Roll No.: _____ **Enrolment No._____**

PARUL UNIVERSITY
SCHOOL OF PHARMACY
B.PHARM FIRST SEMESTER · FIRST INTERNAL EXAMINATION: 2018-19
Subject Name: Remedial Mathematics
Subject Code: BP106RMT **Date: 05/10/2018**
Time: 10:00 am to 12:00 pm **Total Marks: 30**

Instructions:
1. Figures to the right indicate full marks.
2. Make suitable assumptions wherever necessary.

Q.1 Long Answers: (Any One)

(a) $If\ \log\frac{a-b}{2} = \frac{1}{2}(\log a + \log b)\ then\ prove\ that\ \frac{a}{b} + \frac{b}{a} = 6$ **(05)**

(b) Convert the given fraction into partial fraction $\frac{x}{(x-3)(x-4)}$ **(05)**

OR

(a) Find the limit of the following $\lim_{x\to 2}\frac{x^3-8}{x^2-4}$ **(05)**

(b) Consider a function **(05)**

$f: A \to B, Where\ A = \{1,2.-2,3\}\ \&\ B = \{1,4,9\}\ defined\ by\ f(x) = x^2$

Check whether the given function is

(i) One-one or not?
(ii) Onto or not?

Q.2 Short Answers: (Any Four)

(a) $\log\frac{75}{16} - 2\log\frac{5}{9} + \log\frac{32}{243} = \log 2$ **(05)**

(b) Find the limit of the following $\lim_{x\to 1}\frac{x^2-4x+3}{x^2+2x-3}$ **(05)**

(c) Let A={3,4,5,6}, $f: A \to Z$ be a function defined as $f(x) = x^2 + x$, find the Range of f. **(05)**

(d) $\log\frac{a^2}{bc} + \log\frac{b^2}{ca} + \log\frac{c^2}{ab} = 0$ **(05)**

(e) Convert the given fraction into partial fraction $\frac{x}{(x-1)^2(x-2)}$ **(05)**