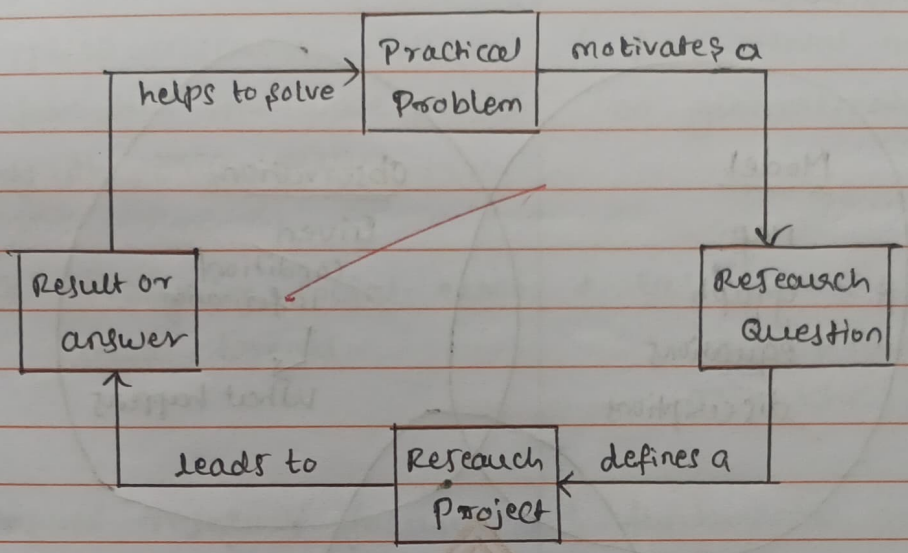
Q Nos.

Test-1

⇒ 2] a] Research flow cycle

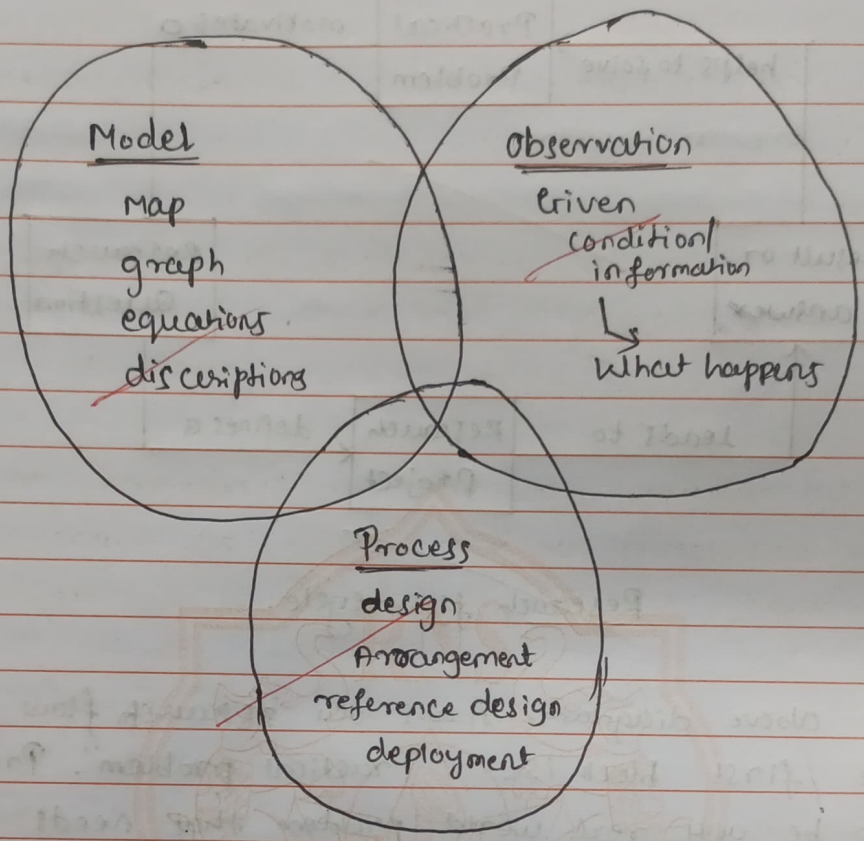


Research flow cycle.

* The above diagram shows the research flow cycle.
* The first block is " Practical problem". Practical problem can be any real world problem that needs the solution to be solve the problem.
* this practical problem motivates a "research question" to how to solve this problem. using research question we research about the problem and gains some insights.
* after that the research question defines a "research project". we have built this project to solve the prob - lem.
* The research project is developed and this leads to a "result or answer". the answer then evaluated and if the answer or results is right then it will help to solve the practical problem.
* In this way research flow cycle works.

Q Nos.

=> b] Three broad categories of developing & accessing knowledge in research



Three broad categories of knowledge.

* The three broad categories of knowledge are model, observation Process as shown in the above diagram.
* "Model" can be any type of model which can contain map, graph, equations, discriptions, etc. this model helps in developing & accessing knowledge in varies forms based on the research model.
* observation: here we give the information or conditions to the models and then after we observe the output of the model. this gives significant knowledge in research.
* In "Process" category we design the model, and we arrange the model to give the solutions to the problems we will deploye the model.
* In this way three broad categories of knowledge in research works.

Applied research	fundamental research
* Applied research seeks to solve the immediate problem of the organizations.	* fundamental research is based on generalization models.
* Ex: analyzing social-economical trends.	* Ex: pure mathematical based & statistics based researchs.
* Applied research focuses on application based research.	* fundamental research focuses on fundational aspects of the research.
* This research is applied research related to a specific topic	* This research is fundamental / foundational research related to a specific topic
* Uses the applied aspects of the topic to research. etc	* Uses the fundamental data to research. etc

Motivations in engineering research.

1] Intrinsic Motivation:

* intrinsic motivation includes factors like, learning, meaning, self analyzing, interest are promotes the creativity of the research.

2] Extrensic Motivation

* Extrensic motivation includes factors like money, fame, awards, famous are extrensic these block the creativity.

↓

Q Nos.

. Ex: the patents given to good works are the easy ways to become rich & famous.

3] Influences by others like my friends are all are doing research, or the person i dislike is doing so want to do better.

4] Competations like others are doing well so i also wanted to do the research etc.

5] Want to do better in the world than being done.
6] personal interest in solving unsolved problems.
7] Giving contribution the society in good way.
8] By doing the research promoting "the art of technology" & giving good contributions.
etc.

⇒ 5] a]

Research misconduct:

(i) Fabrication:

* Fabrication is the one of the type of research misconduct.
* Fabrication means "illegitimate creation of the data".
* Fabrication means conjuring data or illegal creation of data by having the knowledge about the analysis or experiment the result should be the created data.
* This happens dute to the lack of time to do the research completely or "pressure from supervisers" and "customers".
* Without waiting for the final result illigal creation of the data will happen.
* This is known as fabrification.

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Q Nos.

ii) Plagiarism:

* Plagarism is the one of the research missconduct.
* Plagarism (taking other's sans attribute) happens when someone uses the work of others with any prior acknowledgement.
* Using one's own work some times considered of the plagarism.
* plagairism will be detected using softwore tools & by the reviews etc.
* how the authorities knows that the research is plagaism -ed research?.
  1) By the revicwers who are reviewing the research.
  2) By owners of the researcsh paper.
  3) By readers who are doing research came across these rearsch papers.
* This is known as plagairism.

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b] Reading mathematics & algorithms.

* Reading mathematics & algorithms helps to the research process.
* mathematics is used by many researchers to proove their hypothesis.
* mathematics is the basic & fundamental topic of the research.
* mathematics is used in research to prove the hypothesis by using mathematical proofs, therorms, etc.
* Researchers uses algorithms to implement their resea -rches to do the works from their research.
* Using C, C++, Java languages the researchers used to implement their research through algorithms.
* After implementing to algorithms the implementation may work or may not.

* By using these implemented algorithms researchers bring their research to the fields.
* In this way reading mathematics & algorithms relates to the research process.

⇒ 7] a) Ethics

Ethics are moral principles that guide us to chose what is write or wrong.

Or

Ethis or norms of human conduct to promote ideal human behavior.

* Ethics are important in the practies of engineering research.
* The researches should be transperant, and give good results to the society.
* Impact on humans:
  The core of the engineering research should be how it will impact on humans. if it bad way or good way. We follow ethis to give good impact on humans by research
* research should be transperant, means it will be a good research that leads the art of technology in good manner.
* research should be plagairism free, fabrication free, falsification free. The research with these ethics will be a good research will contribute in good way to the society.
* Ethics are very importantant in research they can be authorship, or, publications ethics all are importan-t to do a good engineering research.
  etc.

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Q Nos.

b] ethical considerations & responsibilities to betaken into account when determining authorship.

1] authorship criteria
criteria of the authorship can be determined by the contributions of the authers.

2] Guest authorship:
This authorship is given to someone in the form of honrory or gifting who not made quite / any work in the research.

3] Ghost authorship:
Ghost authorship is given to someone who provided required data or information but not worked in the resea-rch.

4] Order of authors:
Order of authors is based on their contribution they have made to the research.

5] research conflict:
authors should disclose any information the influen-ce the research work.

6] Transparancy & accountability:
The research should be transpent & should be accoun-table easily.

7] Research reviews management: / Publication etics
research should be managed properly to publish to the public researchers research it. Plagorism free.

Q Nos.

b] Communication & Responsibility:

The author should be able to communicate to the journals during submission & holds full responsibili-ty for the research.

=>9] a] New & existing knowledge:

* new & existing knowledge both play vital role in research process.
* Existing knowledge will acts as the basement or foundation for the existing research.
* Using existing knowledge we can learn more about the search.
* Existing knowledge will be used to improve the existing research activities.
* Existing knowledge will be useful to some new researchs that are relevant to it using it as reference to the researches.
* new knowledge can used to new research, developing new technologies and enrich the existing knowledge using the new knowledge.
* Using new knowledge the existing knowledge ~~cannot~~ can be modified or altered to do efficient research.
* new knowledge contribute the new research technologi-es while existing knowledge will be the basement for the existing knowledge.
* new & existing knowledge are some times both used in research process to do the research work.
* In this way new & existing knowledge contribute to the research.

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Q Nos.

b] Analysis & synthesis of prior art.

1] Analysis:

* Analysing the information.
* by analysis the of the information we can draw the insights and useful information.
* analysis is importent to the efficient research that leads to the good effects the human society.
* analysis importent aspects of the research to the be a successful research and to be ethical.

2) Purpose:

* The purpose of analysis is simple it is useful to the good research work.
* Analysis can lead to good research by given proper data & information to the research.
* Synthesis of good technologies are depends the good research.

3) Reporting the art.

* By doing the research through analysis we can do a better research and these research can impro -ve the art of technology.
* Reported art or research is very ethical to the society. this way it can contribute to the society in good way.
* Research can be successful in good ethical manner to be consider as good ethical art.