

**RESEARCH METHODOLOGY AND IPR  
(ECEN 5103)**

**Time Allotted : 2½ hrs**

**Full Marks : 60**

***Figures out of the right margin indicate full marks.***

***Candidates are required to answer Group A and  
any 4 (four) from Group B to E, taking one from each group.***

***Candidates are required to give answer in their own words as far as practicable.***

**Group – A**

1. Answer any twelve: **12 × 1 = 12**

*Choose the correct alternative for the following*

- (i) Assigning numerals or other symbols to the categories or response is called  
(a) Editing            (b) Coding            (c) Transcription            (d) Tabulation.
- (ii) Summarizing raw data and displaying them on compact statistical tables for analysis is  
(a) Tabulation    (b) Coding            (c) Transcription            (d) Editing
- (iii) A two-way systematic conversation between an investigator and respondent is called  
(a) Observation                            (b) Schedule  
(c) Interview                                 (d) Simulation.
- (iv) Bibliography means  
(a) Foot Note                                (b) Quotations  
(c) List of Books referred                (d) Biography.
- (v) A complete report of the research process is called  
(a) Thesis                                      (b) Summary Report  
(c) Abstract                                    (d) Article.
- (vi) Choose which of the following is not covered by the Intellectual Property Rights?  
(a) Copyrights                                (b) Patents  
(c) Trade Marks                               (d) Thesaurus.
- (vii) An essential Criterion of Scientific study is  
(a) Belief                                        (b) Value  
(c) Objectivity                                 (d) Subjectivity.
- (viii) Which among the following is done to solve an immediate problem?  
(a) Fundamental Research                (b) Analytical Research  
(c) Survey                                        (d) Action Research.

- (ix) The first step in formulating a problem is  
 (a) Statement of the problem (b) Survey  
 (c) Measurement (d) Gathering of Data.
- (x) Fundamental Research is otherwise called  
 (a) Action Research (b) Survey  
 (c) Pilot study (d) Pure Research.

*Fill in the blanks with the correct word*

- (xi) \_\_\_\_\_ is a form of intellectual property law that protects original works of authorship, including literary, dramatic, musical, and artistic works, such as poetry, novels, movies, songs, computer software, and architecture.
- (xii) A government authority conferring a right for a set period, the sole right to exclude others from making, using or selling an invention is a \_\_\_\_\_.
- (xiii) Research methodology is a way to systematically \_\_\_\_\_ the research problem.
- (xiv) Research undertaken for the sake of knowledge is \_\_\_\_\_.
- (xv) A comprehensive full report of the research process is called \_\_\_\_\_.

### **Group - B**

2. (a) List the objectives of a research problem? [[CO2](Apply/IOCQ)]  
 (b) In your view what are the various components of a research proposal. Identify and elaborate. [[CO2](Evaluate/HOCQ)]  
**6 + 6 = 12**
3. (a) What characterizes an empirical research problem? How do you justify its significance? [[CO2](Analyse/IOCQ)]  
 (b) Evaluate the criteria and the characteristics of a good research problem using an example. [[CO2](Evaluate/HOCQ)]  
**6 + 6 = 12**

### **Group - C**

4. (a) What is the necessity of defining a problem? Describe a few techniques employed to define a problem. [[CO2](Analyse/IOCQ)]  
 (b) Why is literature survey important while defining a problem? Mention a few points to be remembered during the survey. [[CO2](Understand/LOCQ)]  
**6 + 6 = 12**
5. (a) What is research ethics? In light of current advances in biomedical research, explain why maintaining ethical standard in research is important? [[CO2](Understand/LOCQ)]

- (b) What is plagiarism? What is its effect in research? What precautions are taken to avoid plagiarism in research?

[[CO3](Apply/IOCQ)]

**6 + (2 + 2 + 2) = 12**

### Group - D

6. (a) In your opinion what are the essential parts of a research proposal? [[CO4](Evaluate/HOCQ)]  
 (b) Enumerate the criteria for evaluating the Research proposal. [[CO4](Apply/IOCQ)]  
**6 + 6 = 12**
7. (a) What is the significance of report writing? State some standard report types. [[CO4](Apply/IOCQ)]  
 (b) Discuss the parts of a technical report with explain their significance. [[CO4](Evaluate/HOCQ)]  
**6 + 6 = 12**

### Group - E

8. (a) What is a patent? What rights does a patent owner have? [[CO5](Remember/LOCQ)]  
 (b) How many types patents exists and how is the patent granted? [[CO5](Apply/IOCQ)]  
 (c) What is the scope of patent protection? [[CO5](Evaluate/HOCQ)]  
**4 + 4 + 4 = 12**
9. (a) What is a copyright law? Mention the rights granted by copyright. [[CO6](Understand/LOCQ)]  
 (b) Discuss three examples of copyright ownership. [[CO6](Evaluate/HOCQ)]  
**6 + 6 = 12**

Cognition Level	LOCQ	IOCQ	HOCQ
Percentage distribution	22.92	41.67	35.41

#### Course Outcome (CO):

After the completion of the course students will be able to

1. Understand research problem formulation
2. Analyze research related information
3. Follow research ethics
4. Understand the ultimate importance of ideas, concept and creativity
5. Importance of IPR for individuals and nations
6. Appreciate that IPR protection provides incentive to inventors for further research work

\*LOCQ: Lower Order Cognitive Question; IOCQ: Intermediate Order Cognitive Question; HOCQ: Higher Order Cognitive Question.

