

SIR ARTHUR LEWIS COMMUNITY COLLEGE

End of Semester Examinations Academic Year 2002 - 2003 - Semester One **Division of Agriculture** Associate Degree in Agriculture **Course: Access Mathematics**



Date: Wednesday, December 12, 2002.

Time: 9:00 am

Duration: 2 hours

Instructions: Answer all questions

- 1. Evaluate without using calculators: $(81^{1/4} \times 9^{1/2})/(3^2 \times 27^{2/3})$ (a)
 - (b) Write as simple quantities without negative indices:

(i)
$$1/8^{-2}$$

$$(ii) (\frac{1}{2})^{-4}$$

(iii)
$$3a^{-2}$$



- 2. Divide:
- $-8h^3k^3 6h^2k^2 + 2h^2k^4 4h^4k^2$ by (i)

(ii)
$$12 x^2 - 53x + 33$$
 by $3x - 11$

- 3. Simplify
- $x 3 2 \{ 2 3(x y) \}$ (i)

(ii)
$$[-(m+n)-(3m-4n)]-[(5m-n)-(9m-4n)]$$

4 Write as simple fractions:

(i)
$$5/(4c + 12) - 4/(2c + 6)$$

(ii)
$$4x/5 + 2/3x$$

(i)
$$9a^2 - 4c^2$$

(ii
$$6a^2 - 11a - 35$$

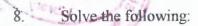
(iii)
$$24a^3 - 80a^2 + 24a$$

(i)
$$5^{2x} = 25$$

(ii)
$$10^{0.5} = x$$

(i)
$$3/(a+4) - 7/a = -6/a$$

(ii)
$$2m/3 = 8/(m+4)$$



(i)
$$(x+3)^{2/3}=4$$

2.
$$(4a+5)^{\frac{1}{2}}=7$$

(iii)
$$4^{x} = 84$$

(iv)
$$\log(x+4) = 1.5$$

9. Calcium ammonium nitrate is 27% nitrogen by weight and Magnesium Sulphate is 8.4% magnesium by weight. These fertilizer materials are used to supply nitrogen and magnesium respectively to a tomato crop. If the crop requires 184 kg of nitrogen and 18 kg of magnesium per hectare respectively, how much of each fertilizer material is needed to supply one hectare of the crop.