M.PHIL DEGREE EXAMINATION,FEBRUARY 2019
RESEARCH METHODOLOGY

Time : 3 Hours **Max.marks :75**

Section A $(5 \times 15 = 75)$ Marks

Answer any **FIVE** questions

1. Describe the design of a research problem and discuss its features.
2. Discuss the technique and importance of presenting a manuscript and describe the steps in writing a thesis.
3. Explain the computation of inverse of a matrix using Gauss-Jordan elimination method and find the inverse of the matrix.

$$\begin{vmatrix} 4 & 1 & 2 \\ 2 & 3 & -1 \\ 1 & -2 & 2 \end{vmatrix}$$

4. Using Euler's method, solve numerically the equation

   Y^1=x+y, y(o) =1, for x=0.0,(0.2), (0.3)

   Check your answer with the exact solution.

5. (a) Derive the normal equations for straight line fitting.

   (b) Explain the principle of least squares.

6. Fit a curve of the form Y=ab^x to the data.

x	1	2	3	4	5	6
y	151	100	61	50	20	8

7. (a) Explain the basic structure of C Programming and write a program to print "Hello world".

   (b) Explain the various operations used in C Language and library function with example.

8. With flowchart and algorithm, write a program to add and subtract n numbers.

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