

RAMAKRISHNA MISSION VIDYAMANDIRA

Belur Math, Howrah – 711 202

ADMISSION TEST – 2013

ECONOMICS (Honours)

Date : 15-06-2013

Full Marks : 50

Time : 1.30 p.m – 3.30 p.m

(Use separate sheets for each group)

Group - A

1. Show that $\frac{1}{\log_a(abc)} + \frac{1}{\log_b(abc)} + \frac{1}{\log_c(abc)} = 1$. (5)

2. How many words can be formed by taking 3 letters from 'FORECAST' and 2 letters from 'MILKY'. (5)

3. Show that $f(x) = 2x^2 + 4x + 6$ in the interval $0 \leq x \leq 1$ has the lower bound 6 and the upper bound 12. (5)

4. Find : $\lim_{x \rightarrow 0} \frac{(1+x)^{1/x} - e}{x}$ (5)

5. A function is defined as follows :

$$\begin{aligned} f(x) &= \frac{1}{2} - x && \text{when } 0 < x < \frac{1}{2} \\ &= \frac{1}{2} && \text{when } x = \frac{1}{2} \\ &= \frac{3}{2} - x && \text{when } \frac{1}{2} < x < 1 \end{aligned}$$

Is $f(x)$ continuous? (5)

6. Arrange in ascending order (with reasons) :

$P(A), P(A \cap B), P(A \cup B), P(A) + P(B)$ (5)

Group - B

7. Write an essay on the following topic :

Recent problems relating to chit-fund in West Bengal. (20)

