

(6 pages)

Reg. No. : .....

Code No. : 7864

Sub. Code : PPHM 34

M.Sc. (CBCS) DEGREE EXAMINATION,  
NOVEMBER 2019.

Third Semester

Physics – Core

RESEARCH METHODOLOGY

(For those who joined in July 2017 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL the questions.  
Choose the correct answer.

1. According to Prof. P. Balaram words, Ph.D., degree is a \_\_\_\_\_ to a research career.  
(a) gateway (b) motivation factor  
(c) passport (d) recognition
2. Pick up the incorrect statement about, Basic research  
(a) seeks generalization  
(b) aims at basic processes  
(c) tries to say how things can be changed  
(d) tries to get all the facts

3. A young researcher should have \_\_\_\_\_  
(a) tolerance (b) patience  
(c) discipline (d) self-taught
4. Clear statement of a problem is called \_\_\_\_\_  
(a) introduction (b) body  
(c) conclusion (d) result
5. A preface should not include \_\_\_\_\_  
(a) brief resume of the background  
(b) scope of work  
(c) purpose of work  
(d) methodology of work
6. In thesis, the captions should appear on the \_\_\_\_\_ of the page  
(a) right side (b) left side  
(c) top (d) bottom
7. The \_\_\_\_\_ toolbar is provided for excluding data from Origin analysis and fitting routines.  
(a) range (b) mask  
(c) sorting (d) standard



8. NLSF stands for \_\_\_\_\_  
 (a) Nonlinear square fitting  
 (b) Nonlinear square fit  
 (c) Nonlinear source fit  
 (d) Nonlinear souce filter
9. The control sequence to change the font to italic is \_\_\_\_\_  
 (a) \textit()  
 (b) \textit{ }  
 (c) /textit{ }  
 (d) /textit()
10. The polynomial  $x^2 - 3x$  can be obtained by typing \_\_\_\_\_ in LATEX.  
 (a)  $\$x\{2\} - 3 * x\$$   
 (b)  $\$x(2) - 3 * x\$$   
 (c)  $\$x\{2\} - 3x\$$   
 (d)  $\$x(2) - 3x\$$

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).  
 Each answer should not exceed 250 words.

11. (a) Enumerate the importance of doing research.  
 Or  
 (b) Discuss in detail hypothesis.

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12. (a) Elaborate in detail the factors to be present in the results and conclusion of a thesis.

Or

- (b) Write a short note on defining the problem for planning the assignment.
13. (a) List out the steps to be followed for presenting a figures in thesis.

Or

- (b) Elaborate the format of presenting a table in a thesis.
14. (a) Elaborate in detail with suitable diagram, the plotting of a data using Origin.

Or

- (b) Write short note on masking data in a graph.
15. (a) Write a short note on producing ordinary text using LATEX with example.

Or

- (b) Elaborate the syntax for producing the superscripts and subscripts in LATEX with example.

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[P.T.O.]



**PART C — (5 × 8 = 40 marks)**

Answer ALL questions, choosing either (a) or (b).  
Each answer should not exceed 600 words.

16. (a) Discuss in detail the process and advantages of literature survey.  
Or  
(b) Discuss in brief the types of research.
17. (a) Elaborate in detail the mode of approach in carrying out research.  
Or  
(b) Discuss in brief the procedure for taking notes with examples.
18. (a) Discuss in brief the designing of a study in planning a thesis.  
Or  
(b) Illustrate with example the page and chapter format of a thesis.
19. (a) Discuss in detail the plotting of an Excel work book in Origin.  
Or  
(b) Elaborate in detail the steps for  
(i) transforming column values  
(ii) sorting worksheet data  
(iii) plotting the range of a worksheet data.

20. (a) Discuss in detail the commands and syntax used for producing the derivatives, limits, sums and integrals in LATEX.

Or

- (b) List out the syntax for producing Greek letters and Mathematical symbols in LATEX.
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