephonic interview

(3) Questionnare method

(4) Schedule method

(1) Observation method :

It is method under which data from the field is collected with the help of observation by the observer or by personally going to the field. There are different types of observation.

(a) Structured and unstructured observation :

When observation is done by characterising style of recording the observed information, standardised conditions of observation, definition of the units to be observed, selection of pertinent data of observation then it is structured observation. When observation is done without any thought before observation that it is unstructured observation.

(b) Participant and Non-participant observation :

When the observer is the member of the group which he is observing than it is participant observation. When observer is observing people without giving any information to them then it is Non-participant observation.

(c) Controlled and uncontrolled observation :

When observation takes places in natural condition that is uncontrolled observation, when observation takes place according to definite pre arranged plans, with experimental procedure then it is controlled observation.

(2) Interview method :

This method of collecting data involves presentation or oral-verbal stimuli and reply interms of oral-verbal responses. There are different types of interviews.

(a) Personal interview :

Face to face contact the interviewer asks questions.

(b) Telephonic interview :

Contacting samples on telephonic uncommon method may be used in developed regions.

(c) Structured interview :

Set of predecided questions.

(d) Unstructured interview :

We don't follow a system of pre-determined question.

The other method of interview are focused, clinical interview, group interview, qualitative and quantitative interview, individual, selection, depth interviews.

(3) Questionnaire method :

This method of data collection is quite popular, particularly in case of big enquires. The questionnare is mailed to respondents who are expected to read and understand the questions and write down the reply in the space meant for the purpose in the questionnaire itself. The respondents have to answer the questions on their own.

(4) Schedule Method :

It is one of the important methods for the study of social problems. The schedule is nothing more than a list of questions which is seems necessary to test the hypothesis.

Warning : Xerox/Photocopying of this book is a CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

Scanned with CamScanner

(ii) Secondary data :

Secondary data are those which have been collected by someone else and which have already been passed through the statistical process are known as secondary data.

Collection of Secondary data :

Data already collected and analyzed by someone else. This data may be published or unpublished data. Researcher must be very careful in using secondary data because the data available may be sometime unsuitable.

Sources of data :

(a) Publication of Central, State, local govt.,

(b) Technical and trade journals

(c) Books, magazines and new papers

(d) Reports and publications of industry, bank, stock exchange

(e) Public records

(f) Reports by research scholars, universities, economist

Factors considered before using secondary data :

(1) Reliability of data :

who, when, which method at what time etc.,

(2) Suitability of data :

object, scope and nature of original enquiry should be studied.

(3) Adequacy of data

1.7 ANALYSIS

Q22. Define data analysis, state its types or elements of analysis ?

Ans :

Analysis particularly in case of survey or experimental data, involves estimating the values of unknown parameters of the population and testing of hypotheses for drawing inferences. Analysis may, therefore be categorised as Descriptive analysis and inferential analysis

Descriptive analysis is largely the study of the distributions of one or more variables involved in the study and workout various measures that show the size & shape of distribution.

Inferential analysis is often known as statistical analysis and concerned with the various test of hypothesis.

Correction analysis is studies the joint variation of two or more variables for determining the amount of correlation between two or more variables.

Casual analysis is concerned with the study of how one or more variables affect changes in another variable.

In moderntimes, with the availability of computer facilities, there has been a rapid development of multivariate analysis. The following analysis are involved in **multivariate analysis**.

(a) Multi regression analysis :

This analysis is adopted when the researcher has one dependent variable which is presumed to be function of two or more independent variables.

(b) Multiple discriminant analysis :

This analysis is appropriate when the researcher has a single dependent variable that cannot be measured but can be classified into two or more groups on the basis of some attribute.

(c) Multivariate analysis of Variance (multi-ANOVA) :

This analysis is an extension of two-way ANOVA, where in the ratio of among group variance to within group variance is worked out on a set of variables.

(d) Canonical analysis :

This analysis can be used in case of both measurable and non-measurable variables for the purpose of simultaneously predicting a set of dependent variables from their joint covariance with a set of independent variables.

1.8 INTERPRETATION

Q23. Write a brief note on the 'task of interpretation' in the context of research methodology.

(or)

Describe the precautions that the researcher should take while interpreting his findings ?

Ans :

Interpretation is the process of making sense of numerical data that has been collected, analyzed, and presented. A common method of assessing numerical data is known as statistical analysis, and the activity of analyzing and interpreting data in order to make predictions is known as inferential statistics.

Interpretation is the device through which the factors that seem to explain what has been observed by researcher in the course of the study can be better understood and it also provides a theoretical conception which can serve as a guide for further researches.

The task of interpretation has two major aspects

(1) The efforts to establish continuity in research.

Warning : Xerox/Photocopying of this book is a CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

Scanned with CamScanner

(2) Interpretation is concerned with relationships within the collected data, partially overlapping analysis.

Interpretation also extends beyond the data of the study to inch the results of other research theory and hypotheses.

Techniques of Interpretation :

The techniques of interpretation often involves the following steps :

(1) Researcher must give reasonable explanations of the relation which he has found and concepts be formulated.

(2) Extraneous information.

(3) It is advisable to consult someone having insight into the study, who is honest and will not hesitate to point out omissions and errors in logical argumentation.

(4) Avoid false generation.

(5) Researcher must be in no hurry while interpreting results, for quite often the conclusions.

(6) Consultation will result in correct interpretation and will enhance the utility of research results.

Precautions of interpretations :

Researches must pay attention to the following points for correct interpretation.

(1) Researcher must invariably satisfy himself about data are appropriate, trustworthy and adequate.

(2) Proper analysis has been done through statistical method.

(3) There should be constant interaction between initial hypothesis, empirical observations and theoretical conceptions.

(4) Precautions concerning the reliability of data, computational checks, validation and comparision of results.

(5) Researcher should be well equipped with and must known correct use of statistical measures for drawing inferences concerning his study.

(6) He must remain vigilant about all such things so that false generalisation may not take place.

1.9 Necessary Instruments

Q24. What are the necessary instrument required for research ?

Ans :

Instrument or a tool is described as a device used to collect the data facilitate variable observation and measurement. The type of instrument used by the researcher depends on the data collection method selected.

"Instrument development requires a high degree of research expertise, as the instrument must be reliable and valid".

Ways of searching for Research Instruments

Read professional journals :

Journals helps to find what kind of instruments are being used for similar studies, their format, style and how they are used by the writers.

Read books :

Books provide a description or an actual copy of various instruments for the reader.

Talk with other researchers :

Who may know of certain instruments they have developed for themselves.

Combine or adapt one or more tools used by other reasearchers.

Develop own instruments to fulfill a specific need.

Guidelines for developing an Instrument :

(1) Instrument must be suitable for its function.

(2) It must be based on the theoretical framework.

(3) Instrument should be valid and reliable.

(4) An Instrument should include an item that directly asks the hypothesis.

(5) Instrument must be appropriate to test, the hypothesis or answer the question being studies.

(6) Instrument should be free of bias.

(7) A good instrument is free of build-in-clues.

(8) Research should gather a group of items from such sources.

(9) The respondent who agrees to participate in a study is responsible for supplying information or for exhibiting behavior that is truly his own.

Types of Research Instruments :

(1) Questionnaire :

A series of questions designed to elicit information, which is filled in by all participants in the sample. This can be gather either by oral interview or by written questionnaire. There are two types of questionnaire.

(a) Open-ended questions :

The ability to respond in their own words.

(b) Close-ended or fixed alternatives :

This allows the subject to choose one of the given alternatives.

(2) Checklist :

These are items that comprise several questions on a topic and require the same response format.

Warning : Xerox/Photocopying of this book is a CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

Scanned with CamScanner

(3) Interview :

It involves structure or unstructured verbal communication between the researcher and subject, during which the information is obtained for a study.

(4) Observation :

Most commonly used in qualitative research. It is a social research technique that involves the direct observation of phenomena in their natural setting.

(5) Records :

A Record refers to all the numbers and statistics that institutions, organizations and people keep as a record of their activities.

Sources :

(i) Census data

(ii) Educational records

(iii) Hospital/Clinic records

(6) Experimental Approach :

A powerful design for testing hypothesis of casual relationships among variables, Researcher controls the independent variable & watches the effect on the dependent variable.

(7) Survey Approach :

Non-expermental type in which the researcher investigates a community or a group of people. Survey approach is also called as formulative or exploratory research.

Testing the Reliability of Research Instrument :

(a) Stability :

The best indicator of an instrument's reliability. There are two categories for tests of stability :

- Test/Retest
- Repeated Observations

(b) Internal consistency :

All part of the measurement techniques are measuring the same concept.

(c) Test of equivalence :

It refers to the consistency of the results by different investigators or similar tests at the same time.

Scanned with CamScanner

UNIT 2

LITERATURE STUDIES

Short Questions with Answers

Q1. Define literature ?

Ans :

Literature is a group of works of art made up of words. Most are written, but some are passed on by word of mouth. Literature usually means works of poetry and prose that are especially well written. There are many different kinds of literature, such as poetry, plays, or novels. Literature is defined as books and other written works, especially those considered having creative or artistic merit or lasting value.

Examples : Books written by Charles Dickens are an example of literature; Books written on a scientific subject are examples of scientific literature.

Literature is the communication of thoughts, ideas, and feelings through the written word. It is a transaction of a very personal message between one individual, the writer, and any number of others, the reader.

Q2. What are the effective literature studies approaches ?

(or)

What are the different types of literature approaches used in research ?

Ans :

Effective literature review surveys books, scholoarly articles, and any other sources relevant to a particular issue, area of research, or theory and by so doing, provides a description, summary and critical evaluation of these works in relation to the research problem being investigated.

Research methodology in the study of literature or literary criticism would refer to the particular approach or theory used when reading or analyzing a literary text.

There are several effective literature studies approaches. They are :

(1) Systematic Review process
(2) Conceptual Review approach
(3) Structure & Planning your writing - Mind maps
(4) Review biases
(5) Selecting keywords
(6) Finding review articles
(7) Critically Analyzing information sources
(8) Citation tracking

Q3. How to conduct an effective literature Review ?

Ans :

To conduct an effective literature review :

(1) Find literature associated with the topic
(2) Search and analyze the literature
(3) Evaluate the paper before reading
(4) Cite literature properly
(5) Make a summary table of reviewed papers
(6) Avoid plagiarism
(7) Write a journal article based on literature review

Q4. Write a short on literature analysis ?

Ans :

A literature analysis is an opinion-based type of essay that makes a point about a work of literature-usually a poem or short story, through longer works and notification can be used too. Analysis sometimes referred to as a systematic literature review or meta-analysis.

Analysis is a critical survey that attempts to "evaluate and interpret all available research evidence relevant to a particular question".

The literature analysis can be done by considering these factors

(1) Identification factors to be considered
(2) Survey
(3) Data collection
(4) Factor analysis
(5) Prioritishation of factors

Warning : Xerox/Photocopying of this book is a CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

Scanned with CamScanner

Q5. Define plagiarism ?

Ans :

Plagiarism is the practice of taking someone else's work or ideas and passing them off as one's own. In simple plagiarism is an act of fraud. It involves both stealing someone else's artwork and lying approximately it in a while.

Plagiarism is the "wrongful appropriation" and "stealing and publication" of another author's "language, thoughts, ideas or expressions" and the representation. There are four types of plagiarism.

(1) Direct plagiarism

(2) Self plagiarism

(3) Mosaic and

(4) Accidental

Q6. What are the types of plagiarism ?

Ans :

The most common types of plagiarisms are :

(1) Direct plagiarism

(2) Self plagiarism

(3) Mosaic plagiarism

(4) Accidential plagiarism

(1) Direct plagiarism :

Direct plagiarism is the word-for-word transcription of a section of someone else's work, without attribution and without quotation marks.

(2) Self plagiarism :

Self plagiarism occurs when a student submits his or her own previous work or mixes parts of previous work, without permission from all professors involved.

(3) Mosaic plagiarism :

It occurs when a student borrows phrases from a source without using quotation marks or finds synonyms for the author's language while keeping to the same general structure and meaning of the original.

(4) Accidental plagirism :

It occurs when a person neglects to cite their sources, or misquotes their sources or unintentionally paraphrases a source by using similar words, group of words or sentence structure without attribution.

Q7. What are the principles of research ethics?

Ans :

The basic principles of research ethics are:

Ethics are norms of conduct that distinguish between acceptable and unacceptable behavior.

Ethics are the principles and guidelines that help us to uphold things we value

It involves the application of fundamental ethical principles to a variety of topics involving scientific research.

Ethics educates and monitors a scientist conducting a research to ensure high ethical standards.

These are professional requirements.

Q8. Write a short notes on Research ethics ?

Ans :

Research ethics is specifically interested in the analysis of ethical issues that are raised when people are involved as participants in research. Research ethics are important for a number of reasons. They promote the aims of research, such as expanding knowledge.

They support the values required for collaborative work, such as mutual respect and fairness. This is essential because scientific research depends on collaboration between researchers and groups.

The most important research ethics are

(1) Honesty

(2) Objectivity

(3) Integrity

(4) Carefulness

(5) Openners

(6) Respect for intellectual property

(7) confidentiality

(8) Responsible publication

Scanned with CamScanner

Essay Questions with Answers

2.1 EFFECTIVE LITERATURE STUDIES APPROACHES

Q9. What is literature and types? What is the need and purpose of literature ?

Ans :

Literature is the communication of thoughts, ideas, and feelings through the written word. It is a transaction of a very personal message between one individual, the writer, and any number of others, the reader. The word literature comes from the Latin word "litera" which means letter, "learning, writing, grammar"

Literature, a body of written works. The name has traditionally been applied to those imaginative works of poetry and prose distinguished by the intentions of their authors and the perceived aesthetic excellence of their execution. Literature may be classified according to a variety of systems, including language, national origin, historical period, genre, and subject matter. Some literatures are treated separately by language, by nation, or by special subject

For historical treatment of various literatures within geographical regions, see such articles as African literature; African theatre; Oceanic literature; Western literature; Central Asian arts; South Asian arts; and Southeast Asian arts.

The five main literary genres are prose, poetry, fiction, nonfiction, and drama, with each varying in style, structure, subject matter, and the use of figurative language. The genre raises certain expectations in what the reader anticipates will happen within that work. Nonfiction prose is literature that is written in ordinary, non-metrical language and communicates facts or opinions about reality.

Types or forms of literature:

There are mainly five forms of literature :

(1) Poetry

(2) Prose

(3) Drama

(4) Fiction

(5) Non-fiction

(1) Poetry :

This is often considered the oldest form of literature. Before writing was invented, oral stories were commonly put into some sort of poetic form to make them easier to remember and recite. Poetry today is usually written down but is still sometimes performed.

A lot of people think of rhymes and counting syllables and lines when they think of poetry, and some poems certainly follow strict forms. But other types of poetry are so free-form that they lack any rhymes or common patterns. There are even kinds of poetry that cross genre lines, such as prose poetry. In general, though, a text is a poem when it has some sort of meter or rhythm, and when it focuses on the way the syllables, words, and phrases sound when put together.

(2) Prose :

Prose can be defined as any kind of written text that isn't poetry. The most typical varieties of prose are novels and short stories, while other types include letters, dairies, journals, and non-fiction (also discussed below). Prose is written in complete sentences and organized in paragraphs.

Prose is the type of literature read most often in English classrooms. Any novel or short story falls into this category, from Jane Eyre to Twilight and from "A Sound of Thunder" to "The Crucible." Like poetry, prose is broken down into a large number of other sub-genres. Some of these genres revolve around the structure of the text, such as novellas, biographies, and memoirs, and others are based on the subject matter, like romances, fantasies, and mysteries.

(3) Drama:

Any text meant to be performed rather than read can be considered drama (unless it's a poem meant to be performed, of course). In layman's terms, dramas are usually called plays. When written down the bulk of a drama is dialogue, with periodic stage directions such as "he looks away angrily." Of all the genres of literature discussed in this article, drama is the one given the least time in most classrooms. And often when drama is taught, it's only read the same way you might read a novel. Since dramas are meant to be acted out in front of an audience, it's hard to fully appreciate them when looking only at pages of text.

The dramas most commonly taught in classrooms are definitely those written by the bard. Shakespeare's plays are challenging, but rewarding when approached with a little effort and a critical mindset.

(4) Fiction:

Fiction is fabricated and based on the author's imagination. Short stories, novels, myths, legends, and fairy tales are all considered fiction. While settings, plot points, and characters in fiction are sometimes based on real-life events or people, writers use such things as jumping off points for their stories.

Warning : Xerox/Photocopying of this book is a CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

Scanned with CamScanner

(5) Non-Fiction:

The purpose of non-fiction is to tell a story (hence the autobiography), but most of the time the purpose is to pass on information and educate the reader about certain facts, ideas, and/or issues.

Some forms of non-fiction include histories, textbooks, travel books, newspapers, self-help books, and literary criticism. A full list of non-fiction types would be at least as long as this entire article. But the varieties most often used in the classroom are textbooks, literary criticism, and essays of various sorts. Most of what students practice writing in the classroom is the non-fiction essay, from factual to personal to persuasive. And non-fiction is often used to support and expand students' understanding of fiction texts—after reading Hamlet students might read critical articles about the play and historical information about the time period and/or the life of Shakespeare.

Other forms of Literature:

Oral Literature, The oldest type of literature, and the foundation on which culture was built. Now, most oral texts have been written down, of course, and are usually taught in the form of epic poems or plays or folk tales. Folklore/Folk Tales/Fables: A distinction is often made between regular prose and folklore. Graphic Novels and Comic Books: It used to be that most educators saw comic books as the lowest form of literature, not suitable or valuable for children.

Media:

The newest type of literature that has been defined as a distinct genre is media. This categorization was created to encompass the many new and important kinds of texts in our society today, such as movies and films, websites, commercials, billboards, and radio programs

Need and purpose of literature:

- Communicating with others about a huge range of ideas and concerns
- literature review's purpose is to gather all the available sources related to paper's topic in one place and to evaluate
- To provide foundation of knowledge on topic. Identify areas of prior scholarship to prevent duplication and give credit to other researchers. Identify inconstancies gaps in research, conflicts in previous studies, open questions left from other research.
- Literature teaches us about life, it helps us understand our emotions and our values.
- It lays bare the basis for human relationships, the complications, the barriers, the ties that bind.
- Literature enriches us, deepening our understanding of others, of the world, of ourselves. It also entertains us.
- Literature is important because it is the mirror through which we can see the lives of others. their good deeds, their bad points and by comparing them we can make ourselves better.
- Can learn a lot from the characters placed in novels.

Q10. Define literature and explain the effective literature studies approaches ?

Ans :

A literature review is a scholarly paper, which includes the current knowledge including substantive findings, as well as theoretical and methodological contributions to a particular topic. Literature reviews are secondary sources and do not report new or original experimental work.

This is the process of searching the existing literature relating to research problem to develop theoretical and conceptual framework for study and to integrate research findings in it.

It places study in perspective to what others have investigated about the issues. In addition, the process helps to improve the present methodology.

The literature helps in four ways :

(1) Bring clarity and focus to research problem
(2) Improve research methodology
(3) Broden knowledge base in research area
(4) Contextualise findings that integrate findings with the existing body of knowledge.

The effective literature studies approaches are :

(1) A systematic Review approach
(2) Quantitative or Qualitative meta-analysis Review
(3) Narrative Review
(4) Critical Review
(5) Scoping Review
(6) Conceptual Review

Each literature has its own approach, analysis and purpose.

(1) Systematic Review :

The Systematic Review identifies and compares answers to health care related question.

(2) Quantitative or Qualitative Meta-anlysis :

The Quantitative meta-anlysis reviews quantitative research, is objective and include statistical analysis. The qualitative meta-analyis reviews qualitative research is subjective and indentifies new themes or concepts.

Warning : Xerox/Photocopying of this book is a CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

Scanned with CamScanner

(3) Narrative Review approach :

It often appears as a chapter in a thesis or dissertation. It describes what research has already been conducted, how it informs the thesis and how the thesis fits into the research in the field.

(4) Critical Review :

It requires a more detailed examination of the literature in order to compare and evaluate a number of perspectives.

(5) Scoping Review approach :

It is often used at the beginning of an article, dissertain or research proposal.

(6) Conceptual research :

These are groups articles according to concepts or categories or themes.

2.2 Literature Analysis

Q11. Explain about effective literature analysis ?

Ans :

A typical literary analysis always has an introduction, body part, conclusion. Right after introduction, move on to the main part of your writing - body, paragraphs which will represent ideas about analyzed book, novel, poem; explanation, statements evidence that can support your statements.

A literary analysis is a type of essay which includes an argumentative analysis of a piece of literature. The author, examines the book, novel, play etc., analyzing the idea, plot, characters, tone, writing style, devices which the writer uses to narrate his story.

Collective evidence :

Collect facts, expressions other evidence to make a reasonable conclusion in your analysis. Make notes while reading, should have enough material regarding topic which your are analysing and should have information about the author, it will help to understand his intentions and thoughts better.

Write an outline :

Making literary analysis outline is an important part of a writing process and make sure to devote space to all important ideas of the author and don't miss anything.

Develop main thesis statements :

Formulate a thesis, how the thesis connected to the ideas and thoughts of the author of the book or novel.

Writing process and revision :

Now, ready to start writing analysis, maintain seperate paragraph to each of statements. After, finishing the work put it a side for sometime and get back it for the revision.

Typical Structure of literacy analysis :

(1) Introduction :

It is the first paragraph of literary analysis. Start it creatively in order to gain reader interest. It is a short part but it has to catch an attention.

(2) Body part :

Body part is the main part of literature analysis, paragraph represents the ideas about analyzed book, poem, explanations, statements, evidence.

(3) Conclusion :

It is the last but not least part of analysis, make it perfect which reflects the plot, ideas of the author. There are seven basic steps to writing a well-onstructed literary :

(1) Ask questions

(2) Collect evidence

(3) Construct a thesis

(4) Develop and Organize arguments

(5) Write the introduction

(6) Write the body paragraphs

(7) Write the conclusion

Analysis is a critical survey that attempts to "evaluate and interpret all available research evidence relevant to a particular question.

2.3 Palagiarism

Q12. Define plagiarism, principles of plagiarism ?

(or)

Explain in detail about plagiarism and its types ?

Ans :

Plagiarism is the practice of taking someone else's work or ideas and passing them off as one's own. In simple plagiarism is an act of fraud. It involves both stealing someone else's artwork and lying approximately it in a while.

Plagiarism is the "wrongful appropriation" and "stealing and publication" of another author's "language, thoughts, ideas or expressions" and the representation. There are four types of plagiarism.

(1) Direct plagiarism

(2) Self plagiarism

(3) Mosaic and

(4) Accidental

The most common types of plagiarisms are :

(1) Direct plagiarism

(2) Self plagiarism

(3) Mosaic plagiarism

(4) Accidental plagiarism

Warning : Xerox/Photocopying of this book is a CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

Scanned with CamScanner

(1) Direct plagiarism :

Direct plagiarism is the word-for-word transcription of a section of someone else's work, without attribution and without quotation marks.

(2) Self plagiarism :

Self plagiarism occurs when a student submits his or her own previous work or mixes parts of previous work, without permission from all professors involved.

(3) Mosaic plagiarism :

It occurs when a student borrows phrases from a source without using quotation marks or finds synonyms for the author's language while keeping to the same general structure and meaning of the original.

(4) Accidental plagirism :

It occurs when a person neglects to cite their sources, or misquotes their sources or unintentionally paraphrases a source by using similar words, group of words or sentence structure without attribution.

Principles of plagiarism :

Plagiarism s a breach of academic integrity. It is a principle of intellectual honesty that all members of the academic community should acknowledge their debt to the originators of the ideas, words and data which form the basis for their own work.

(1) Always mention your sources : Make use of other people's thoughts and ideas.

(2) Mention all sources, no matter the type.

(3) Be loyal to the sources.

(4) List all important data.

(5) Ensure alignment between in text citations and bibliography.

2.3 PALAGIRISM

Q13. How to avoid plagiarism ?

(or)

What are the different ways to avoid plagiarism ?

Ans :

Plagiarism means using someone else's text without attribution is plagiarism, whether the individual meant to do it or not. Unintentional plagiarism of even a sentence or two can have serious consequences. For students, plagiarism often means a failing grade, academic probation, or worse.

It's easy to find information for most research papers, but it's not always easy to add that information into your paper without falling into the plagiarism trap. There are easy ways to avoid plagiarism. Follow some simple steps while writing the research paper to ensure that the document will be free of plagiarism.

6 Ways to Avoid Plagiarism

(1) Paraphrase :

First, we need to find the information that is perfect for our research paper. Read it and put it into own words. Make sure that do not copy verbatim more than two words in a row from the text we have found. If we use more than two words together and have to use quotation marks. We will get into quoting properly soon.

(2) Cite :

Citing is one of the effective ways to avoid plagiarism. Follow the document formatting guidelines (i.e. APA, MLA, Chicago, etc.) used by your educational institution or the institution that issued the research request. This usually entails the addition of the author(s) and the date of the publication or similar information. Citing is really that simple. Not citing properly can constitute plagiarism.

(3) Quoting :

When quoting a source, use the quote exactly the way it appears. No one wants to be misquoted. Most institutions of higher learning frown on "block quotes" or quotes of 40 words or more. A scholar should be able to effectively paraphrase most material. This process takes time, but the effort pays off! Quoting must be done correctly to avoid plagiarism allegations.

(4) Citing Quotes :

Citing a quote can be different than citing paraphrased material. This practice usually involves the addition of a page number, or a paragraph number in the case of web content.

(5) Citing Your Own Material :

If some of the material you are using for your research paper was used by you in your current class, a previous one, or anywhere else you must cite yourself. Treat the text the same as you would if someone else wrote it. It may sound odd, but using material you have used before is called self-plagiarism, and it is not acceptable.

(6) Referencing :

One of the most important ways to avoid plagiarism is including a reference page or page of works cited at the end of your research paper. Again, this page must meet the document formatting guidelines used by your educational institution. This information is very specific and includes the author(s), date of publication, title, and source. Follow the directions to get the references right.

Checking Research Papers

Be sure to edit once again research paper carefully and check for plagiarism before turning it in to the class. The steps above are essential for research paper writing. Using plagiarism checker services such

Warning : Xerox/Photocopying of this book is a CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

Scanned with CamScanner

as Write Check is a great way to assess the paraphrasing and other anti-plagiarism skills. Most educators and educational institutions are using some kind of plagiarism checker software to check students' papers. Do not take the chance of not checking the research paper. Plagiarism could mean the loss of students academic degree or career.

2.4 Research Ethics

Q14. Why ethics are important, explain the principles of research ethics?

Ans :

Research ethics is the application of moral rules and professional codes of conduct to the collection, analysis, reporting, and publication of information about research subjects, in particular active acceptance of subjects' right to privacy, confidentiality, and informed consent.

Importance of research ethics :

Research ethics are important for a number of reasons.

- They promote the aims of research, such as expanding knowledge.
- They support the values required for collaborative work, such as mutual respect and fairness.
- This is essential because scientific research depends on collaboration between researchers and groups.
- Respect and cause no harm to the participants
- As a sign of respect for other researchers, it cause no harm
- It is a professional requirement and to obtain funding
- Failing to conduct research ethically result in researcher being dismissed or rejected by the research community.
- It keeps the researcher from committing errors, while seeking knowledge and truth
- Research may involve experts coming from different fields of expertise; ethics binds them together by considering important values such as accountability, cooperation, coordination, mutual respect and fairness among others.

Principles of research ethics :

(1) **Honest :**
researcher should maintain intellectual honesty in all times especially in reporting, findings in investigation

(2) **Objective :**
objective means avoiding bias in research at all times.

(3) **Integrity :**
consistent with all thoughts and actions and should act with sincerity and able to keep words truth.

(4) **Caring :**
we should be after the welfare and benefit of our subjects especially when dealing with human participants or animal subjects.

(5) **Open :**
Be willing to share ideas, results and resources , to accept suggestions and comments for the improvement of work

(6) **Friendly :**
ideas of others must be acknowledged and should treat the colleagues fairly and justly.

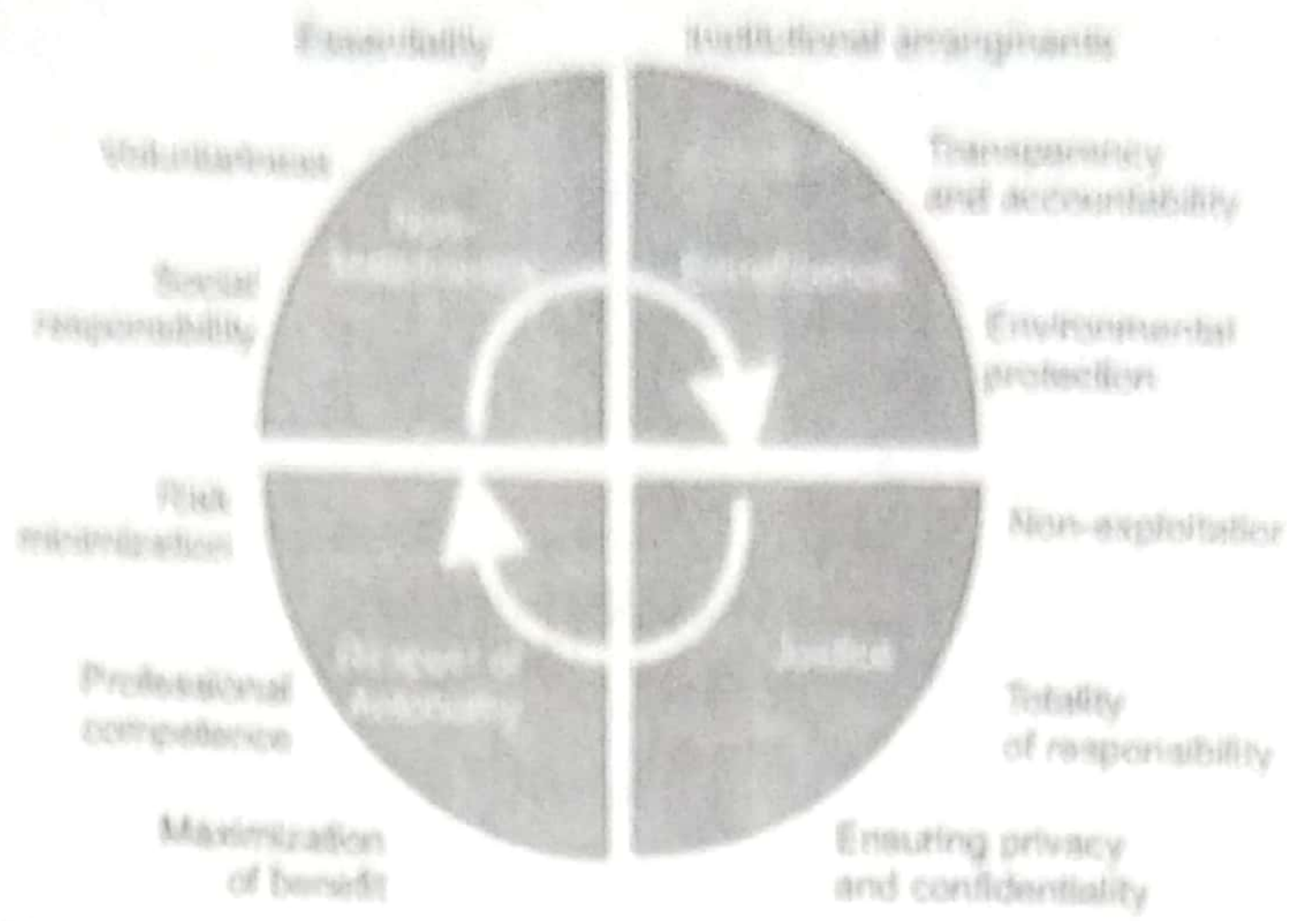
(7) **Trustworthy :**
keep confidently of all the data and information contained in our research unless otherwise needed to be known by the public

(8) **Responsible :**
consider the legalities, rules, and regulations of an institution or government when conducting a study.

(9) **Helpful:**
help in publishing research which aim to advance knowledge and which could help promote social

Warning: Xerox/Photocopying of this book is a CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

Scanned with CamScanner



Q15. Explain in detail about research ethics ?

Ans :

Research that involves human subjects or participants raises unique and complex ethical, legal, social and political issues. Research ethics specifically deals with the analysis of ethical issues that are raised when people are involved as participants in research.

Research ethics is a world-wide set of principles governing the way any research involving interaction between the researcher and other humans or human tissue or data relating to humans, is designed managed and conducted.

There are three main objectives in Research ethics :

(1) To protect human participants.

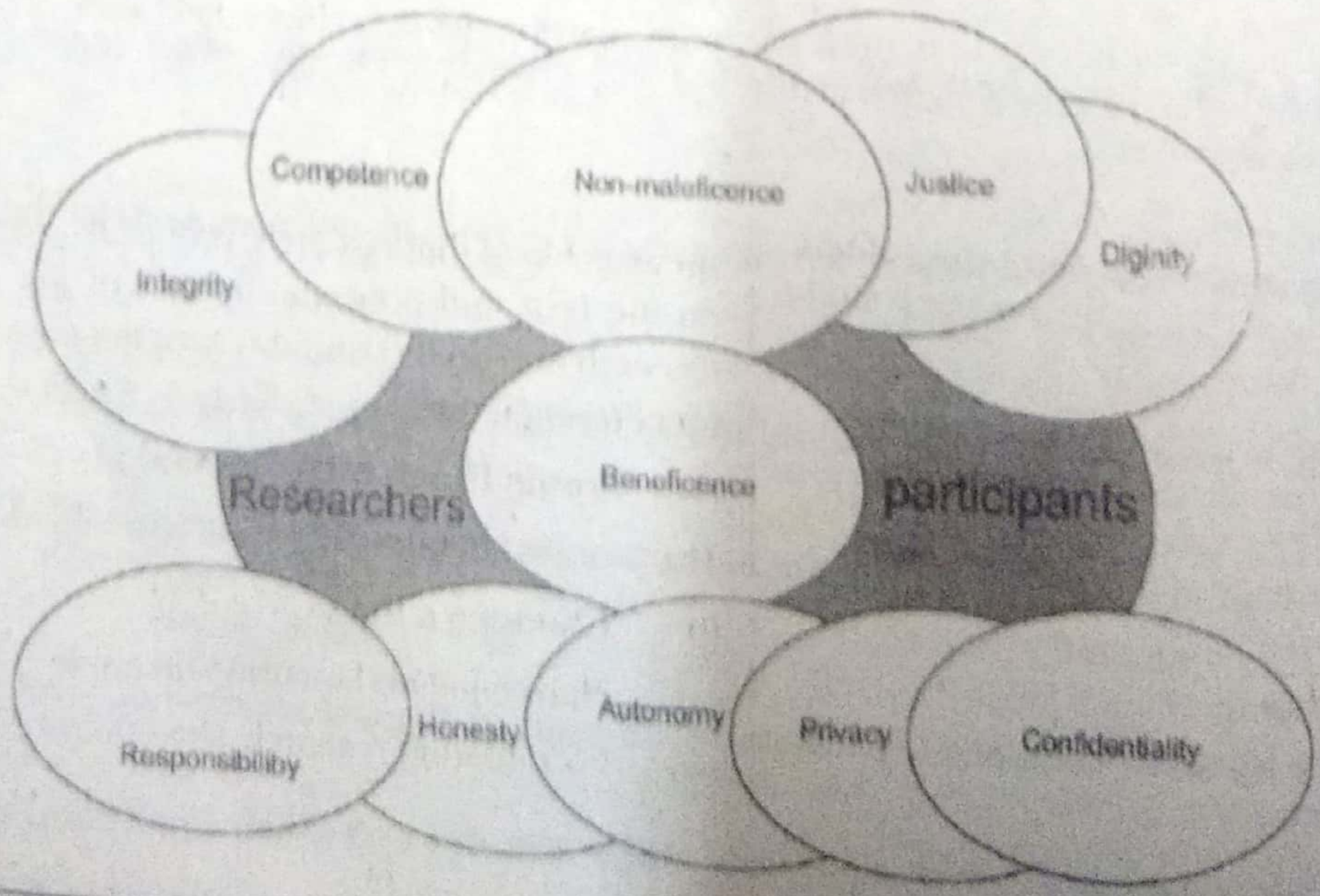
(2) To ensure that research is conducted in a way that serves interests of individuals, groups and/or society as a whole.

(3) To examine specific research activities and projects for their ethical soundness, looking at issues such as the management of risk, protection of confidentiality and the process of informed consent.

Ethics is a branch of philosophy, which distinguishes between right amd wrong. The major question dealt in ethics is when an action is right and when an action is wrong.

Though many people get sense of right and wrong in childwood, ethical development is a long-term process, which continues throughout life. Ethical norms vary according to individuals.

Ethical Principles of Research



Warning : Xerox/Photocopying of this book is a CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

UNIT 3

RESEARCH PROPOSAL

Short Questions with Answers

Q1. Write A short notes on effective technical writting ?

Ans :

Good technical writing is a technically accurate, useful, concise, complete, clear, consistent, targeted, well organised and must be correct in grammar, spelling and punctuation. The technical content (information/message), not the writing style or author's feelings towards the subject is the focal point.

Technical writing includes a wide range of documents. They include instructions, reviews, reports, newsletters, presentations, web pages, brochures, proposals, letters, fliers, graphics, memos, press releases, handbooks, specifications, style guides, agend as and so on.

The four characteristics of technical writing are (4 c's) :

(1) Clarity
(2) Comprehensiveness
(3) Conciseness
(4) Correctness

Q2. What are the steps involved in writing a report ?

Ans :

Research report is considered a major component of the research study for the research task remains incomplete till the report has been presented and/or written. The purpose of research is not well served unless the findings are mode known to others. Writing of report is the last step in a research study and requires a set of skills.

Different steps in writing report :

The steps involved in writing report are

(a) Logical analysis of the subject-matters;
(b) Preparation of the final out line;
(c) Preparation of the rough draft;
(d) Rewriting and polishing;
(e) Preparation of the final bibliography;
(f) Writing the final draft.

Layout of the research report :

The layout of the report means as to what the research report should contain. A comprehensive layout of the research report should comprise.

(A) Preliminary page;
(B) The main text;
  (i) Introduction
  (ii) Statement of finding and recommendation
  (iii) Results
  (iv) Implications of the results
  (v) Summary
(C) End matter

Q3. How do you develop a research proposal ?

(or)

Write a short notes on developing a Research proposal paper ?

Ans :

The proposal should outline the research methods, explaining how you are going to conduct your research. Research methods may include visiting particular libraries or archives, field work or interviews.

A research proposal is a document proposing a research project, generally in the sciences or a cademia, and generally constitutes a request for sponsorship of that research, proposals are evaluated on the cost and potential impact of the proposed research and on the soundness of the proposed plan for carrying it out.

Developing Research proposal :

The process includes

(i) Choosing a topic
(ii) Narrowing and focusing on paper (topic)
(iii) Formulating research objectives or questions

is a CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

Scanned with CamScanner

and ideas for analysis

(iv) Outlining the key literature in the topic area

(v) Deciding on research methodology, research design and methods

(vi) Proposing an approach to data analysis

(vii) Proposing aformat i.e., How many chapters and chapter headings

(viii) Developing a timeline

(ix) Developing a budget and resources you will need

(x) Developing a bibliography

Q4. How do you write format of research proposal ?

(or)

What is the procedure for Research proposal format ?

Ans :

A research proposal format consists of six main parts. In this section you should describe the main problem you are goint to work on, the methodology and the importance of your research to persuade the reader that the results of the study may be useful; Back ground.

The format for the research proposal should consist of the following :

(1) Proposed title of the Research proposal/project

(2) The Introduction to the project

(3) Objectives of the research proposal/porject

(4) The problem statement

(5) Literature Review

(6) Research methodology

(7) The expected work schedule/Timeline

The proposal format must be between 5 and 10 pages and should present the title, introduction, object, problem statement, Research, data collection, analysis, evaluation is outcome, bibilography.

Q5. Define research proposal and importance of research of research proposal ?

Ans:

A research proposal is a document written by a researcher that provides a detailed description of the proposed program; it is like an outline of the entire research process that gives a reader a summary of the information discussed in a project. A research proposal is a document proposing a research project, generally in the sciences or academia, and generally constitutes a request for sponsorship of that research. Proposals are evaluated on the cost and potential impact of the proposed research, and on the soundness of the proposed plan for carrying it out.

A research proposal is a concise and coherent summary of your proposed research. It sets out the central issues or questions that you intend to address. ... It also demonstrates the originality of your proposed research. The proposal is the most important document that you submit as part of the application process.

Importance of research proposal:

To convince the reader of the value of project and competence.

Have to prove that you have a planned for work and that project will be successful.

The primary purpose of the proposal is to help secure funding for interventions, it is important to understand that the proposal document has other critical functions and that proposals need to be of a good quality

The research problem and the hypothesis place a vital role in the research work. Really The research work has two most important parts:

(1) The new idea

(2) Plan for work

The research work have multiple components such as its goal or objective, results, and conclusions. Regarding such aspects, what do you think is the most important part of the research which can influnce on the quality of the

Q6. What are the types of research proposals?

Ans :

Types of research proposal :

(1) Internal research proposal

(2) External research proposal

Internal proposal: internal proposals are presented to the in-house management by the researcher, which are short and snappy: a one to three-page memo from the researcher to management outlining the problem statement, study objectives, research design, resources inclusive of budget and schedule is enough to study a report.

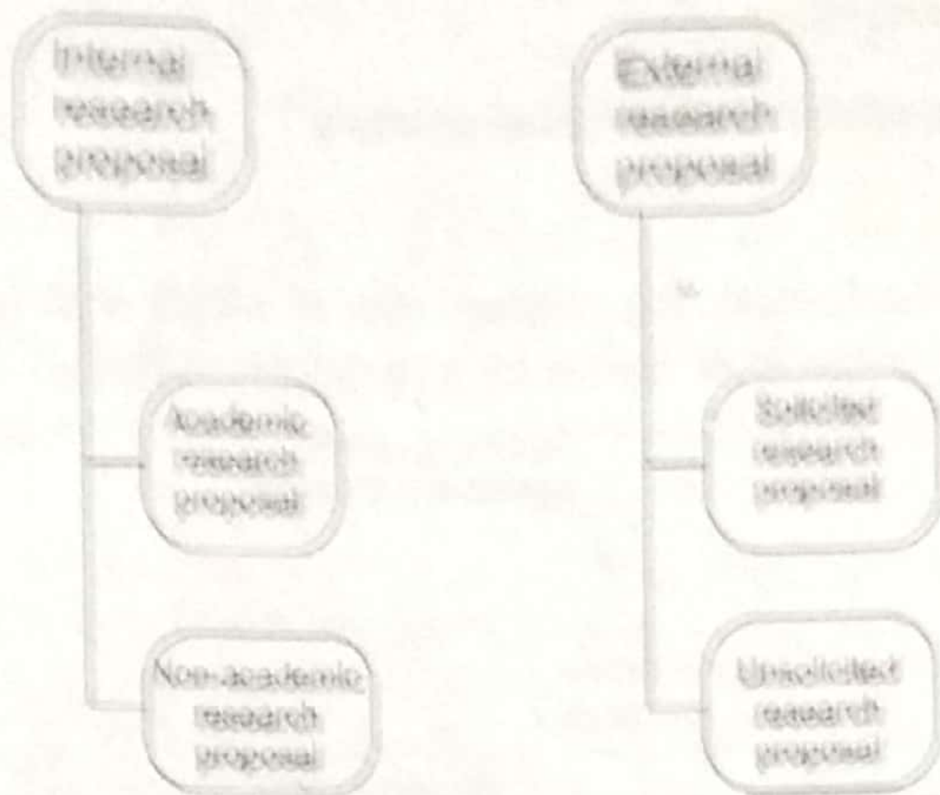
External proposal: external proposals are presented to donor agencies, government or any outside organizations by the researcher, which a detailed and may comprise introduction, as well as literature review, and research design sections.

Warning : Xerox/Photocopying of this

Scanned with CamScanner

Types of Research proposal

There are two major types of research proposal;



Q7. What are the steps involved in Research proposal presentation ?

Ans :

Research proposal presentation and assessment :

The presentation Format consists of

(1) Prepare an oral presentation

(2) Presentation elements

- (i) Understanding requirements
- (ii) Organising information
- (iii) Preparing for success
- (iv) know your audience to provide appropriate depth and information
- (v) Use audio visual material to supplement your information
- (vi) Present within your allotted time

A typical presentation format consists :

(1) Title

(2) Research Topic

(3) Research methods

(4) Data collected

(5) Research findings

(6) Implications

(7) Conclusions

Tips for presentation success

(1) Show and Tell

(2) Engage your audience

(3) Be prepared

(4) Enjoy research describing

Q8. How the proposals are assessed by review committee?

Ans:

Each application which is assigned a final number based on one of 12 scientific areas , is reviewed by one or more Review Committees. The Review Committees assess the proposals for their scientific merit or their technical, technological and/or innovative relevance. The members of the Review Committees are specialists in related areas of science and are appointed by the ESRF management.

The Review Committees meet twice a year, in April and in October, to assess proposals received at the submission deadlines of 1st March and 10th September, respectively.

A total of12 Review Committees, corresponding to groups similar techniques or activities, review and assess all proposals requesting the beam lines of that Committee, whatever their scientific area. They meet twice year:

In April to review the proposals submitted for the deadline of 1st March,

In October to review the proposals submitted for the deadline of 10th September.

Warning : Xerox/Photocopying of this book is a CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

Scanned with CamScanner

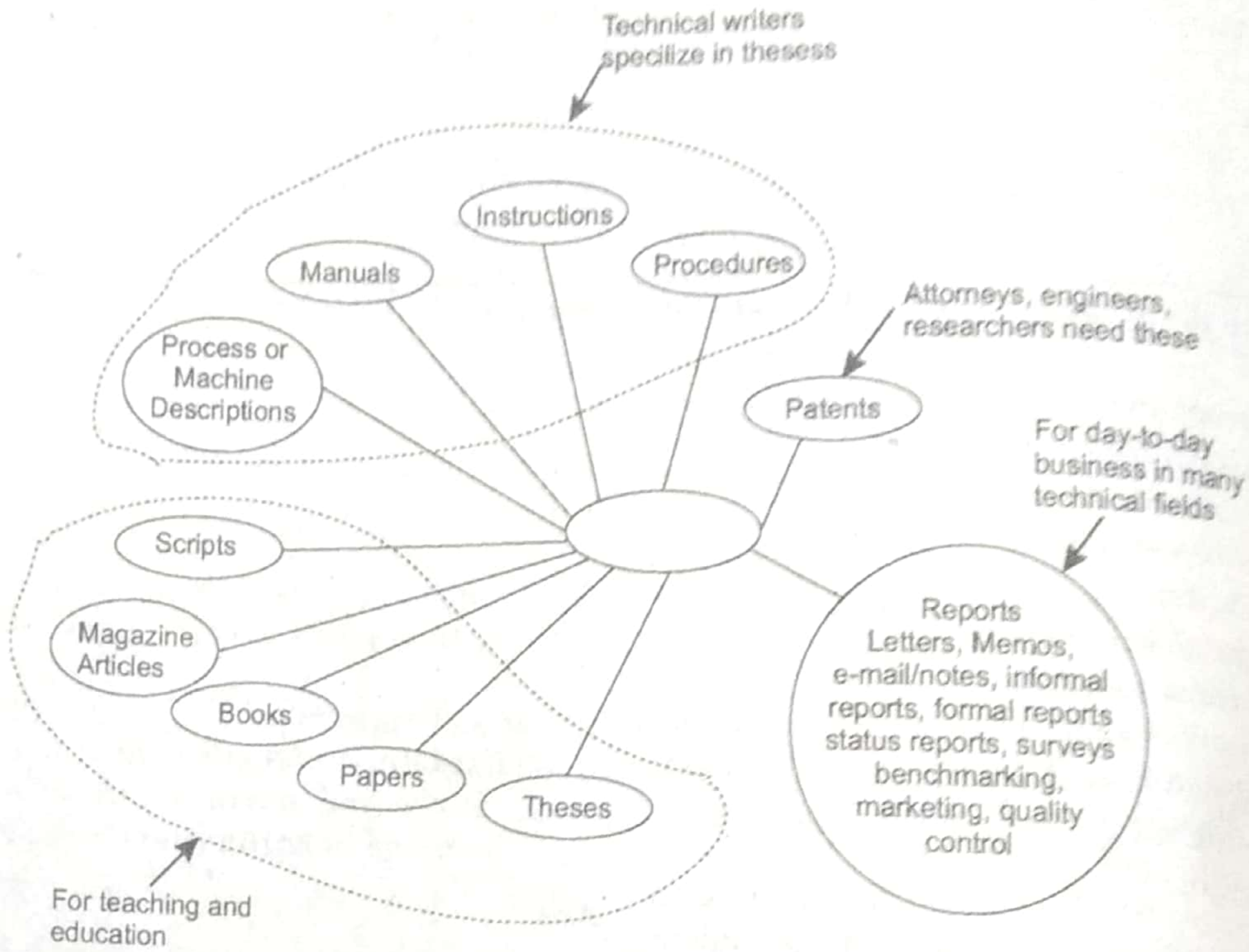
Essay Questions with Answers

3.1 EFFECTIVE TECHNICAL WRITING

Q1. Describe in detail about effective technical writing ?

Ans :

"Technical writing is communication, the primary aim of which is to convery a particular piece of information to a particular reader or group of reader for a particular purpose.



Purpose of technical writing :

(1) Give information that leads to the accomplishment of scientific tasks and in the making of the needed decisions.

(2) Analyse events and their implications.

(3) Persuade and influence decisions.

(4) To provide information without expecting any action on the part of the reader.

(5) To instruct in the form of directions, instructions, procedures so that readers will be able to do something

(6) To respond to a request for proposals (RFP).

Basic principles of good technical writing :

(1) The writer of a report must have a specific reader or groups of readers in mind.

(2) Writer must decide. What the specific purpose of his report is and make sure that every part of his report contributes to that purpose.

(3) He must use specific, single, concrete words and familiar language that cannot be misinterpreted.

(4) The technical writer should make his report attractive to look at and use correct format.

(5) Adopt ethical standards.

Qualities of technical writing :

(1) Planning

(2) Clarity

Warning : Xerox/Photocopying of this book is a CRIMINAL Act. Any...

Scanned with CamScanner

(3) Simplicity

(4) Word choice

(5) Active voice

(6) Committing to writing as a process

Effective technical Report :

The technical report should be in proper format, Accuracy, clarity, continuity and good writing style. Clear writing requires clear thinking.

Q2. What are the types of reports ?

Ans :

Refresh reports vary greatly in length and type. For instance, business firms prefer reports in the letter form, just one or two pages in length. Banks, Insurances organisations and financial institutions are generally fond of the short balance-sheet type of Tabulation for their annual reports. Tabulation for their annual reports. Mathematicians prefer to write the results of their investigations in the form of algebraic notations. Chemists report their results in symbols and formuale.

Students write long reports presenting the critical analysis of some writer or period or the like with a liberal use of quotations from the works of the author under discussion. Clinical psychologists and social pathologists frequently find it necessary to make use of the case-history form. News items in the daily papers are also forms of Report writing. Book-reviews which analyze the content of the book and report on the author's intentions, Ph.D. theses and dissertations are also a form of report-writing, usually completed by students in academic Institutions.

There are two types of reports :

(a) Technical Report

(b) Popular Report

(a) Technical Report :

In the technical report the main emphasis is on (i) the methods employed, (ii) 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

(2) Nature of the study

(3) Methods employed

(4) Data

(5) Analysis of data and presentation of findings

(6) Conclusions

(7) Bibliography

(8) Technical appendices

(9) Index

(b) Popular Report :

The popular report is one which gives emphasis on simplicity and attractiveness. The simplification should be sought through clear writing, minimization of technical, particularly mathematical, details and liberal use of charts and diagrams. Attractive layout along with large print, many subheadings. Besides, in a such report emphasis is given on practical aspects and policy implications.

The general outline of a popular report are :

(1) The findings and their implications

(2) Recommendations for action

(3) Objective of the study

(4) Methods employed

(5) Results

(6) Technical appendices

3.2 How to write report

Q3. "Report writing is more an art that hinges upon practice & experience" Discuss ?

(or)

Explain the significance of a research report and narrate the various steps involved in writing such a report ?

Ans :

Research report is considered a major Component of the research study for the research task remains incomplete till the report has been present or written. Research report is a channel of communication the research finding to the readers of the report. A good research report is one which does this task efficiently. As such it must be prepared keeping the following precautions in view.

(1) Determine the length of the report.

(2) Research report should sustain readers interests.

(3) Abstract turminalogy & technical jargon should be avoided in a research report and convey the matter as simple as possible.

(4) Charts, graphs & the statistical tables may be used for the various results in the main report.

(5) The layout of the report should be appropriate and with the objective of the research problem.

(6) Report shouldbe free from grammatical mistakes and must be prepared strictly.

(7) Report must present the logical analysis of the subject matter.

(8) It must contribute to the solution of a problem.

book is a CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

(9) Appendices should be enlisted.

(10) Bibliography must be given.

(11) Index is also considered an essential part of a good report.

(12) Report must be attractive in appearance neat & and clean. Whether typed (co) printed.

Different steps in writing report :

(i) Logical analysis of the subject matter :

It is the first step which is primarly concerned and there are two ways to develop a subject.

(a) Logically and

(b) Chronologically

The logical development is made on the basis of mental connections and associations between the one things and another by means of analysis. Chronological development is based on a connection or sequence in time or occurance.

(ii) Preparation of the final outline :

The next step in writting the research report "Outlines are the frame work upon which long written work are constructed".

(iii) Preparation of the rough draft :

This follows the logical analysis of the subject & the preparation of the final outline. The technique of analysis adopted for the brood findings and generalizations.

(iv) Rewriting and Polishing of the rough draft :

Usually this steps requires more time, while rewriting and polishing, one should check the report for weakness in logical development or presentation and should check the mechanics of writing-grammar, spelling and usage.

(v) Preparation of final bibliography :

Next in order comes the task of the preparation of the final bibliography, which is generally appended to the research report, is a list of books in some way pertinent to the research which has been done. It should contain all those works which the research has consulted and arranged alphabetically and may be divided into two parts, the first part may contain the names of books and pamphlets, and the second part may contain the names of magazine and newspaper article and this is considered convenient and satisfactory from the point of view of reader.

(vi) Writing the final draft :

This constitues the last step. The final draft should be written in a concise and objective style and in simple language avoiding vague expression such as "it seems", "there may be", and like ones. Illustrations and examples based on common experiences must be incorporated.

3.3 Paper developing a research proposal

Q4. Write a brief notes on paper developing a research proposal ?

Ans :

A research proposal is a document proposing a research project, generally in the sciences or academia and generally constitutes a request for sponsorship of that research. Proposals are evaluated on the cost and potential impact of the proposed research and on the soundness of the proposed plan for carrying it out.

Writing a research proposal can be a demanding, frustrating, challending and time-consuming process - but it can also be exciting.

Developing Research proposal :

(i) Choosing a topic :

The first step is deciding upon a topic, A clear defined research topic is the first step in successful research because it highlights the problem.

(ii) Narrowing and focusing on paper :

There are some important requirements in choosing a topic - Broad topic Vs Narrow topic Broad topic - difficult to find relevant sources Narrow topic - provides precise information. Topic should be interested, significant, feasible, practical value, focused, clear and ethical.

(iii) Formulating research :

Objectives or questions and ideas for analysis - clearly understand the question that you are researching.

(iv) Outlining :

The key literature in the topic area.

(v) Deciding on research methodology, research design, research plan and synopsis, data collection method, sampling, instruments, data analysis, description of techniques.

(vi) Proposing a format :

Researcher should follow a particular format which includes title page, Abstract, introduction, scope of the study, Budget, initial conclusion, Bibliography.

(vii) Developing a time line.

(viii) Budget :

Too High budget will be rejected and too low budget can be suspicious.

(ix) Late proposal will not be reviewed.

Warning : Xerox/Photocopying of this book is a CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

Scanned with CamScanner

3.4 Format of Research Proposal

Q5. Write the procedure of Research proposal format ?

Ans :

Format of Research proposal :

The format for the research proposal should consist of the following :

(1) Proposed title of the Research Proposal/ Project :

The title of the Research proposal must reflect clearly and the area of the research that is to be embarked on. In other words, a title should describe the content of the thesis accurately and concisely.

(2) The Introduction to the Research Proposal /Project :

The Introduct must consist of a general description of the background of the research associated questions and the problems involved in it.

(3) Objectives of the Research Proposal / Project :

The necessary context should be set for the research objectives to ensure that its importance, significance and essential nature is clearly demonstrated in the proposal.

(4) The problem statement :

The problem involved in the research must be clearly defined as it will help to present the rationable of the entire study.

(5) Literature Review :

This part of the proposal will contain an analysis of other associated research works or studies pertinent to the proposed research area and it will help toward the formation of the research methodology.

(6) Research methodology :

This will require an understanding of alternative research methods known and the approach to be adopted in this particular study.

(7) The expected work schedule/timeline :

The schedule or timeline for the proposed completion of the research should be listed to enable an understanding of the allocation of resources to be made.

3.5 Presentation and Assessment by a Review Committee

Q6. How you present a research proposal, explain in detail?

(or)

Explain the process of research proposal presentation?

Ans :

A successful presentation proposal usually consists of two parts. First is the written proposal with all of the details. This is often a thick document, which is always designed to be read on its own. The second part is the presentation itself, where you get to explain your proposal in person and answer questions. Rarely, if ever, should you write a presentation the same way you write the proposal document.

The presentation format consists of :

(1) Prepare an oral presentation: the first important step is prepare for oral presentation before actual research proposal presentation is performed. Maintain well communicating skills, to perform well.

(2) Presentation elements: understand the requirements for research and organize the collected information

(3) Use audio visual material to supplement your information for better experience

(4) Present the proposal with in stipulated time.

(5) Keep slides simple

(6) Maintain eye contact

(7) Get everyone involved

Review your proposal document: asking yourself "what is a project proposal?"

A proposal document is usually broken down into sections, containing all of the information. A typical proposal could consist of the following sections:

- **Executive Summary :**

  Summarizes the proposal, briefly explaining the current situation and why your proposal should be accepted.

- **Current Situation :**

  Describes the current situation and any background leading to it, if relevant. Specifically, it addresses problems or shortcomings in the current situation.

- **Statement of Work or List of Products :**

  A description of your solution to solve the problems in the current situation, including timelines if you are proposing services or a list of products to be purchased and their descriptions.

- Management Plan: How the project will be supervised, including a schedule of project milestones, allocation of resources and people, as well as how you will manage risks involved in the project.

Warning: Copying this book is a CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

Scanned with CamScanner

- **Qualifications:**

  Explains why you or your company have the expertise to take on the project. This could include brief descriptions of past projects or a list of customers and testimonials.

- **Pricing and Contract :**

  A detailed breakdown of the costs to the customer and a draft of your proposed contract.

The presentation could be more informal, if an individual meets with her department, or extremely formal at company-wide meetings or conventions. Presentations can take a lot of time to prepare. Additionally, people usually get a little nervous before a presentation. However, there are some key meeting presentation tips that can help anyone deliver a highly impactful presentation.

(1) Show and tell

(2) Engage your audience

(3) Be prepared

(4) Enjoy research describing

(5) Simple format

Q7. Explain the research proposal assessment by a review committee?

Ans :

The proposal review process allows all proposals received for a particular to be assessed by the Review Committee. This gives the Committees flexibility to optimize the selection of proposals to be performed on each proposal. In addition, this structure and associated software allow ESRF to obtain and publish the final decisions much sooner after the Review Committee Meetings of April and October. It is therefore extremely important that the proposer takes great care when filing in this part of the proposal form in order to have the proposal assessed by the appropriate review committee.

The proposers must identify whether the proposal is fundamental / applied / industrially relevant science elsewhere on the proposal form. The societal theme section should not be used for this. Please therefore only select "Fundamental Science" if the theme is Fundamental Science not already covered by the other themes proposed.

They meet twice year :

In April to review the proposals submitted for the deadline of 1st March,

In October to review the proposals submitted for the deadline of 10th September

Review proposals can be done in two ways qualitative and quantitative, but qualitative proposals are broad and complex problems rather than the concise hypotheses found in quantitative applications.

A Review Committee's Guide for Evaluating Qualitative Proposals by presenting criteria to assess the relevance, rigor, and feasibility of qualitative research.

Review committee process :

Most granting agencies have reviewers' guidelines that include instructions for the format of the written review. These can be as broad as section headings that will aid in the presentation of the written review and enable standardization for the reviews, and will ensure that the reviews are comprehensive. Some organizations will have the committee chair or a staff person compile and summarize all of the reviewers' comments; other will simply send the originals to the researchers.6 Most agencies "blind" the reviewer from the researcher—although the researcher will be able to obtain a list of committee members, they will not know which members reviewed their proposal.

The criteria proposed herein are based on three dimensions: relevance, rigor, and feasibility

Relevance refers to the potential contribution of the research—the worthiness of the research question and the potential contribution of the results to the discipline and to social science in general.

Rigor refers to the adequacy and appropriateness of the method to address the questions proposed and solidity of the research design.

Feasibility refers to the ability of the researcher to conduct the research, the resources available and requested (including the time assigned for the project), and evidence of access to the setting and participants, including ethical concerns for protecting the rights of human subjects. In other words, feasibility refers to the probability that the project will be completed as described. Criteria of review depends on the components of proposal :

(1) The Research Problem or Question :

The research problem enables to generate a set to research questions. It is an ability to identify research problem and to formulate the questions depends on the background knowledge about the topic. A statement that identifies the phenomenon to be studies.

(2) Investigator capability :

For major funding, principal investigators must present evidence of adequate expe- rience as a qualitative researcher and demonstrate that the team is creative and capable of completing the project with excellence.

(3) Proposed methods :

The relevance of the fit of the method to the problem must be assessed. Overall, the methods must be logically linked to the topic. Different methods require different types of data, so the method(s)

Warning : Xerox/Photocopying of this book is a CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

Scanned with CamScanner

selected must best be able to provide the information needed to explore the proposed question or problem statement and also provide the solution.

(4) Selection of research context :

The criterion of relevance is most important when considering the research context. In qualitative inquiry, the setting, participants, and situation must be selected so that the opportunity to observe the phenomenon of interest is maximized. It must be most relevant to the problem.

(5) Design :

Relevance of the proposed design is considered by determining if the proposed methods and strategies are well justified and the research design will optimize the chance of both answering the research questions and providing the type of results necessary.

Rigor is evaluated according to how well the proposal meets methodological standards for qualitative inquiry. Does the proposal describe how the interviews and observations will be conducted? What other data will be sought for analysis?

The scope of inquiry should be considered in light of the design, again to assess feasibility. The proposed components of multimethod or mixed design to obtain perspectives of the phenomenon.

(6) Analytical plans :

Relevance considers if the analytic plans will produce results in the necessary form. If a descriptive study is planned. Issues of rigor include how data will be coded and analyzed, congruent with the method proposed. Does the investigator have plans for the verification of data? How will the emerging categories and themes be evaluated for saturation? What level of explanation/abstraction will be sought? How will concepts be devel- oped and theory constructed?

The feasibility of a project can be demonstrated by conducting a small project to determine if the project can be carried out is acceptable to participants, to train staff, and so forth.

(7) Time/duration of project :

The reviewer should ensure that the researchers have allowed for adequate time to do the study. adequate time to collect data, time to think, time to analyze and verify, time to conceptualize, and time to write and prepare publications and to disseminate? To be successful, qualitative researchers cannot calculate the time required for a project using simple math with the projected number of interviews, and one of the most common problems is not enough time.

Considering this, review committees should assess the amount of time the PI has allocated to the project as well as concurrent projects and responsibilities, along with the adequacy of the team and the duration of the grant.

(8) Budget :

If qualitative inquiry is to be good, it is expensive. Collecting interview data, transcribing it, and analyzing the text are slow and time consuming. Investigators may use "rules of thumb" when estimating their budget. For instance, transcription usually takes 4 times as long as the recording (or 8 times if the transcript is being prepared for conversational analysis), and these calculations should be presented in the budget.

(9) Human subjects :

The final part of the review is to ensure that the rights of human subjects have been protection. It ensures the risks of participating in the research, that participants are informed and consent to participating in the research, and that they have the opportunity to withdraw from the research. Review committees responsible for the site hosting the study, provide written certification with the proposal that they have reviewed and approved of the study prior to the release of funds. It is the responsibility of the review committee to also review the proposal for ethical concerns. These issues, if concerns are raised, will prevent the study from going ahead and interfere with its feasibility.

(10) Dissemination/application :

Dissemination might be beyond the scope of an individual project but be a part of the overall research program. If included, relevance of the dissemination plans is considered excellent if they appear to target the practitioners concerned and are practical. They are considered rigorous if there is a good fit between the type of results and the plans, and feasible if they do not impose prohibitive costs, including staff time.

(11) Anticipated Product: Fit to Existing Knowledge and Praxis :

To achieve relevance, the results must be useful; to achieve rigor, they must be of high qualitative; to achieve feasibility, they must be applicable. Minimally, there must be a fit between the qualitatively derived knowledge and praxis.

Scoring, Ranking and Approving the proposal

Once the proposal has been presented, questions answered, and a concern discussed by the committee, the proposal is scored. The mean score derived from all committee members determines the ranking of the proposal within all the proposals reviewed by that group and whether the proposal is approved for funding.

Warning : Xerox/Photocopying of this book is a CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

Scanned with CamScanner

UNIT

INTELLECTUAL PROPERTY RIGHTS (IPR)

4

Short Questions with Answers

Q1. Definition of Intellectual property ?

(or)

Write a short notes on Intellectual property ?

Ans :

Intellectual Property refers to creations of the mind, inventions; literary and artistic works; and symbols, names and images used in commerce. Intellectual property is divided into two categories : Industrial Property includes patents for inventions, trademarks, industrial design and geo-graphical indications.

Intellectual Property (IP is a category of property that includes intangible creations of the human intellect. There are many types of intellectual property, and some countries recognize more than other.

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 jewellery, cars and artwork; and intellectual property refers to the fruit or product of human creativity, including literature, advertising slogans, songs, or new inventions.

Q2. Write a short notes on nature of intellectual property ?

Ans :

Nature of intellectual property :

Intellectual Property is concerned with creative work which can be treated as an assest or physical property. The low seeks to protect intangible property owners through statues and common law rules. In the UK, It is also hugely regulated by EU law as well as international law.

Legal rules in this area of law also seeks to balance the right of the owner of such property as well as public interest against monopolies and anti-competitive practices.

Essential negative rights to stop others from copying or counterfeiting.

(a) In patents, being first with an invention preempts any right of another making same invention independently.

(b) In copyrights, the right is diluted as right is over the form of expression and not over idea.

- IPR's being statuory rights are legally enforceable.
- They are territorial in nature.

Q3. What are the types of Intellectual property ?

Ans :

The term intellectual property is usually thought of as comprising four separate, but often overlapping, legal fields: trademarks, copyrights, patents, and trade secrets. Although each of these areas will be discussed in detail.

(1) Trade marks :

A word, name, symbol or device used to indicate origin, quality and ownership of a product or service.

(2) Copyrights :

Protection granted to authors of original works of authorship, fixed in a tangible form.

(3) Patents :

Grant of right to exclude another from making, using, selling or importing a patented invention or discovery.

(4) Trade Secrets :

Any valuable business information that, if known by a competitor, would afford the competitor some benefit or advantage.

Q4. What are the different types of patents ?

Ans :

There are three types of patents

(i) Utility patents

(ii) Design patents

(iii) Plant patents

Warning : Xerox/Photocopying of this book is a CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

Scanned with CamScanner

(i) Utility patents :

Utility patents may be granted to anyone who invents or discovers any new and useful process, machine, article of manufacture, or composition of matter, or any new and useful improvement thereof;

(ii) Design patents :

May be granted to anyone who invents a new, original, and ornamental of design for an article of manufacture; and

(iii) Plant patents :

Plant patents may be granted to anyone who invents or discovers and a sexually reproduces any distinct and new variety of plant.

Q5. Define process of patenting and develop ment ?

Ans :

Patents can play a prominent role in the entire technology life cycle, from ititial R&D to market introduction and allow competitive technologies to be protected and licensed to third parties to expand financial opportunities Global patenting activity is on the rise.

World Intellectual property indicators (IP1) show that the total number of patent fillings worldwide in 2011 exceeded 2 million for the first time, with a growth rate of 7.8% over 2010.

A patent is the right granted to a patent holder by a state, or by a regional office activity for several states, which allows the patent holder to exclude others from commerically exploting their invention for a limited period without authorisation. By granting such rights, patents provide incentives for innovators, offering them recognition for their creativity and enabling them to appropriate the returns of their investment. A patent may be a powerful business tool allowing innovators to gain exclusivity over a new product or process, develop a strong market position.

Q6. Write a short notes technological research ?

Ans :

Technological Research refers to innovate activities undertaken by corporations or Governments in developing new services or products, or improving existing services or products. Research and Development constitutes the first stage of development of a potential new service or the production process.

R&D activities are conducted by dedicated. R&D department staffed by engineers talked with developing new product and staffed with industrial scientists and tasked with applied research in scientific or technological field. Which may facilitate future product development. Technological R&D is crucial for acquiring larger shares of the market through the marketisation of new products.

Technological research or Research and Development is directed towards developing products to meet the unmet needs. R & D refers to future oriented, long term activities in science or technology, using similar techniques to scientific research but directed toward desired outcomes and with broad forecasts of commerical yield.

Q7. Write a short notes on innovation, patenting and development ?

Ans :

Innovation :

Innovation is production or adoption, assimilation and exploitation of a value added novelty in economic and social spheres, renewal and enlargement of products, services and markets, development of new methods of production, and the establishment of new management systems. It is both a process and an outcome.

Innovation includes original invention and creative use and defines innovation as a generation, admission and realization of new ideas, products, services and processes.

Patenting & Development :

A patent may be powerful business tool allowing innovators to gain exclusivity over a new product or process, develop a strong market position and earn aditional revenue through licensing. Patent protection is usually sought sought at the research and development (R&D) stage of the technology life cycle.

The life cycle of technologies can be divided into stages-from invention, through reearch, development and dissemination (RD&D) and market development, to commercial diffusion. Different processes occur at each stage of the life cycle, providing various opportunities to employ instruments that promote innovation.

Q8. What are the functions of IPR ?

Ans :

The main purpose of Intellectual property law is to encourage the creation of a wide variety of intellectual goods for consumers. To achieve this, the law gives people and businesses property rights to the information and intellectual goods they create, usually for a limited period to time.

It protects society against free riding in all its forms in order to ensure a more efficient use of scarce resources and to avoid duplication of efforts. IP only performs fully its social function in a free-market economic environment.

Q9. Write about today's scenario on international cooperation on Intellectual property ?

Warning : Xerox/Photocopying of this book is a CRIMINAL Act. Anyone found guilty is LIABLE

Scanned with CamScanner

Ans :

WIPO (World Intellectual Property Organisation) international cooperatin in the IP field, WIPO works to assist all nations, particularly developing and least developed countries, to use the intellectual property (IP) system to promote economic, social and cultural development.

International co-operation :

The interaction of persons or group of persons representing various nations in the pursuit of a common goal or interest.

WIPO cooperate with member states, inter government and non-governmental organisations, and the enterprise sector worldwide to help them realize the benefits of the international intellectual (IP) system for society.

WIPO provides rules, rights and laws on International patent law, International copyright law, International trade law. WIPO established in 1970 and organisation become a specialised agency of the United Nations in 1974.

Functions of WIPO :

(1) Harmonize national intellectual property legislation and procedures.

(2) Provide services for international applications for industrial property rights.

(3) Exchange intellectual property information.

(4) Provide legal and technical assistance to developing other countries.

(5) Facilitate the resolution of private intellectual property dispules.

Q10. What is the procedure for grants of patents ?

Ans :

The patent process takes between 3 to 5 years and involves a series of steps to be mandatorily followed within prescribed timelines to get a patent. Failure to avoid such deadlines can also lead to loss of your patent application.

The procedure for grant along with the tentative timelines involved during the patent process

Step 1 :

A Application is filed with the patent office.

Step 2 :

Decision on doing it yourself or engaging a professional

Step 3 :

Check the patentability of the invention by performing a search for similar technologies.

Step 4 :

Drafting a patent application provisional or complete.

Step 5 :

Filling a patent application

(1) Filing in India.

(2) Foreign filing decision

Step 6 :

Publication of patent application.

Step 7 :

Examination of the patent application.

Step 8 :

Final decision on grant of patent.

Step 9 :

Renewal

Q11. What is PCT in patent process ?

(or)

Describe patenting under PCT ?

Ans :

The patent cooperation treaty is an international patent law treaty, concluded in 1970. It provides a unified procedure for filing patent applications to protect invention in each of its contracting states. A patent application filed under the PCT is called an international application or PCT application.

The PCT patent application is a single application filed at one of the international receiving offices (of which the USPTO is one) that grants the applicant the right to file future national patent applications in any of the contracting states.

In most cases, upto an additional 18 months from the time you file your international patent application (or usually 30 months from the filing date of the initial patent application of which claim priority.

Q12. Who uses the PCT ?

Ans :

The PCT is used by the world's major corporations, research institutions, and universities when they seek international patent protection. It is also used by small and medium sized enterprises (SMEs) and individual inventors. The PCT News letter contains a yearly list of the largest PCT filers.

Anyone found guilty is LIABLE to face LEGAL proceedings

Scanned with CamScanner

Essay Questions with Answers

4.1 Nature of Intellectual Property Patents, Designs, Trade and Copy right

Q1. Define Intellectual property and Explain the types of Intellectual property ?

(or)

Describe in detail about Intellectual property ?

(or)

What is Intellectual property rights and Explain its advantages and disadvantages ?

Ans :

Definition :

Intellectual Property law protects the results of human creatie 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. Rights in trade marks are created by use of a mark; registration with the U.S. patent and Trade mark office (USPTO) is not required, although it offers certain advantages.

Copyright protects original works of authorship, including literary, musical, dramatic, artistic and otherwords. Just as trademarks are protected from the moment of their first public use, copyright exists from the moment of a creation of a work in fixed from : registration of a copyright with the U.S. Copy right office, while affording certain benefits, is not require. A patent is a grant from the US government that permits its owner to exclude others from making, selling, using or importing an invention.

Types of Intellectual Property :

The Term intellectual property is usually thought of as comprising four separate, but often overlapping, legal field : trademarks, copyright, patents and tradesecrets. Although each of these areas will be there.

Trademarks :

A trademark or service mark is a word, name, symbol or device used to indicate the source, quality and ownership of a product or service. A trademark is used in the marketing of a product, while a service mark typically identifies a service. A trademark or service mark identifies and distinguishes the products or services of one person from those of another.

In addition to words, trademarks can also consist of slogans, designs, or sounds.

Trademarks provide guarantees of quality and consistency of the product or service they identify. Thus, upon encountering the golden arches that identify a McDonald's restaurant, consumes understand the "Big MAC" they purchase In Chicago will be the same quality as one purchased in seattle.

Companies expend a great deal with of time, effort and money in establishing consumer recognition of and confidence in their marks. Yet not all words, phrases, or symbols are entitled to protection as trademarks. A chain of stores that sells clothing could not obtain a registered trademark for "Clothing Goods" in as much as the name is generic, yet GAP is a nationally recognized mark for the retail sale of clothing.

Copyrights :

Copyright is a form of protection governed exclusively by federal law granted to the authors of original works of authorship, including literary, dramatic, musical, artistic and certain other works.

Copyright protection is available for more than merely serious works of fiction or art. Marketing materials, advertising copy and cartoons are also protectable. Copyrights is available for original works; no judgement is made about their literary or artistic quality. Neverthless, certain works are not protectable by copy right, although the expression of those ideas is.

Copyright protection exists automatically from the time a work is created in fixed form. Thus similar to tradework law, securing a registration for a work is not required for a work to be protected, although registration does provide significant advantages, such as establishing a public record of the copyright claim and provide a basis upon which an infringement suit may be brought in fedral court and in which statutory damages and attorney's fees may be recovered.

Patents :

A patent is a grant from the U.S. government that permits its owner to prevent others from making, using, importing or selling an invention. There are three types of patents : utility patents, which are the most common patents and which cover useful inventions and discoveries. design patents, which cover new, original and ornamental designs for articles.

Patents protection is available only for useful novel, and nonobvious inventions. Generally, patent law prohibits the patenting of an invention that is merely an insignificant addition to an invention or minor alteration of something already known. Moreover, sometimes items cannot be protected by patent, such as pure scientific principles.

Federal Regristration of Patents :

Warning : Xerox/Photocopying of this book is a CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

Scanned with CamScanner

Patents are governed exclusively by federal law. To obtain a patent, an inventor must file an application with the USPTO that fully describes the invention. Patent prosecution is expensive, time-consuming and complex. Costs can run into the thousands of dollars and it generally takes about three years for the UPSTO to issue a patent.

Patent protection exists for 20 years from the date of filling of an application for utility patents and plant patents and 14 years from the date of grant for design patents.

Trade Secrets :

A Trade Secret consists of any valuable business information that if known by a competitor, would afford the competitor some benefit or advantage. There is no limit to the type of information that can be protected as trade secrets; receipes, marketing plans, financial projections and methods of conducting business can all constitute trade secrets. There is no requirement that a trade secret be unique or complex; thus, even something as simple and non technical as a list of customers can qualify as a trade secrets as long as it affords its owner a competitive advantage and is not common knowledge.

If trade secrets were not protectable, companies would have no incentive to invest time, money, and effort in research and development that ultimately benefits the public. Trade secret law thus promotes the development of new methods and processes of doing buisness in the market place.

Advantages :

(1) Provides exclusive rights to the creators or inventors.

(2) Encourages individuals to discribute and share information and data instead of keeping it confitential.

(3) Provides legal defense and offers the creators the incentive of their work.

(4) Help in social and financial development.

(5) Your Intellectual property can consist of many different assests from logos and corporate industries names.

(6) The economical property can gain benefits of intellectual property rights and it can contribute to economic development.

Disadvantages :

Which there are several advantages, there are some disadvantages of Intellectual Property too including the following :

(1) Additional costs

(2) Pirating

(3) Reduced quality

(1) Protecting your IP could cost a lot of money, particularly if you have a very complex product that involves designs, methods and processes. Therefore, you could be filling several patent applications to protect one product.

(2) As Intellectual property rights become reduced, so too will the quality of the product being created. That is because there is much less of an incentive to do the work and put the time and resources in, especially if the company knowns that its IP rights aren't absolute.

(3) If you need help learning, when it comes to highly sought - after IP, it is hard to stop consumers from taking such IP. Further more, any attempt to enforce IP rights could reduce a company's customer base.

4.2 PROCESS OF PATENTING AND DEVELOPMENT: TECHNOLOGICAL RESEARCH, INNOVATION, PATENTING, DEVELOPMENT.

Q2. Process of patenting and development: technological research, innovation, patenting, development ?

Ans :

A patent is a set of exclusive rights granted by sovereign state to an inventor or assignee for a limited period of time in exchange for detailed public discloser of an invention. Patent rights are granted by national Patent Offices, and so patent protection for an invention must be sought in each country individually. The procedure generally involves mainly four steps. First, the person (or company) seeking patent protection must go for

(1) Technological research

(2) Innovation

(3) Patenting

(4) Development

(1) Technological research :

Patent protection is usually sought at the research and development (R&D) stage of the technology life cycle.... The disclosure of the invention is an essential consideration in any patent granting procedure. In this way the patent system is designed to balance the interests of inventors and the public.

(2) Innovation :

A new idea, creative thoughts, new imaginations in form of device or method. Innovation is often also viewed as the application of better solutions that meet new requirements, unarticulated needs, or existing market needs. Many innovations can be protected through intellectual property (IP) rights.

(3) Patenting :

Warning : Xerox/Photocopying of this book is a CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

Scanned with CamScanner

To get a patent, you need to make sure your idea is patentable, which requires that your invention is fully developed and that no one else has already patented it, and then file an application with the United States Patent and Trademark Office (USPTO) which can be a complex process depending on patent type (utility, design, plant patent).

(4) Development :

Patent is a powerful business tool for inventor to develop a strong market position and earn additional revenue through licensing.

(a) Patent process :

Preparing to submit patent application

Step 1: assess your invention

Step 2: monetization : build or license or both a patenting strategy based on licensing, selling products as a primary means of monetization

Step 3: prototyping and manufacturing

Step 4: business plan and marketing

(b) patent process :

Submitting a patent application

Step 5: conduct a patent search

Step 6: submit patent application

Cost must be balanced and select attorney, patent protection defined

Provisional and non- provisional applications and timeline for examination

Step 7: market your idea

Step 8: examination of patent application

Receiving and responding to an office action

Step 9: get and build patent portfolio

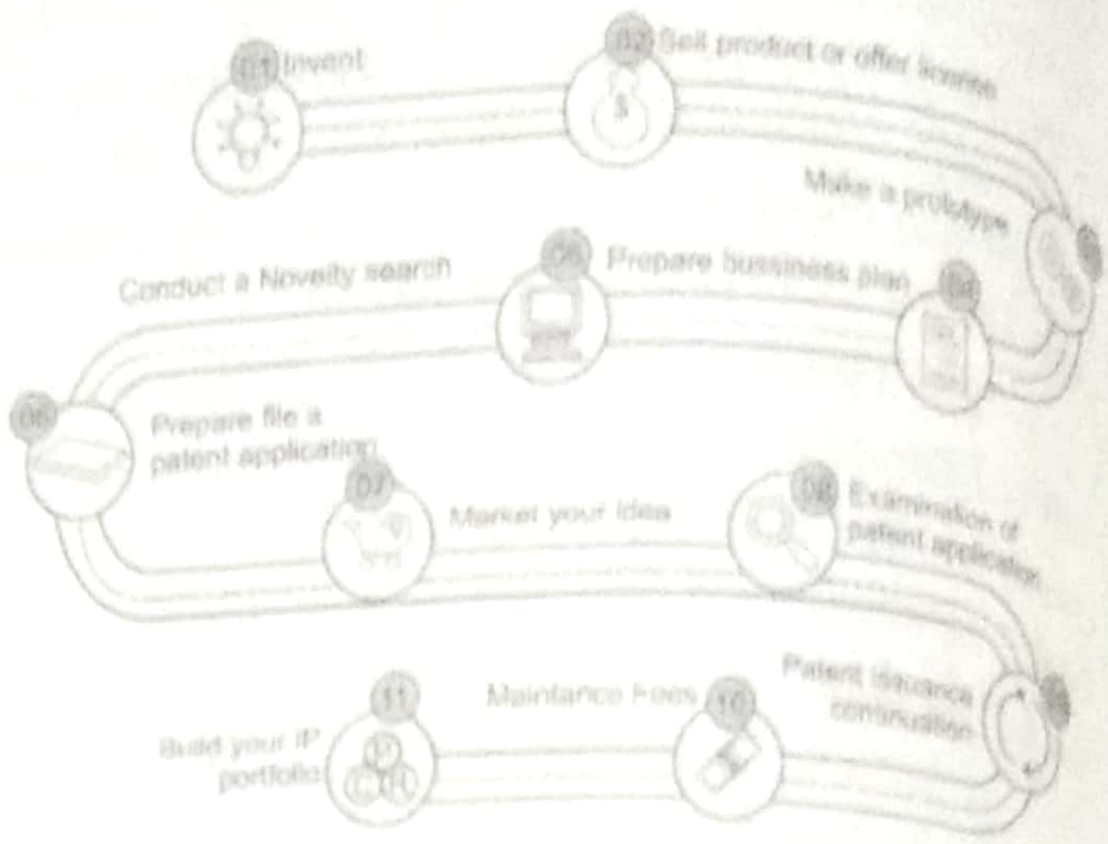
(c) Patent process:

After patent issuance

Step 10: maintenance fees and patent terms

Step 11: build intellectual property portfolio

THE PATENT PROCESS



4.3 INTERNATIONAL SCENARIO: INTERNATIONAL CO-OPERATION ON IP

Q3. Explain about international co-operation on intellectual property?

Ans :

International intellectual property law refers to a set of laws that govern the creation, protection, sharing, and use of intellectual property (IP) in the global context. IP is intangible property created through mental work, such as an invention, creative work, design, or idea. International intellectual property law refers to a set of laws that govern the creation, protection, sharing, and use of intellectual property (IP) in the global context. .

WIPO Global IP Protection systems

International Patent applications :

PCT Resources - Patent Cooperation Treaty (PCT) - PATENTSCOPE database

The Treaty allows seeking patent protection for an invention simultaneously in each of a large number of countries by filing an "international" application.

International Registration of Industrial Design:

This system allows the owner of an industrial design to apply for industrial design protection in several countries by filing one application with the International Bureau of WIPO.

WIPO Convention, Members, and Decision Making bodies

WIPO Convention :

WIPO was established by the WIPO Convention in 1967 with a mandate from its Member States to promote the protection of Intellectual Property (IP) around the world through cooperation among states and in collaboration with other international organizations. Its headquarters are in Geneva, Switzerland.

Warning : Xerox/Photocopying of this book is a CRIMINAL Act

WIPO Member States-Directory of IP Offices

For each Member State, this section provides information on membership of the different WIPO treaties, national IP legislation, contact details of IP Offices and other useful details.

WIPO Decision-Making bodies :

WIPO's strategic direction, budget and activities are determined by its Member States who meet in the Assemblies, Committees and other decision making bodies which work to provide for the international IP system keeping pace with the changing world. The WIPO Secretariat coordinates formal and informal meetings of the Member States bodies throughout the year. To ensure transparency and inclusiveness, all meeting documents are available online, as well as live webcast of WIPO meetings.

WIPO International Cooperation in the IP field

Industrial Property Statistics :

Statistics relating to patents, utility models, marks, industrial designs, plant varieties and microorganisms by country and in accordance with the relevant international industrial property classification systems.

Traditional Knowledge (TK), Genetic Resources (GR) and Traditional Cultural Expressions (TCE) (Folklore)

A forum for international policy debate and development of legal mechanisms and practical tools concerning the protection.

Intellectual Property for Development

WIPO works to assist all nations, particularly developing and least developed countries, to use the intellectual property (IP) system to promote economic, social and cultural development.

IP Laws and Treaties (WIPO)

Access to intellectual property legislation and treaties from a wide range of countries and regions.

4.4 Procedure for Grants of Patents

Q4. Explain in detail about procedure for grants of patents ?

Ans :

Patent in india is granted by

(1) Indian patent office

(2) ministry of commerce and

(3) Govt of india

It is located in india at delhi, Mumbai, Chennai, Kolkata.

An application for filing a patent in india can be filed by any single person or jointly with other person

Patent filing in India :

Step 1 : Filing provisional application :

A provisional application is a temporary application which is filed when the invention is not finalized and is still under experimentation

Step 2 : Filing the complete specification :

Once the provisional application is filed, it provides a 12 months of time to draft to complete patent application giving full details of the invention

Step 3 : Publication :

Once the complete specification is filed patent office will publish the application official gazette of Indian patent office within 18months from priority date and is available to public in digital format.

Step 4 : Pre grant opposition :

After publication invention is available to public so any person or party interested can file request to controller and can oppose the patent by writing application to the controller.

Step 5 : Examination :

Application is examined on request and can be made either by the applicant or by a third party. After all the points are checked by examiner he prepares the first examination report containing alist of objections.

step 6 : Response from the applicant :

if objections are met, grant of patent is approved by the controller within a period of 1 month.

Step 7 : Grant of patent :

Under section 43, if the controller is satisfied and finds the application in order

Of grant,then he grants the patent application

A certificate of patent is issued within 7 days

For a term of 20 years from the date of filing the patent application.

4.5 Patenting under PCT

Q5. Describe about patenting under PCT ?

(or)

What is PCT in patent process ?

Ans :

Patent co-operating treaty (PCT) is an international patent law treaty that provides a unified procedure for filing patent application to protect inventions in each of its contracting states. It is an special international treaty organized by WIPO that only provides access to member states of paris convention for the protection of Industrial property.

Purposes of PCT :

(1) Procedures for obtaining legal protection for

CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

Scanned with CamScanner

inventions.

(a) Save effort (time, work and money) for applicant & national offices).

(b) Increase the likehood of granting deserving patents.

(2) Dissemination of technical information facilitate and accelerate access by the public to the technical information contained in documents describing new inventions.

Basic features of PCT System :

The basic is one patent office, one language and one application.

P - Formal examination is done by one office

C - Retrieval is carried out by one office

T - International publication is made by international office

Examination and authorization are finished by national offices.

The PCT procedure includes :

(1) Filing :

The applicant file an international application with a national or regional patent office or WIPO complying with the PCT formality requirements, in one language and can pay one set of fees.

(2) Interanational search :

An "International Searching Authority" (ISA) one of the world's major patent offices, identifies the published patent documents and technical literature ("prior art") which may have an influence on whether invention is patentable, and establishes a written opinion on your invention's potential patentability.

(3) International publication :

After the expiration of 18 months from the earliest filing date, the content of your international application is disclosed to the world.

(4) Supplementary Internation Search (Optional) :

A second ISA identifies, at your your request published documents which may not have been found by the first ISA which carried out the main search because of the diversity of prior art in different languages and different technical fields.

(5) International preliminary examination (Optional) :

It carriers out an additional patentability analysis, usually on an amended version of your application.

(6) National Phase :

The ent of the PCT procedure, usually at 30 months from the earliest filing date of initial application from which you claim priority, you start to pursue the grant of your patents directly before the national (or regional) patent office of the countries in which you want to obtain them.

Scanned with CamScanner

PATENT RIGHTS

UNIT 5

Short Questions with Answers

Q1. Write about patent rights ?

Ans :

A patent is a monopoly right granted to a person who has invented a new and useful article. It consists of an exclusive right to manufacture the new article or a new process of making an article. It consists of exclusive right to manufacture an article according to inventive process for a limited period. Unlike copyright, which arises automatically an creation of a work, patents are only granted after the applicant satisfies the requirements of registration. The registration process imposes a no.of limits and safeguards on the types of inventions that are patented, the scope of monopoly granted, and the nature of information that is disclosed in patent.

During the term of the patent i.e., the patentee can prevent any other person from using the patented invention. The rights granted to a patent owner cover most commericial uses of the patented invention. The owner of a patent has the power to sell the whole or part of its property and can also grant licenses to others to use and exploit it. A patent granted in one country cannot be enforced in another country unless the invention in that country also.

Q2. Write a short notes on licensing of patent rights ?

Ans :

A patent owner can license or transfer interest in a patent. The licensor gives up the right to the intellectual property, usually for a certain period. During this time, the license cane make or sell the invention or design. The licenses can als profit from the intellectual property during the license period. A documents that permits some uses in return for compensation is known as a license agreement. Different right can be acquired be over patented inventions by various companies from their patent owners.

But these rights are granted only through license agreements. However, licence agreement is also started, by legal experts, as patent owner's agreement guaranting not to use the licencer's use ofpatent agreement. All such patent license agreements are set under the state law.

There are two types of patent licences :

(i) Exclusive Licenses :

These transfer all ownership rights to all licenses. The licensor still owns the little. All patent owners must agree to an exclusive license.

(ii) Non-exclusive license:

These allows the license to produce the invention or design. The license doesn't gain exclusive rights. The licensor and other parties can also produce the invention or design. Only one patent owner has to agree to a non-exclusive license.

Q3. Write about the transfer/assignment of patent rights ?

Ans :

Patents have the attributes of personal property, they may be sold, licensed or bequeathed by will. A person who conceives of an invention and reduce it to practice is a sole inventor. In many cases, however, more than one person will work on an invention. Those parties may be joint inventors even through they do not contribute equal efforts to the invention and do not physically work together. If a dispute over priority of inventorship arises, the general rule is that the first to invent is the one who conceived of the invention and first reduced it to practice, either actually (by building a model) or constructively by filing a patent application for the invention. Notebooks describing work done by inventors often assist in determining priority disputes. Generally, inventions discovered by employees, subject, namely a nonexclusive royality free license in favour of the employer to use the invention. In most cases, employers require employees to enter into agreements assigning any inventions and rights there in to the employer. Nevertheless, even without a written agreement, if an employee is hired specifically, to create a certain work, the employer will own resulting work.

Warning : Xerox/Photocopying of this book is a CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

Scanned with CamScanner

As items of personal property patents may be assigned or sold to others, as long as instrument is in writing. Recordation with the PTO is not required for an assignment to be valid but is recommended.

Patents may also be licensed by agreements granting another the right to use, make or sell the invention for a specified period in a specified territory in return for which the licensee will give consideration (usually in the form of periodic royalty payments) to the licensor. Patents may also be used to secure obligations so that in the event of a default by the patent owner, the secured party may seize the patent and exercise all rights of ownership.

Q4. What is patent information and databases system ?

(or)

What is patent database ?

Ans :

A patent is an exclusive right granted by the government for an in-vention. It provides protection for the invention to the owner of the patent for a limited period which varies from country to country.

Many national patent offices have launched free-of-charge patent information databases, which are open to the public. For example, the full-text and full-page image database of the united states patent and trademark office (USPTO) is the one of the earliest and free online patent information services.

A patent provides its owner right over a claimed invention, which is granted the industrial property or patent office of a country or group countries on the basis of a patent application, bibliographic information is an essential means of identifying, location and retrieving patent documents.

Q5. What is meant by geographical indications ?

Ans :

The WTO Agreement on trade related Aspects of intellectual property rights (TRIPS) defines geographical indications as indications that identify a good or product as "orginating in the territory of a member or a region or locality in that territory, where a given quality, reputation or other characteristics of a good or product.

A geographical indication (GI) is a name or sign used on certain products which corresponds to a specific geographical location or origin (e.g. a town, region, or country). India has 236, GI products registered so far and over 270 more products have applied for the label. GI is registered for a period of 10 years and the registration may be renewed from time to time for a period of 10 years at a time.

The GI tag in India is governed by the Geographical Indication of Goods RPA (Registration and Protection Act), 1999. This Act is administered by the controller General of patents, Designs and Trade marks, who is also the Registrar of Geographical Indications.

Q6. What are the new developments is IPR ?

Ans :

The Government of India undertook a series of steps, to conform India IP legislation to acceptable international standards. Besides to the most recent developments, in order to bring progressive changes towards a free market society, rapid liberalization of the international trade practices and demonstrating its commitments to the WTO under the trade related intellectual property rights Agreements (TRIPS), the government of India taken steps to conform. The regulations relating to all forms of IP have been amended or reissued in recent years, mainly in response to India's accession to the WTO.

Here are some of the developments in IP legislations in India.

(1) Trademark law brought at par with international practices.

(2) Protection of Geographical Indications.

(3) Copyright law Modified.

(4) Patents law more aligned with TRIPS.

(5) Protection for plant varieties and Rights of farmers established.

(6) New design law.

(7) Integrated circuits provisions adopted.

Q7. Write a short notes on administration of patent system ?

Ans :

A patent is a contract between the inventor or applicant for the patent and the state, whereby the inventor or applicant gets monopoly from the state for a certain period in return for disclosing full details of the invention.

The patent system ensures that information on new inventions is made available for eventual public use so as to encourage technical and economic development. In Industrial property office is often called the patent office for short, even though it handles trademarks and designs as well as patents.

Industrial property office consists in receiving applications for the grant of patents and deciding separately for each application, whether a patent should be granted or refused. The steps for administration of patent system under patent office.

(1) Receiving patent application and the fees Examination as to form.

(2) Publication of the Application.

(3) Examination as to substance.

Warning : Xerox/Photocopying of this book is a CRIMINAL Act. Anyone found guilty is LIABLE to

Scanned with CamScanner

(4) Refusal or Grant.
(5) Maintenance of patents.
(6) Cost of Maintaining the system.
(7) Compulsory licenses.
(8) Patent Information services.

Q8. What is IPR is biology ?

Ans :

The scope and reach of biological patents may vary among jurisdictions, and may include biological technology and products, genetically modified organisms and genetic material. The applicability of patents to substances and processes wholly or partially natural in origin is a subject of debate.

Biological intellectual property rights is the legal ownership of an interest in a patent, trademark or tradesecret. This means that another company cannot use those assets without permission of the company established as the official owner. The development of the genetic resources of biodiversity is known as biotechnology.

Biological system is an inventions particulary in medicine, food, agriculture, energy and protection of the environment under IPR, The science of biotechnology concerns living organisms, such as plants, animals, seeds and micro organisms, as well as biological material, such as enzymes, proteins and plasmids (which are used in "genetic engineering")

Q9. What is software in IPR ?

(or)

What type of property is computer software?

Ans :

Intellectual property for software is computer code or software protected by law under either a copyright, trademark, trade secret or software patent. Computer software or software-related inventions should be protected by patent. Copyright law and patent law provides different types of protection.

Software based inventions are still patentable in the united states, But in order to patent eligible, software patent applications must meet certain technical requirements and must be written very carefully.

Examples of Application Software :

The most common application software programs are used by millions everyday and include : Microsoft suite of products (Office, Excel, Word, Power point, Outlook) etc., Internet browsers like Firefox, Safari and Chrome.

Q10. What is Traditional knowledge ?

Ans :

Traditional knowledge is knowledge, know how skills and practices that are developed, sustained and passed on from generation to generation with a community, often forming part of its cultural or spiritual identity.

Traditional knowlege (TK) associated with the biological resources is the knowledge about a country's biodversity " the applied uses and applications of biological resources and the prevalent practices : TK has direct correlation with the biodiversity of the : Country.

It is an intangible component of the resource itself. TK has the potential of being transformed into commerical opportunity providing useful leads for development of products and processes. A share of benefits must accrue to creators and holders of TK. Mis appropriation of TK for the purpose of seeking exclusive plant ownership over that knowledge.

The process through which the rights to genetic resources and knowledge are "erased and assumed by those who have exploited indigenous knowledge and biodiversity.

Q11. Impact of IPR on IITS ?

(or)

Describe IPR and IITS ?

Ans :

IPR and IITs (Indian Institute of Technology provides guidance for academic and non-academis staff, students scholars, other agencies practices and rules of Institutes.

It promotes freedom and safeguard creation of IP at the institute and release rights of Institute on IPR. To protect the institute work it should obtain for IPR and associated certain costs. Institute should be free to enter into agreements for protection and license of IP. To safeguard the interest of creation of IP.

Scanned with CamScanner

Essay Questions with Answers

5.1 Patent Rights : Scope of Patent Rights

Q1. Define patent rights and scope of patent rights ?

Ans :

A patent is a form of Intellectual property that gives its owner the legal right to exclude others from making, using, selling and importing an invention for a limited period of years, in exchange for publishing an enabling public disclosure of the invention.

Grant of patent in India is governed under the Patents Act, 1970. Significant changes like provision of product patents and increase in the term of patent to 20 years were introduced in the Indian patent law, after India signed TRIPS (Trade Related Aspects of Intellectual Property Rights) agreement in 1995.

Patentability :

An Invention must satisfy four basic requirements to be eligible for patent protection :

(1) The Invention must be one of the types specified by statute as patentable subject matter (namely, a utility, design, or plant patent).

(2) The Invention must be useful (if the application is for a utility patent)

(3) The Invention must be novel.

(4) The Invention must be nonobvious.

Scope of patent :

(1) A patent gives its owner certain exclusive rights with respect to an invention.

(2) Patent must describe how to contruct the invention and how to us it.

(3) Everyone can use the invention & more knowledge becomes available to society.

(4) Patent need to be designed well and it is clear to understand everyone.

(5) The claims in a patent application must capture the full scope of the invention.

(6) Patent is protected that the invention cannot be commercially made, used, distributed, imported or sold by others without the patent owner's consent.

5.2 Licensing and Transfer of Technology

Q2. Explain about licensing and transfer of technology in patent rights ?

Ans :

A patent owner can license or transfer interest in a patent. The licensor gives up the right to the intellectual property, usually for a certain period. During this time, the license cane make or sell the invention or design. The licenses can also profit from the intellectual property during the license period. A documents that permits some uses in return for compensation is known as a license agreement. Different right can be acquired be over patented inventions by various companies from their patent owners.

But these rights are granted only through license agreements. However, licence agreement is also started, by legal experts, as patent agreement. All such patent license agreements are set under the state law.

There are two types of patent licences :

(i) Exclusive Licenses :

These transfer all ownership rights to all licenses. The licensor still owns the little. All patent owners must agree to an exclusive license.

(ii) Non-exclusive license:

These allows the license to produce the invention or design. The license doesn't gain exclusive rights. The licensor and other parties can also produce the invention or design. Only one patent owner has to agree to a non-exclusive license.

Technology Trasnfer :

Technology transfer is the process of sharing skills, knowledge, technologies, methods of manufacturing samples of manufacturing and facilities among governments and other institutions to ensure that scientific and technological developments are accessible to a wider range of users who can then further develop and exploit the technology into new products, processes applications, materials or services.

Tehnology Transfer Agreement :

Generally, there are two ways of acquiring technology, it can be developed through own research and development or it can be purchased through indigenous or imported sources. India has opted for a judicious mix of indigenous and imported technology. Purchase of technology is commonly called "Technology Transfer" and it is generally covered by a technology transfer agreement.

Technology Transfer Documents :

(1) Inventor Assignment Agreement

(2) Confidentiality Agreements

(3) License agreemts

(4) Patents

(a) Provisional applications

Warning : Xerox/Photocopying of this book is a CRIMINAL Act

(b) PCT applications
(c) National applictions
(d) Issued patents

(5) Drawings and specification, Machinery and components list etc.,

License and technology transfer Agreements : Important clauses & Issues

(a) Define technology and list of IPRs
(b) Grant of license
(c) Rights and Obligations of licensee and licensor
(d) Exclusive/Non-exclusive
(e) Transferability
(f) Revocability
(g) Territory
(h) Sub-licensing
(i) Advertising and Promotion
(j) Audit of accounts from outside agency
(k) Royalty payment and Calculation

Q3. Write about Patent Ownership and explain about Sole and Joint Inventors ? ?

Ans :

Patents are the attributes of personal property. The patent and trademark office shall maintain a register of intrests in patents and applications for patents and shall record any document related there to upon request and may require a fee therefore, The applicant, patantee or his assigns or legal representatives may in like manner grant and convery and exclusive right under this application for patent, or patents to the whole or any specified part of United States.

A certificate of acknowledgement under the hand and official seal of a person authorized to administrator oaths within the US, or in a foreign country, of a diplomatic or counslar officer of the United Sates.

Sole and Joint Inventors :

Sole Inventors :

An invention may be the product of one person or more than one person. If one person conceives of the invention, he or she is the sole inventor. A directive given by an employer to an employee to solve a problem or invent an article does not make the employer an inventor. It is finding a solution to a problem rather than articulating it that determines whether one is an inventor. Similarly, giving suggestions, making minor contributions, or embodiment of the invention do not make a person an inventor.

Joint Inventors :

When more than one person contributes to an invention, they are joint inventors, persons may be joint inventors even though they do not physically work together or at the same time, do not make the same type of amount of contribution to the invention, or do not make a contribution to the subject matter of every clam of a patent. 35 U.S.C. 116 each, however, must have made some contribution of inventive thought to the resulting product, and there must be some amount of collaboration or connection between them.

Thus, individuals who are completely ignorant of what each other has done cannot be considered as joint inventors.

Joint inventors must apply jointly. If one of the joint inventors cannot be found or refuses to join the application, the application may be made by others an behalf of themselves and the omitted inventor. The U.S. patent and Trademark Office (USPTO) will grant the patent will remain subject to the rights of the omitted inventor.

Error in the naming of inventors can be readily corrected by amendment to the application or by correction to an issued patent. Similarly, amendments occuring during prosecution that result in deletion of certain claims may require changing the named inventors contributed only to the deleted claims.

5.3 PATENT INFORMATION AND DATABASES

Q4. Explain in detail about patent information and databases ?

Ans :

Patent Information :

Patent information contains not only the context of published document but also bibliographic and other information concerning patents for inventions, inventor's certificates, utiliity certificates and utility models. It is the largest, well-classified and most up-to-date collection of technical documents on new and innovative technologies.

Patent applications are field in accordance with the requirements of national or regional patent laws. An Applicant may be a public and private company, government agency, researcher in a university or in a research and development institution, or even individual inventors. So far, around the world some 40 million patents have been published, and that two in all possible technical fields. To these some one million additional patent documents are added every year.

A patent document contains, in a standarzed form, a wealth of information about the state-of-the art adjudged in the interantional context, in technological developments in that area of technology.

Scanned with CamScanner

As a first step, it is essential to group clearly the basic concepts of the patent system, so as to appreciate better the practical usefulness of patent information.

Mertis and shortcomings of using Patent Information :

In most countries, a patent application is published 18 months after it is field. So, there is always a time lag between the publication of patent application and the point in time at which the invention was mode or completed.

As such, the publication of a patent application, despite the lag, is invaribly the earliest point in time at which the relevant information becomes available to the public as the first published detailed and upto date information.

Since most countries requires the invention to be disclosed in a manner that is sufficiently clear and complete for it to be carried out by a person skilled, in the relevant art, therefore a patent document has much more detailed information about a technology than any other type of scientific or technical publication. It is also a unique source of information as it is estimated that, on average, some 70% of the information disclosed in patents is never published anywhere else.

Analyzing patent Information :

There are two primary ways of analyzing patent information :

(1) Qualitative Method

(2) Quantitative Method

The Qualitative Method shown more closely the content of the individual patent documents.

The Quantitative Method results in statistical processing.

These two methods have quite different objectives and different ranges of applications.

Today, electronic databases, analytial software products and private service providers with their own technology databases are available for assisting in the analysis of patent information.

Patent Information-Databases :

Databases on CD-ROM :

Information technology allows accessing patent data in text and picture form on CD-ROM. CD-ROM databases are very convenient for documentary searches. Users need no outside connections, and can work with simply a CD-ROM driver plus a computer.

CD-ROM databases, however, have some drawbacks, One problem is their updating. As on-line databases can be easily updated on a regular basis, the information on CD-ROM rapidly becomes out of date atleast for certain types of analysis. It is also a problem to easily use CD-ROM databases to compile stastical series, hence they are not yet suitable for satistical applications.

Online Databases :

Internet-based databases are on-line databases. Anyone who has access to the internet may be able to browse the full text of published patent documents via free of charge databases or commerical databases.

For Example, the Full-Text and Full-Page Image Database of the United States Patent and Trademark Office (USPTO) is one of the earliest and free online patent information services. Another major on-line free patent database is esp@cenet, which has some 30 million patent documents.

There are a number of private companies, that have commerical databases. These include Derwent, Diaglog, STN, Questal Orbit, Micropatent, WIPS etc.,

Commerical services offer enhanced or value added patent information, based on the actual requirement of particular end users.

5.4 Geographical Indications

Q5. What is a Geographical Indications ?

(or)

How are G.I protected ?

Ans :

Geographical Indication :

A Geographical indication (GI) is a sign used on product that have a specific geographical origin and possess qualities or a reputation that are due to that origin. In order to function as a GI, a sign must identify a product as originating in a given place.In addition, the qualities, characteristics or reputation of the product should be essentially due to the place of origin. Since the qualities depend on the geographical place of production, there is a clear link between the product and its original place of production.

Rights provided by Geographical Indication :

A geographical indication right enables those who have the right to use the indication to prevent its use by a third party who product does not conform to the applicable standards.

For example, in the jurisdictions in which the Darjeeling geographical indication is protected, producer of Darjeeling tea can exclude use of the term "Darjeeling" for tea not grown in their tea gardens or not produced according to the standards set out in the code practice for the geographical indication.

However, a protected geographical indication does not enable the holder to prevent someone from making a product using the same technique as those

Warning : Xerox/Photocopying of this book is a CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL consequences

set out in the standards for that indication. Protection for a geographical indication is usually obtained by acquiring a right over the sign that constitutes the indication.

Type of products used for Geopgraphical Indication :

For Agricultural productions food stuffs, wine and spirit drinks, handcrafts and industrial products.

How are geographical indications protected ?

There are three main ways to protect a geographical

(1) Through special regimes of protection

(2) Using collective or certification marks

(3) Methods focussing on business practices, including administrative product approval schemes.

These approaches involve differences with respect to important questions, such as the conditions for protection or the scope of protection. On the other hand, the above two modes of protection. Share common features, such as the fact that they set up rights for collective use by those who comply with defined standards.

Broadly speaking geographical indications are protected in differential countries and regional systems through a wide variety of approaches and often using a combination of two or more of the approaches outlined above. These approaches have been developed in accordance with different legal traditions and within a framework of individual historical and economic conditions.

5.5 New Developments in IPR

6Q. What are the recent developments in IPR?

Ans :

The most recent developments, in order to bring progressive changes towards a free market society, rapid liberalization of international trade practices and demonstrating its commitments to the WTO under the Trade Related Intellectual Property Rights Agreement (TRIPS), the Government of India undertook a series of steps, to conform India IP legislation to acceptable international standards. The regulations relating to all forms of IP have been amended or reissued in recent years..

(1) Patent office take steps for being a Smart Office :

The Indian Patent and Trademarks Offices have considered the need to build efficiency adapting technology to make prosecution quicker. They provide option of conducting hearing through video conferencing. In addition to this, the Controller General of Patents, Designs and Trademarks has also invited tenders for the services artificial intelligence, Block chain, and 'other latest technologies', useful for Patent Processing system of IPO.

(2) Making working Statement simpler for granted Patents :

The current structure of Form 27 relating to the submission of working statement of the Patent to be filed by the Patentees and licensees every year on or before 31st March has been subject of intense debate. The Delhi High Court as part of public interest petition to bring to the court's attention that working statements are either not being filed or complete information is not being disclosed by the Patentees.

(3) First ever fast track full trial decision on "Standard Essential Patent" provided much needed clarity :

The Delhi High Court's decision determining infringement of the Patent owned by Philips over DVD technology that were declared as Standard-Essential Patent (SEP) by European Patent office and US, caught lot of attention as the case has been first SEP case decided after a fast track full trial. It recognized Philips claim and ordered payment of royalties. A decree of punitive damages to the tune of 5 lakhs (approx US $ 7000) was also passed in favour of plaintiff.

(4) Monsanto looses its patent over genetically modified cotton seeds :

This was an important decision of 2018 where two judges bench (Division Bench) of the Delhi High Court declared Monsanto's patent on 'Bt Cotton technology' as invalid on the basis of sec3(j) of Indian Patent Act, which prohibits the grant of patents for plants, plant varieties or seeds or any part thereof. However, the Supreme Court did not grant any interim relief to Monsanto. In other words refused to stay the order of the High Court.

(5) No seizure of imported goods infringing Patent :

With the introduction of IPR (Imported Goods) Enforcement Amendment Rules, 2018, the government has specifically excluded from the ambit of Rules seizure of any imported goods that infringe a Patent. The new Rules are now confined to trademarks, copyright, Design and Geographical Indications.

(6) IPO proposes preference to Women for expedited examination

The Indian Patent Office has released draft amendment rules on December 4th 2018. The provision can now be availed by women applicant/s, Government undertaking/organizations and by the

CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

Scanned with CamScanner

applicants that are eligible under agreement between Indian Patent Office with another participating patent office.

(7) **Intermediaries come under fire on safe harbor provisions**

The court recently examined the practices followed by e-commerce portals in selecting and enrolling sellers on their platform. The judgment reinforces that stricter measures are needed for curbing sale of counterfeit products on online marketplaces/portals which is a growing menace.

(8) Protection of geographical indications

(9) Patent law more aligned with TRIPS.

(10) Court clarifies a combined Design Infringement and passing off action is permissible.

5.6 ADMINISTRATION OF PATENT SYSTEM

7Q. Explain in detail about administration of patent system?

Ans :

The Indian Patent Office is administered by the Office of the Controller General of Patents, Designs & Trade Marks (CGPDTM). This is a subordinate office of the Government of India and administers the Indian law of Patents, Designs and Trade Marks.

History [Foundation]

On February 28, 1856, the Government of India promulgated legislation to grant it was then termed as "exclusive privileges for the encouragement of inventions of new manufactures". On March 3, 1856, a civil engineer, George Alfred De Penning of 7, Grant's Lane, Calcutta petitioned the Government of India for grant of exclusive privileges for his invention — "An Efficient Punkah Pulling Machine". On September 2 These were accepted and the invention was granted the first ever Intellectual Property protection in India.

Patent administration

Trends in Indian patents, 1997-2013, The number of biotech patents has doubled in a decade

The CGPDTM reports to the Department of Industrial Policy and Promotion (DIPP) under the Ministry of Commerce and Industry and has five main administrative sections

- Patent Office
- Designs Registry
- Trademarks Registry
- Geographical indications Registry
- Rajiv Gandhi National Institute of Intellectual Property Management (NIIPM)
- Patent Information System

The patent office is headquartered at Kolkata with branches in Chennai, New Delhi and Mumbai, but the office of the CGPDTM is in Mumbai. The office of the Patent Information System and National Institute for Intellectual Property Management is at Nagpur.

The Controller General (CG), who supervises the administration of the Patents Act, the Designs Act, and the Trade Marks Act, also advises the Government on matters relating to these subjects. O.P Gupta is the current CG and took charge on 16 November 2015. Under the office of CGPDTM, a Geographical Indications Registry has been established in Chennai to administer the Geographical Indications of Goods (Registration and Protection) Act, 1999.

The Indian Patent Office has

526 Patent Examiners,

97 Assistant Controllers,

42 Deputy Controllers,

1 Joint Controller, and

1 Senior Joint Controller, all operate from four branches.

Although the designations of the Controllers differ, all of them (with the exception of the Controller General) have equal authority in administering the Patents Act. An Indian Patent Examiner is mandated to search for prior art and for objections under any other ground as provided in the Patent's Act, then to report to the Controller, who has the power to either accept or reject Examiners' reports. Unlike the system at the USPTO /EPO/JPO, Examiners at IPO have only recommending power and the controllers are empowered by statute either to accept or refuse their recommendations. Examiners' reports to the Controller are not open to the public unless courts allow it (section 144 of the Patents Act).

Patent duration :

Terms of every patent in India is 20 years from the date of filing of patent application, irrespective of filed with provisional or complete specification. However, in case of applications filed under PCT the term of 20 years begins from the International filing date accorded under PCT.

Since the rights granted by an Indian Patent Office extends throughout the territory of the India and ceases to have effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country(according to its law) either through : PCT

Warning : Xerox/Photocopying of this book is a CRIMINAL

Scanned with CamScanner

route

Geographical Indications :

List of Geographical Indications in India

India, as a member of the World Trade Organization (WTO), enacted the Geographical Indications of Goods (Registration & Protection) Act, 1999 has come into force with effect from 15 September 2003. GIs have been defined under Article 22(1) of the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights(TRIPS) Agreement as: "Indications which identify a good as originating in the territory of a member, or a region or a locality in that territory, where a given quality, reputation or characteristic of the good is essentially attributable to its geographic origin."

In 2004-05, Darjeeling tea became the first GI tagged product in India and since then by July 2012, 178 had been added to the list.

Modernization

The Indian Patent Office has implemented a modernization program according to an Indian govt website. And according to this website "Efforts have been made to improve the working of the Patent Offices within the resources available and that the problem of backlog is also being attacked through 50% higher monthly target for disposal of patent applications per Examiner".

E- Filing of Patents & Trademarks is made possible and according to an Indian Minister the first phase of the modernization comes to an end and the Indian Patent office wishes to be an International search Authority. The second phase of modernization has been proposed with the aim of achieving US patent examination efficiency among others. Patent filings during the year 2007–08 were 35218.

8Q. Explain about history of patents ?

(or)

Explain about history and amendments of patents ?

Ans :

The history of Patent law in India starts from 1911 when the Indian Patents and Designs Act, 1911 was enacted. ... The Patents Act, 1970 was again amended by the Patents (Amendment) Act, 2005, wherein product patent was extended to all fields of technology including food, drugs, chemicals and micro organisms.

History of Patent Acts in India	
Year	**Event**
1856	Act for protection of inventions on the basis of British law of 1852.
1859	Patent monopolies called exclusive privileges
1872	Patents and Designs Act
1883	Protection of Inventions Act 1888 Inventions and Designs Act 1911-1947 Modern patent era by patents and Designs Act. First time an authority call Controller General of Patents appointed
1959	Justice Ayyangar's report
1967	Patent Act bill introduced in the Parliament
1970	The Patents Act passed by the Parliament
1972	The Patents Act-1970 came into force on April 20, 1972
1994	Amendment by ordiance to include Exclusive Marketing Rights (EMR's)
1999	Amendment passed by the parliament. New patent amendment bill referred to select committee
2003-2005	Patents Act 1970 with second amendment comes into force Patent Act 1970 (2005 Amendment) comes in to force from 1-1-2005

CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

Scanned with CamScanner

Amendments to the Patents Act & Rules :

Amendments (in 1999, 2002, 2005) were necessitated by India's obligations under TRIPS, allowing product patents in drugs and chemicals. A provision of later amendments was on software patent-ability, which was later withdrawn in another amendment in 2005. The amendment in 2012 focused on change in marks of Patent Agent Examination.

Indian Patent Rules were amended in 2003,2005,2006,2012,2013,2014,2016 and 2018.

The 2006 amendment of rules introduced reduced time lines and a fee structure based on specification size and number of claims, in addition to a basic fee.

Indian Patent amendment rules 2012 was for amendments in criteria for patent agent exam qualification.

Gazette Notification of Patent (Amendments) Rules 2013 has made necessary provisions for recognizing Patent office as Examining authority and Searching authority on international level for filing, searching and examination of patent along with necessary fees.

Patent amendment rules 2014 introduced a third category of applicant for small entities and revised the basic fee for filing a patent application. Patent amendment rule 2016 implemented on 16th May 2016, and introduced such as electronic communication to applicant/agent, and applicant can withdrawn their application using Form-29, and majorly introduced for the expedited examination for startup companies, and the timeline to put the grant of applicant has been reduced from 12 months to 6 months. In addition, video conference has been introduced for hearing the patent matters.

5.7 IPR OF BIOLOGICAL SYSTEMS

9Q. Explain in detail about IPR of Biological system?

(or)

Describe biological system of IPR?

Ans :

The application of intellectual property rights (IPRs) over biological resources, including biotechnology, biological diversity, rural livelihoods, biotechnology developments and intellectual property have been increasingly explored and analyzed in recent years. The application of IPRs to plant varieties and the role of biotechnology have particularly important implications given the relationship between access to biological and genetic resources, agriculture systems, food security, and increased poverty levels around the world.

Biotechnology is the field of technology of growing importance in which inventions may have a significant effect on future, particularly in medicine, food, agriculture, energy and protection of environment. The science of biotechnology concerns living organisms, such as plants, seeds, animals, micro organisms, as well as biological material such as

Enzymes, proteins and plasmids (which are used in genetic engineering)

IPR protection of biological innovations

Biotechnology :

IPR - Intellectual Property Rights

PBR - Plant Breeders Rights

TRIPS - Agreement on Trade-Related Aspects of Intellectual Property Rights

The IPR protection of new life forms raises a number of difficult technical and ethical issues that do not apply to other inventions. For that reason, the patentability of new biological forms and processes is still not accepted in many countries. Consequently, no final agreement could be reached during the TRIPS negotiations on how to tackle this complex subject.

TRIPS :

At the present, biological innovations is one unresolved issue, geographical indications is the other. Review of the IPR protection of all biological innovations above the micro organism level has already commenced, but it is not clear when negotiations as such will start. New forms of micro organism should receive patent protection according to TRIPS.

The Budapest Treaty :

Developments in the field of biological IPRs led to the Budapest Treaty (1977) on the international recognition of the deposit of micro organism for the purpose of patent procedures. Australia is a party to this WIPO agreement. Where an invention involves a micro organism or the use of a micro organism, disclosure is not always possible in writing, but can be effected by the deposit with an approved institution of a sample of the micro organism. In order to eliminate the need to deposit in each country in which protection is sought, the Budapest Treaty provides that the deposit of a micro-organism with any one of two dozen approved institutions around the world suffices for the purpose of patent procedure in any member state. In Australia, this internationally approved institution is the Australian Government Analytical Laboratories.

The Patent Act and biological innovations :

Australian IPR protection of new life forms exceeds the current requirements of TRIPS. Under the *Patents Act 1990*, patenting of biotechnology inventions is allowed. A patent can cover the method for creating the new life form, the life form itself and the production of substances using the new life form

Warning : Xerox/Photo copying of this book is a CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

Not patentable :

Excluding - human beings and biological processes for their generation are not patentable.

Requirements for patentability :

The biological patent application in Australia must meet all the usual requirements for patentability: inventiveness and appropriate description.

A biological invention must be repeatable, a criterion that need not be considered for non-biological inventions. The requirement for repeatability rules out traditional methods for creating new life forms through selective breeding or hybridization.

Excludes some modern techniques such as mutation by means of radioactive irradiation.

Plant breeders' rights :

Apart from providing patents for bio-engineering inventions, Australia also offers protection for new plant varieties through a specifically designed 'sui generis' protection regime. This protection is generally weaker than for patents.

The protection of new plant varieties was first introduced in the United States in 1930 and adopted later in Western Europe and was harmonized following the establishment of the International Union for the Protection of New Varieties of Plants (UPOV) in 1961. UPOV is an organisation largely independent of WIPO. The UPOV Convention has been revised several times since 1961.

Protection :

Plant breeders' rights are obtained from the Plant Breeders' Rights Office, an agency of the Department of Agriculture, Fisheries and Forestry. In order to gain protection, the new plant variety must be distinct, uniform and stable. Unlike biotechnological patents, there is no requirement for repeatability, therefore plant varieties developed through selective breeding; hybridization, budding, grafting and tissue cultures are all acceptable.

The plant breeder obtains the right for the sale and the distribution of the new variety. Royalty on the crop produced directly from the seeds or grafts sold by the right-holder).

The time limit for protection is 25 years for trees and vines and 20 years for other species.

The Australian plant breeders' rights legislation satisfies TRIPS requirement for at least some IPR protection for new plant varieties.

5.8 Computer Software

10Q. Explain the impact of IPR on computer software?

Ans :

Definition of Patenting Software :

Modern society relies heavily on computer technology. Without software, a computer cannot operate. Software and hardware work in tandem in today's information society. So it is no wonder that intellectual property protection of software is crucial not only for the software industry, but for other businesses as well.

The intellectual property protection of computer software has been highly debated at the national and international level. For example, in the European Union (EU), a draft Directive on the Patentability of Computer-implemented Inventions has been discussed in order to harmonize the interpretation of the national patentability requirements for computer software-related inventions, including the business methods carried out via the computer. The Internet raises complex issues regarding the enforcement of patents, as patent protection is provided on a country-by-country basis, and the patent law of each country only takes effect within its own borders.

Software-related invention needs patents :

In many countries, computer programs, whether in source or object code, are protected under copyright. The major advantage of copyright protection lies in its simplicity. Copyright protection does not depend on any formalities such as registration or the deposit of copies in the 151 countries party to the Berne Convention for the Protection of Literary and Artistic Works. The international copyright protection is automatic - it begins as soon as a work is created. Also, a copyright owner enjoys a relatively long period of protection, which lasts, in general, for the life of the author plus 50 or, in certain countries, 70 years after the author's death.

In contrast, a patent must be applied for, in principle, in each country in which you seek patent protection. An application for a patent shall comply with both formal and substantive requirements, and a patented invention shall be disclosed to the public. These requirements can be legally and technically complex, and their compliance often requires a legal experts assistance. Compared with copyright protection, the term of protection is much shorter, namely, in general, 20 years from the filing date of the application.

Many people seek to patent their software-related inventions :

Reason is manifold. But one of the strongest reasons is that copyright protection extends only to expressions, and not to ideas, procedures, methods of operation or mathematical concepts as such. Although copyright protects the "literal expression" of computer programs, it does not protect the "ideas" underlying the computer program, which often have considerable commercial value.

High cost :

Due to the complex requirements for the grant of patents, the costs for obtaining and enforcing a patent may be costly. Unless having financial

Warning : Xerox/Photocopying of this book is a CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

Scanned with CamScanner

resources, it may be worth considering whether patenting the software-related innovation is the best way to protect the product. The possibility and feasibility of using other types of intellectual property, such as trademarks, industrial designs and trade secret protection, may also be considered.

Protecting from competitors :

Software may be incorporated in a computer or an apparatus, such as a household appliance or a car. But often, such software is created, reproduced and distributed on media (such as diskettes, CD-ROMs or an online network) which are separate from the hardware. Software may provide technical functions, such as controlling a machine or regulating the room temperature. It may be used to monitor communication network systems or provide interfaces between a computer and a human being. Or, it may be used to process scientific, financial, economic or social data in order to, for example, explore a new scientific theory or seek the highest possible return on an investment.

The software is used together with the hardware, to protect from competitor may differ. The core part of software-related innovation may lie in an apparatus, a system, an algorithm, a method, a network, the processing of data or the software itself. Such consideration help patentee to protect software innovation from competitors

Software-related innovation patentability :

The five important elements which determine patentability/eligibility for patent protection

(i) the invention must consist of patentable subject matter;

(ii) the invention must be capable of industrial application (or, in certain countries, be useful)

(iii) it must be new (novel);

(iv) it must involve an inventive step (be non-obvious); and

(v) the disclosure of the invention in the patent application must meet certain formal and substantive standards.

Since patent law is applicable to inventions in any field of technology without discrimination, to be patentable.

Particular attention should be paid to the requirements concerning patentable subject matter and inventive step (non-obviousness). Firstly, a patent is granted for an invention, which may be described, in general, as a solution to a technical problem.

Not patentable :

Economic theories, methods of doing business, mathematical methods or computer programs as such are not patentable inventions. Since this requirement varies from one country to another.

To obtain a patent, an invention must not be obvious to a person skilled in the art having regard to the prior art. It is not enough that the claimed invention is new, i. e.,that it is different from what exists in the state of the art. But the difference between the claimed invention and the existing state of the art should be significant and essential to the invention. Therefore, it is most likely that it will not be possible to obtain a patent for a software-related innovation that simply replaces existing technical and physical solutions with the same solutions using software and a computer, in so far as such a replacement would be obvious to an average engineer in the relevant technical field.

Requirements for software patent :

Good innovation, draft a good patent application because once it is filed, the possibilities of amending is limited. In particular, drafting claims in the application is crucial, as the claims define the subject matter for which the applicant seeks patent protection. Once patented, the exclusive rights conferred by a patent can be enforced to the extent the invention is defined in the claims, unless the person is familiar with both technology and intellectual property law, it is advisable to consult an intellectual property expert to draft a patent application that meets the requirements under the patent law of the country concerned.

5.9 Traditional knowledge case studies

11Q. Explain briefly about traditional knowledge of IPR?

Ans :

Traditional knowledge (TK) plays an integral role in supporting sustainable development practices and can act as an enabler of sustainable development in **indigenous** and local communities (ILCs) through recognition of **intellectual property** rights (IPRs).

It is a living body of knowledge that is developed, sustained and passed on from generation to generation within a community, often forming part of its cultural or spiritual identity. ... Defensive protection aims to stop people outside the community from acquiring intellectual property rights over traditional knowledge.

Tk associated with the biological resources is the knowledge about a country's biodiversity; the applied uses and applications of biological resources and prevalent practices.

It is an intangible component of the resources itself.TK has the potential of being transformed into commercial opportunity, providing useful leads for development of products and processes

Warning : Xerox/Photocopying of this book is a CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings

Scanned with CamScanner

Hence, a share of benefit must accrue to creators and holders of traditional knowledge (TK)

Benefits of TK :

(1) Provides rights for tk holders.

(2) Preserves knowledge base of communities.

(3) Creates added value for humankind.

(4) Provide opportunities for sharing benefits of TK.

(5) Increases opportunities for socio-economic development.

(6) Enables participation in global markets.

Traditional Knowledge is contemporary : a continuing response by individuals and communities to challenges posed by their environment.

Problems confronting TK holders :

Rejection of tradition by new generation and encroachment of modern lifestyles

Dilution of traditional knowledge and practices through acculturation and diffusion

"Modern" science may deem traditional knowledge inferior

Commercial exploitation by "others", e.g. bio prospecting, use of indigenous designs

WIPO's Response :

Roundtable on IP & indigenous peoples (1998)

9 FFMs on TK, innovations & creativity

Panel discussion on IP & human rights (1998)

4 regional consultations on protection of folklore

Roundtable on IP and TK (1999)

Participation in international processes :

CBD, FAO, UNESCO, etc.

Cooperation with IGOs & NGOs

Integration into WIPO's development for cooperation activities

Fact Finding Missions :

To explore/identify IP needs/expectations of TK holders

To study current approaches and future possibilities for protection of TK

Findings repatriated to TK holders.

TK systems are framework for continuing creativity and innovation. It is constantly renewed source of wealth.

Case Studies :

The following are the most prominent cases with regards to misappropriation of TK from India.

CASE1 : Turmeric Patent

Turmeric is a tropical herb grown in east India. Turmeric powder is widely used in India as a medicine, a food ingredient and a dye to name a few of its uses. For instance, it is used as a blood purifier, in treating the common cold, and as an anti-parasitic for many skin infections. It is also used as an essential ingredient in cooking many Indian dishes. In 1995, the United States awarded patent on turmeric to University of Mississippi medical center for wound healing property. The claimed subject matter was the use of "turmeric powder and its administration", both oral as well as topical, for wound healing. An exclusive right has been granted to sell and distribute. The Indian Council for Scientific and Industrial Research (CSIR) had objected to the patent granted and provided documented evidences of the prior art to USPTO. Though it was a well known fact that the use of turmeric was known in every household since ages in India, it was a herculean task to find published information on the use of turmeric powder through oral as well as topical route for wound healing. Due to extensive researches, 32 references were located in different languages namely Sanskrit, Urdu and Hindi.

Therefore, the USPTO revoked the patent, stating that the claims made in the patent were obvious and anticipated, and agreeing that the use of turmeric was an old art of healing wounds. Therefore, the TK that belonged to India was safeguarded in Turmeric case.

CASE 2 : Neem Patent

The patent for Neem was first filed by W.R. Grace and the Department of Agriculture, USA in European Patent Office. The said patent is a method of controlling fungi on plants comprising of contacting the fungi with a Neem oil formulation. A legal opposition has been filed by India against the grant of the patent. The legal opposition to this patent was lodged by the New Delhi-based Research Foundation for Science, Technology and Ecology (RFSTE), in co-operation with the International Federation of Organic Agriculture Movements (IFOAM) and Magda Aelvoet, former green Member of the European Parliament (MEP)4. A tree legendary to India, from its roots to its spreading crown, the Neem tree contains a number of potent compounds, notably a chemical found in its seeds named azadirachtin. It is used as an astringent in so many fields. The barks, leaves, flowers, seeds of neem tree are used to treat a variety of diseases ranging from leprosy to diabetes, skin disorders and ulcers. Neem twigs are used as antiseptic tooth brushes since time immemorial. The opposents' submitted evidence of ancient Indian ayurvedic texts that have described the hydrophobic extracts of neem seeds were known and used for centuries in India, both in curing dermatological diseases in humans and

Warning : Xerox/Photocopying of this book is a CRIMINAL Act. Anyone found guilty is LIABLE to face LEGAL proceedings