Sir Arthur Lewis Community College

Division of Technical Education and Management Studies

EXAMINATION	:	MAY 2015 - FINAL EXAMINATION
COURSE TITLE	:	CRAFT MATHEMATICS IV
COURSE CODE	:	MAT 126
TUTORS	:	P. ETIENNE
TIME	:	2 HOURS
DATE	:	Wednesday 13th May, 2015
INVIGILATORS	:	**I. Lambert, V. Etienne**
ROOMS	:	TRB-LAB

INSTRUCTIONS:

Answer all questions on the foolscaps provided.
Show all necessary working.
You are permitted to use nonprogrammable calculators.

SECTION A

Quadratic equations.

Answer one question.

1. **(a)** Solve by factorization

   (i) $x^2 + 3x - 10 = 0$

   (ii) $5x^2 = 8x + 4$

   (b) Solve by the quadratic formula $7x = 5 - 6x^2$

2. The total area of the walls of a rectangular room is 624 m^2. The room is 10 m longer than its width and its height is 6 m less than its length.

   Determine the dimensions of the room.

SECTION B

Answer 2 Questions

3. Determine the mean, median and the mode of the following

   (a) 4, 4, 7, 9, 3, 2, 1

   (b) 7, 10, 15, 18, 19, 20, 18, 30, 22, 24

   (c) -3, -7, -11, -8, -4, -9, -15, -7, -2

4. The following is a set of marks gained in an English exam

   53, 81, 19, 45, 24, 62, 67, 59, 33, 39, 90, 47, 75, 72, 36, 88, 49, 86, 57, 74, 27, 31, 68, 13, 29, 14, 70, 22, 63, 35, 29, 42, 27, 95, 77, 50, 31, 69, 73, 11, 42, 45, 31, 41, 90, 59, 14

   (a) Construct a frequency table

   (b) Construct a histogram for the data

5. The frequency table gives the scores of 45 candidates in a mathematics exam

Scores	20 – 29	30 – 39	40 – 49	50 – 59	60 – 69	70 – 79
Frequency	2	6	8	10	12	7

   Calculate

   (a) The mean

   (b) State the modal class

   (c) State the median class

   (d) Upper and lower class boundaries for each class.

SECTION C

Answer 2 Questions

6. A new car cost $200, 000 has a salvage value of $32 000 after 5 years. Use the straight line depreciation method to

   (a) compute this yearly depression expense

   (b) determine the depreciation in year 4

   (c) construct a depreciation schedule.

7. $ 50, 000 was invested for 5 years. Determine the amount of interest earned by the end of the period if interest rates was 15% compounded yearly.

8. **(a)** Find the simple interest earned if $24 000 is invested for 8 years at 7% p.a.

   (b) Mr. Son wishes to retrieve $120, 000. How much must he invest at 9%p.a. simple interest if he wishes to retire in 5 years time?

End of Examination!