

KARACHI UNIVERSITY BUSINESS SCHOOL
UNIVERSITY OF KARACHI
FINAL EXAMINATION, JUNE 2015; AFFILIATED COLLEGES
BUSINESS MATHEMATICS-II; BA (H)-322
BS-II

Date: June 2, 2015

Max Time: 1.5 Hrs
Max Marks: 30

INSTRUCTIONS:

1. Attempt all questions. Do not write anything on the question paper.
2. Use of mobile phones or any other communicating device will not be allowed in the examination room. Students will have to remove the batteries of these devices before entering the examination hall.

Q.1. Find $f'(x)$ using limit approach $f(x) = \frac{1}{x^3 + 1}$

Q.2. Solve the following L.P. Problem by Corner Point Method

$$\begin{array}{ll} \text{Maximize} & z = 8x_1 + 4x_2 \\ \text{Subject to} & 3x_1 + x_2 \leq 40 \\ & 2x_1 + x_2 \leq 32 \\ & x_1, x_2 \geq 0 \end{array}$$

Q.3. Find $f'(x)$ and $f''(x)$ if $f(x) = \frac{(3x^3 + 4x)}{e^{4x}}$

Q.4. Determine value of x for which $f(x) = 2x^3 - \frac{5x^2}{2} - 4x + 10$ is
(i) an increasing function (ii) a decreasing function

Q.5. Integrate $\int \frac{12x^3 - 4x^2 + 7x - 8}{6x^2 - 5x - 4} dx$

END OF EXAM PAPER