

**Indian Institute of Information Technology and Management**  
**IIITM-K Research Aptitude Test (ITRAT for MPhil- Computer Science program)**

Sample Questions

Total questions: 60  
Maximum Marks:60

Each question carries 1 mark

**Mathematics**

If 6 is 24% of a number, what is 40% of the same number?

- a. 8
- b. 10
- c. 15
- d. 20

If 7 workers can build 7 cars in 7 days, then how many days would it takes for 5 workers to build 5 cars?

- a) 1
- b) 5
- c) 7
- d) None of these

Two balls are drawn at random from a bag containing 1 red, 2 white and 3 black balls. The probability that out of two balls drawn one is white and other is black.

- a) 1/5
- b) 2/5
- c) 2/6
- d) 1/2

If  $y = (\log x)^x$  then  $dy/dx$  is

- a)  $X(\log x)^{x-1}$
- b)  $(\log x)^{x-1} (x/\log x + \log \log x)$
- c)  $(\log x)^x (x/\log x + \log \log x)$
- d) None of these

$$-\int_{-3}^3 |x+1| dx =$$

- a. 0
- b. 5
- c. 10
- d. 15

### Basic Computer Science

Two main measures for efficiency of an algorithm are

- a. Processor and memory
- b. Complexity and capacity
- c. Time and space
- d. Data and space

A single packet on a data link is known as

- a) Path
- b) Frame
- c) Block
- d) Group

The 2's compliment of a binary no. is obtained by adding.....to its 1's compliment.

- a) 0
- b) 1
- c) 10
- d) 12

### Research Methodology

Undesirable consequences which causes estimated population variance to appear less as compared to real results are classified as:

- (a) Undesired error
- (b) Bias
- (c) Non-calculate error
- (d) Non-zero error

A good quality thesis writing should involve-

- (a) Careful checking of correctness of references
- (b) A clear and well written abstract
- (c) Consistency in style
- (d) All of the above