

17 OCT 2014

EASTERN UNIVERSITY, SRI LANKA

FIRST YEAR FIRST SEMESTER EXAMINATION IN AGRICULTURE – 2011/2012

(Nov/Dec – 2013)

AEN 1103 – Basic Mathematics (1:15/00)

(Old Syllabus)

Re-Repeat

Answer all questions

Time: One hour

1. (a) i. Find the equation of a straight line passes through the point (1, 2) with slope 3.

ii. Let $A = \begin{pmatrix} 4 & 2 & -1 \\ -2 & 4 & 6 \end{pmatrix}$ and $B = \begin{pmatrix} 2 & -4 & 3 \\ 0 & 4 & -2 \end{pmatrix}$.

Find the matrix $2A - B$.

- (b) Evaluate the following limits:

i. limit $\lim_{x \rightarrow 3} \frac{27 - x^3}{x^2 - 3x}$;

ii. limit $\lim_{x \rightarrow 2} \frac{x^2 - 5x + 6}{x^2 - 4}$.

2. (a) Differentiate the following functions with respect to the variable x:

i. $y = x^7(8x^5 + 4)$;

ii. $y = (4x^3 - 2x + 1)/(3 - 5x^2)$.

(PTO)

(b) Integrate the following with respect to x :

i. $(4x + 3)(2x - 1)$;

ii. $x^5/(x^6 + 2)$.