

No. of Printed Pages : 7

21PHY3S3LP

Question Booklet Code

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Question Booklet
Serial Number

M.Sc. III Semester Degree Examination, April/May - 2023
Skill Enhancement Courses (SEC)

PHYSICS

Research Methodology

(CBCS)

Time : 1 Hour

Maximum Marks : 30

INSTRUCTIONS TO CANDIDATES

1. The Question Paper will be given in the form of a Question Booklet. There will be four/two/one versions of Question Booklets with Question Booklet Code viz. **A, B, C & D / A & B / A**.
2. The Question Booklet Serial Number is printed on the top right margin of the facing sheet. If your Question Booklet is un-numbered, please get it replaced by new Question Booklet with same Code.
3. Immediately after the commencement of the examination, the candidate should check that the Question Booklet supplied to him contains all the 30 questions in serial order. The Question Booklet does not have unprinted or torn or missing pages and if so he/she should bring it to the notice of the Invigilator and get it replaced by a complete booklet with same Code. This is most important.
4. A blank sheet of paper is attached to the Question Booklet. This may be used for Rough Work.
5. **Please read carefully all the instructions on the top of the Answer Sheet before marking your answers.**
6. Each question is provided with four choices **(A), (B), (C)** and **(D)** having one correct answer. Choose the correct answer and darken the bubble corresponding to the question number using **Black Ball-Point Pen** in the OMR Answer Sheet.
7. No candidate will be allowed to leave the examination hall till the end of the session and without handing over his/her Answer Sheet to the Invigilator.
8. Strict compliance of instructions is essential. Any malpractice or attempt to commit any kind of malpractice in the Examination will result in the disqualification of the candidate.
9. First fifteen minutes is provided to fill the general information of the Student. Eg. Student Name, Student ID, etc. in the OMR Answer Sheet.
10. Without the instruction of the Invigilator do not open the Question Paper Booklet Seal.

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P.T.O.

1. The desire to maintain a safe laboratory environment for all begins with :
(A) Prevention (B) Microbiology
(C) Ubiquity (D) Accident

2. A research paper is a brief report of research work based on :
(A) Primary Data only
(B) Secondary Data only
(C) Both Primary and Secondary Data
(D) None of the above

3. The method of research reporting should be :
(A) Scientific (B) Ethical and attractive
(C) Personal (D) Favorable to globalization

4. The essential qualities of a researcher are :
(A) Spirit of free enquiry
(B) Reliance on observation and evidence
(C) Systematization or theorizing of knowledge
(D) All the above

5. In the process of conducting research "Formulation of Hypothesis" is followed by :
(A) Statement of Objectives (B) Analysis of Data
(C) Selection of Research Tools (D) Collection of Data

6. Research proposal is also called :
(A) Abstract (B) Summary (C) Synopsis (D) Methodology

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7. If the null hypothesis is false then which of the following is accepted ?
(A) Null Hypothesis (B) Positive Hypothesis
(C) Negative Hypothesis (D) Alternative Hypothesis
8. Which of the following is not the characteristic feature of good research design ?
(A) Objectivity (B) Reliability and validity
(C) Generalization (D) Subjectivity
9. Review of the relevant literature is to know :
(A) What is already known about the topic
(B) What concepts and theories have been applied to the topic
(C) Who are the key contributors to the topic
(D) All of the above
10. Which of the following is the first step in starting the research process ?
(A) Searching sources of information to locate problem
(B) Survey of related literature
(C) Identification of problem
(D) Searching for solutions to the problem
11. A statement made about a population for testing purpose is called :
(A) Statistic (B) Hypothesis
(C) Level of Significance (D) Test-Statistic
12. When a possible solution to the problem has been written in desired direction, this type of hypothesis is called :
(A) Directional hypothesis (B) Non-directional hypothesis
(C) Declarative hypothesis (D) None of the above



13. Evidences in Research are collected from :
- (A) Primary and Secondary sources
 - (B) Pure and applied sources
 - (C) Active and passive sources
 - (D) None of the above
14. Which of the following does the critical value for a chi-square statistic rely ?
- (A) The degrees of freedom
 - (B) The sum of the frequencies
 - (C) The row totals
 - (D) The number of variables
15. The research papers are written in order to :
- (A) Gain name and fame
 - (B) Communicate the research
 - (C) Get promotions
 - (D) None of the above
16. Chi-square is used to analyse :
- (A) Scores
 - (B) Ranks
 - (C) Frequencies
 - (D) Any of these
17. Questionnaire are filled by the :
- (A) Respondents
 - (B) Everybody
 - (C) Enumerator
 - (D) None of the above
18. A hypothesis which defines the population distribution is called ?
- (A) Null Hypothesis
 - (B) Statistical Hypothesis
 - (C) Simple Hypothesis
 - (D) Composite Hypothesis



19. The basic principle of problem selection is :
- (A) Novelty of a problem
 - (B) Practicality of a problem
 - (C) Future-orientation of a problem
 - (D) All the above
20. The advantage of Research report writing in a scientific manner is :
- (A) Global Standardization (B) Global Communication
 - (C) Global awakening (D) Global Welfare
21. Significance of an ANOVA test is determined by :
- (A) calculating the F-statistic
 - (B) calculating the p-statistic
 - (C) calculating the chi-squared statistic
 - (D) calculating the t-statistic
22. Action research means :
- (A) A longitudinal research
 - (B) A research with socioeconomic objective
 - (C) A research initiated to solve an immediate problem
 - (D) An applied research
23. A common test in research demands much priority on :
- (A) Reliability (B) Usability (C) Objectivity (D) All of the above
24. The nature of a hypothesis is :
- (A) Conceptual (B) Declarative
 - (C) Action-oriented (D) All the above



- 25.** The data of research is :
- (A) Qualitative only (B) Quantitative only
(C) Both (A) and (B) (D) Neither (A) nor (B)
- 26.** Which of the following type(s) of Personal Protective Equipment (PPE) is frequently used in laboratory ?
- (A) Safety glasses (B) Gloves and Lab Coats
(C) Face Shields (D) All of the above
- 27.** The Ethics in research is not related to :
- (A) Self-interest (B) Scientific method
(C) Reliability (D) Humanity
- 28.** Data collected from published books are called :
- (A) Primary data (B) Secondary data
(C) Tertiary data (D) None of the above
- 29.** Bibliography given in a research report :
- (A) Helps those interested in further research and studying the problem from another angle
(B) Shows the vast knowledge of the researcher
(C) Makes the report authentic
(D) None of the above
- 30.** Most common type ANOVA is :
- (A) One-way ANOVA (B) Two-way ANOVA
(C) Three-way ANOVA (D) Four-way ANOVA

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SPACE FOR ROUGH WORK

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