**MATHEMATICS**

**OPENER EXAMINATION TERM 3, 2022**

**FORM THREE MARKING SCHEME**

|  |  |  |
| --- | --- | --- |
| No | Working | Comments  |
| 1 | ……(i)…(ii)……(iii)……(iv)……(v)Subtract eqn (ii) from (v) | M1M1A1 |
| 2 |  | M1M1A1 |
| 3 |  Angle subtended by same chord | B1B1 |
| 4 |     | M1M1A1 |
| 5 | L.S.F = V.S.F = Volume of bigger cone = Volume of frustum =  | M1M1A1 |
| 6 | % change =  | M1M1 A1 |
| 7 |  | M1M1M1 A1 |
| 8 |  | M1 A1 |
| 9 | Integral values are 0, 1 2,  | B1B1B1 |
| 10 | … (i)…(ii)Eliminate *a*Find *a* | M1M1A1 |
| 11 |  | M1M1A1 |
| 12 | 1. Area =

  | B1M1 A1 |
| 13 |  = 14400 | M1M1A1 |
| 14 | 1. Area =
2. Shortest distance =
 | M1 A1M1 A1 |
| 15 |  | M1 M1 A1 |
| 16 | Cash price = Sh. 7 500  | M1M1 A1 |
| 17 | (a) 1. Area =
2. S.A =

Volume =  (b)CSA =  | M1 A1M1A1M1A1M1M1M1A1 |
| 18 | 1. (i)

 (ii) A bag of sugar =Sh. 2000 and a bag of rice =Sh. 15001. Discount on bag of rice =

Total discount = Discount on sugar = Sh. Discount on 1 bag = % discount =  | M1 A1B1B1M1M1A1 both valuesM1M1A1 |
| 19 | a) Taxable income  b) 1st band = 2nd band = 3rd band 4th band = 5th band = Gross tax = Net tax paid = Sh.  c) WCPS Total deduction  | M1A1M1 M1 M1M1 A1M1M1 A1 |
| 20 | 1. (i) Distance between them at 10:45 a.m. =

 Time taken = Distance from Jane’s house = (ii) (iii) 1. Time taken =
 | M1M1M1 A1M1 A1M1 A1M1A1 |
| 21 | 1.

 Radius BD =   1. Total length =

  | M1 A1M1 M1A1M1 M1A1M1A1 |
| 22 | 1. Managers annual salary = Sh. 54 000
2. Retained profit =
3. Ratio of contribution

Amount shared = 1. Meshack share =

Kelvin share = 1. Capital for the following yea

  | B1M1 A1M1A1M1M1 A1M1 A1 |
| 23 | 1. (i) Mid-point of AB =

(ii) (iii) At D,    | M1M1A1M1M1A1B1M1M1A1 |
| 24 | 1.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  | 0 | 1 | 2 | 3 |
| 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
|  | 12 | 9 | 6 | 3 | 0 |  |  |  |
|  |  |  |  |  | 0 |  |  |  |
|  |  |  | 5 | 8 | 7 | 2 |  |  |

1.
2.

(i)

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  | 2 |
|  |  |  | 0 |

Values of *x*  are (ii)   Values of *x* are  |  |