RAMAKRISHNA MISSION VIDYAMANDIRA

Belur Math, Howrah – 711 202

ADMISSION TEST – 2016

ECONOMICS (Honours)

Date : 14-06-2016 **Full Marks : 50** Time: 02·30 p.m – 04·00 p.m

Instructions for the candidate

Use a separate Answer book for each group. Answer all the questions

Group – A

[6×5]

1. If $a_0 = 1$, $a_1 = 1$ and $a_n = a_{n-1}a_{n-2} + 1$ for n > 1, then
   a) a_{465} is odd and a_{466} is even
   b) a_{465} is odd and a_{466} is odd
   c) a_{465} is even and a_{466} is even
   d) a_{465} is even and a_{466} is odd

2. Find the domain of definition of the real valued function $f(X) = \log_e[x]$, where [x] denotes the greatest integer value function.
   a) Set of all real numbers
   b) $[1, \infty)$
   c) Set of reals except (–1, 1)
   d) none of these

3. The value of $\frac{\binom{30}{1}}{2} + \frac{\binom{30}{3}}{4} + \frac{\binom{30}{5}}{6} + ... + \frac{\binom{30}{29}}{30}$ is
   a) $\frac{2^{31}}{30}$
   b) $\frac{2^{30}}{31}$
   c) $\frac{2^{31}-1}{31}$
   d) $\frac{2^{30}-1}{31}$

4. Suppose that the function g given by $g(x) = ax^2 - 4\sqrt{x} + 1$, if $0 < x < 1$ and $g(x) = bx + 5$, if $x \geq 1$, is differentiable for all x > 0. Then
   a) a = 0 and b = –2
   b) a = 6 and b = 10
   c) a = –6 and b = –14
   d) a is any real number and b = 2a – 2

5. Let a, b, c be distinct real numbers. Then the number of real solution of $(x-a)^3 + (x-b)^3 + (x-c)^3 = 0$ is
   a) 1
   b) 2
   c) 3
   d) depends on a, b, c

6. A straight line segment AB of length a moves with its ends on the axes. Then the locus of the point P such that $AP : BP = 2 : 1$ is
   a) $9(x^2 + y^2) = 4a^2$
   b) $9(x^2 + 4y^2) = 4a^2$
   c) $9(4x^2 + y^2) = 4a^2$
   d) $9x^2 + 4y^2 = 4a^2$

Group – B

[1×20]

7. Suppose the new government in West Bengal chooses you as the Finance Minister. What type of policies are you going to take? describe your policy priorities within 250 words.

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