**MARKING SCHEME**

**MATHEMATICS PAPER 2**

|  |  |  |  |
| --- | --- | --- | --- |
| **NO** | **WORKING** | **MARKS** | **COMMENTS** |
| 1 | - | M1  A1 |  |
| 2 |  | M1  M1  A1 | ✓Equation connecting  For ✓ substitution |
| 3 |  | M 1  M 1  A 1 |  |
| 4 | 144+25  13cm | B1  M1  A1 |  |
| 5 |  | M1  M1  A1 | L.C.M  Simplification of Numerator and Denominator |
| 6 | Let NQ be x. | M 1  A 1  M 1  A 1 |  |
| 7 | or | M1  M1  A1 |  |
| 8 | Let Onacha take x days.  Mogutu takes x + 5 days.  Onacha takes 10 days. | M1  M1  A1 |  |
| 9 | F:\COMPUTER\STEP UP SERIES\EXAM\T2 2019\SCAN\img20190621_21231074.jpg | |  |
| 10 | Amplitude  Phase angle = | B1  B1 |  |
| 11 | Interquartile range (quartile deviation)  = Q3 – Q1  Q3 =  Q1  anyone ✓  =7.5-2.5=5✓ | M1  A1 |  |
| 12 | Distance between A and B =  Speed | M 1  M 1 A 1 |  |
| 13 | Hence  Therefore QR// PQ  But Q is a common point  thus P,Q,R are collinear | B1  B1  B1  B1 |  |
| 14 | or  or | M1  M 1  A1 |  |
| 15 | Single matrix is  Determinant = | M 1  M 1  A 1 |  |
| 16 | 32 | M1  M1  M1  A1 | Correct expression |
| 17 | (a)  Sum of arithmetic progression          Last five terms  term is a + 40d  term is a + 39d  term is a + 38d  term is a + 37d  term is a + 36d  total  Solving (i) and (ii) simultenously;          (b)  Last term is a + 40d    (c) | M1  M1  M1  A1  A1  M1  A1  M1  M1  A1 | Formation of each equation  Solving two equations simultaneously  For common difference  For the first term |
| 18 | 1. (i)   (ii)  OR   1. Area of tile =   Area of pavement =  Number of tiles = | M 1  A 1  M 1  M 1  M 1  M 1  A 1  A 1  M 1  A 1 |  |
| 19 | |  |  |  |  | | --- | --- | --- | --- | | Mass kg | Upper class |  |  | | 30-39 | 39.5 | 0 | 0 | | 40-49 | 49.5 | 9 | 9 | | 50-59 | 59.5 | 27 | 36 | | 60-69 | 69.5 | 70 | 106 | | 70-79 | 79.5 | 50 | 156 | | 80-89 | 89.5 | 26 | 182 | | 90-99 | 99.5 | 12 | 194 | | 100-109 | 109.5 | 6 | 200 | |  |  |
| 20 | ½ x 8 x h = 16  H = 4cm | B1  B1  B1  B1  B1  B1  B1  B1  M1  A1 | Length of XY 8.0 + 0.1  Const of 300  Const of other 300  Centre  Upper locus  Lower locus  Locus of P  B1 marking pts A, B, C and D  Weight Attempt to find |
| 21 |  | M 1  M 1  A 1  B 1  M 1  A 1  B 1  M 1 M1  A 1 |  |
| 22 | AC=17  OA  OV= 8.471  b) Vol of pyramid =  =338.84 | M1  M1  A1  M1  A1  M1  M1  A1  M1  A1 |  |
| 23 | a)    b)    Total annually  Monthly  Less relief 1100.00  Net tax payable  c)    Total deductions  Monthly income | M1  M1  A1  M1  M1  M1  M1  A1  B­1  B­1 | ✓1st and 2nd slabs  ✓3rd and 4th slabs  ✓last slab  Subtraction of relief  Total deductions |
| 24 | | | |

