SCHEME OF WORK CHECKLIST FROM SEPT 2016 – FORM 3: TERM I

TEXT: MATHEMATICS A COMPLETE COURSE WITH CXC QUESTIONS VOL. 1

1. ALGEBRA (III)

WEEK 1 & 2   **12.** Use symbols to represent Binary Operations (other than the four basic ones) & perform simple computations with them. (p226 – 227)   _____

     13. Use the Laws of Indices to manipulate expressions with <u>integral indices</u> (***include fractional / rational indices***) (p258 - 264)   _____

     14. Formulae (change of subject, ***include roots & powers***). (Toolsie Vol.2, p744, Ex. 13c, Q76 - 134)   _____

WEEK 3 & 4   **15.** Use Linear Inequalities to solve word problems (p240 - 244; p252 - 254)   _____

     16. Solve Simultaneous Linear Equations in two unknowns algebraically (p244 - 248)   _____

     17. Use simultaneous linear equations to solve word problems (p254 - 258)   _____

WEEK 5 & 6   **18.** Represent Direct & Inverse Variations symbolically p296 - 300   _____

     19. Solve problems involving direct variation & inverse variation   _____

2. CONSUMER ARITHMETIC (III) (P166 - 169; 175 - 193; 197 - 209)

WEEK 7 – 9   **7.** Calculate (for not more than 3 years)

     Compound Interest   _____
     Appreciation   _____
     Depreciation   _____
     Amount   _____

     8. Solve problems involving measures & money (**including exchange rate**)   _____

     9. Solve problems involving

     (a) Rates & Taxes (including Income Tax)   _____
     (b) Investments   _____

3. MEASUREMENT (III) (p117 - 149)

WEEK 10 – 14

11. Calculate the length of an arc of a circle _____

12. Calculate the area of a sector of a circle _____

Use Hero's formula for the area of a triangle
(Oxford Mathematics 4, p237, Q21) _____

13. Solve problems using: (Bk 1 Mathematics for Caribbean Schools, 2nd Edn., p95 - 102; p47 - 56)

the properties of faces, edges & vertices of solids,

    (i) Cylinder _____
    (ii) Sphere _____
    (iii) Cone _____

14. Calculate the area of a segment of a circle _____

15. Calculate the surface area of solids

    (a) Cylinder _____
    (b) Sphere _____
    (c) Cone _____

16. Calculate the volume of solids

    (a) Cylinder _____
    (b) Sphere _____
    (c) Cone _____

SCHEME OF WORK CHECKLIST FROM SEPT 2016 – FORM 3 TERM II

<u>4. STATISTICS (III)</u> (p336 - 389)

WEEK 1 – 4 *5. Differentiate between sample & population attributes – sample statistics & population parameters* _____

6. Measurement scales – Nominal, Ordinal, Interval & Ratio _____

7. Differentiate between types of data:

Discrete & Continuous variables _____
Ungrouped & Grouped data _____

8. Construct a Frequency Table for a given set of data:

Ungrouped _____
Grouped data _____

9. Determine class features for a given set of data:

Max / Min _____
Range _____
Extreme values & their effect _____
Class interval _____
Class boundaries _____
Class limits _____
Class midpoint _____
Class width _____

10. Represent numerical & statistical data by
Histogram _____
Frequency polygon _____

11. Interpret data presented in any of the graphical or pictorial forms named in **objective 10** above _____

12. Determine measures of central tendency (mean, median & mode) for

Raw _____
Ungrouped _____
Grouped data (no median) _____

13. Determine when it is most appropriate to use as the average for a set of data
Mean _____
Median _____
Mode _____

14. Determine the measures of dispersion /spread
(e.g. Range, Interquartile & Semi-interquartile range), for

(i) Raw _____
(ii) Ungrouped data. _____

15. Analyze statistical data & diagrams, commenting on the
averages   _____
the Dispersion (Spread)   _____
the Shape of the Frequency Distribution   _____
effect of extreme values   _____

***16. Use standard deviation to compare sets of data. No calculation of the
standard deviation is required.***   _____

17. Determine the Proportion or Percentage of the sample above or below a
given value from Raw data or Table   _____

18. Identify the Sample Space for a simple experiment, *including the use of
contingency tables*   _____

19. Determine Experimental & Theoretical probabilities of simple events   _____

20. Apply statistical methods to analyze data & make appropriate inference(s) from:

Raw data   _____
Tables   _____
Diagrams   _____

5. RELATIONS, FUNCTIONS & GRAPHS (II) (p288 - 296; p304 - 313)

WEEK 5 – 7   **2.** Explain concepts associated with relations:

Types *of relations*   _____
Examples & Non-examples   _____
Domain   _____
Range   _____
Image   _____
Co-domain   _____

3. Represent a relation in various ways:

Set of Ordered Pairs   _____
Arrow diagrams   _____
Graphically   _____
Algebraically   _____

4. State the characteristics that define a Function:

Many-to-one or One-to-one relation   _____
Examples & Non-examples   _____

5. Use the functional notations, for example, $f{:}x \rightarrow x^2$; or $f(x) = x^2$; as well
as $y = f(x)$ for given domains (p294 - 296)   _____

6. Distinguish between a Relation & a Function:

Ordered pairs   _____
Arrow diagrams   _____
Graphically (vertical Line Test)   _____

WEEK 8 & 9 **7.** Draw & Interpret graphs of Linear Functions: (p280 - 282, p300 - 304)

$y = c;$ _____
$x = k;$ _____
$y = mx + c.$ *where m, c & k are real numbers.* _____

8. Determine the Intercepts of the graph of linear functions:

x- & *y*- intercepts;
Graphically _____
Algebraically _____

9. Determine the Gradient of a straight line: slope - the ratio of the vertical
rise to the horizontal shift (p304 - 310) _____

WEEK 10 – 12 **10.** Determine the Equation of a line *using*:

(a) the graph of the line _____

(b) the co-ordinates of two points on the line _____

(c) the gradient & one point on the line _____

(d) the gradient of the line & its relationship to another line. _____

11. Solve problems involving the Gradient of Parallel & Perpendicular lines
(p915 - 929) _____

12. Determine from the co-ordinates on a line segment:

(a) the length _____
(b) the co-ordinates of the mid-point _____

13. Solve graphically a system of two linear equations in two variables (p313 - 319)_____

SCHEME OF WORK CHECKLIST FROM SEPT 2015 – FORM 3 TERM III

<u>6. GEOMETRY & TRIGONOMETRY (I)</u>

WEEK **1 – 4**   **1.** Determine the (p540 - 571)

       (i)   Sine   _____
       (ii) Cosine   _____
       (iii) Tangent ratios of acute angles in a right-angled triangle   _____

    2. Use the

       (i)   Sine   _____
       (ii) Cosine   _____
       (iii) Tangent ratios in the solution of right-angled triangles   _____

    3. Use simple trigonometrical ratios to solve problems based on measures in
       the physical world

      (a) Heights & Distances   _____
      (b) Angles of Elevation & Depression   _____

    4. Represent the relative position of two points given the Bearing of one point
       with respect to the other (include Cardinal points)   _____

    5. Determine the Bearing of one point relative to another point given the
       position of the points   _____

    6. Solve problems involving Bearings   _____

WEEK **5 –**   REVISION EXERCISES, TESTS & PAST PAPERS