**SCHOOL BASED EXAMINATION 2019**

**MATHEMATICS PAPER 2 (121/2)**

**JULY/AUGUST FORM FOUR**

**MARKING SCHEME**

**SECTION 1 (50MKS)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No** |  | | |  |  |
| **1.** |  | | | M1  M1  A1 | Or alternate |
| **03** |
| **2.** |  | | | M1  M1  A1 |  |
|  |  | | | **03** |  |
| **3.** | C:\Documents and Settings\Maina\Local Settings\Temporary Internet Files\Content.Word\scan0061.jpg | | | B1  B1  B1  B1  **04** | (complete rectangle) construction  For L1  For L2  For L3 |
| **4.** |  | | | M1  M1  A1  B1 |  |
|  |  | | | **04** |  |
| **5.** |  | | | M1  M1  A1 |  |
|  |  | | | **03** |  |
| **6.** |  | | | M1  A1  M1  A1 | C.A.O |
|  |  | | | **04** |  |
| **7.** |  | | | M1  M1  A1 |  |
|  |  | | | **03** |  |
| **8.** |  | | | B1  B1 |  |
|  |
|  |
|  |  | | | **02** |  |
| **9.** |  | | | M1  A1  B1 |  |
|  |  | | | **03** |  |
| **10.** |  | | | M1  M1  A1 |  |
|  |  | | | **03** |  |
| **11.** |  | | | B1  M1  A1 |  |
|  |  | | | **03** |  |
| **12.** |  | | | M1  M1  A1 | For both values of x |
|  |  | | | **04** |  |
| **13.** | a)  C:\Documents and Settings\Maina\Local Settings\Temporary Internet Files\Content.Word\scan0062.jpg  b) y = 1 | | | S1  P1  L1  B1 |  |
| **04** |
| **14.** | A  B  O  C  1 | | | M1  A1 |  |
|  |  | | | **04** |  |
| **15.** |  | |  | M1  A1  B1 |  |
|  | | |
|  |  | | | **03** |  |
| **16.** |  | | | M1  M1  A1 |  |
|  |  | | | **03** |  |
| **17.** | **SECTION II**  a)    £  b)    c) | | | B1  M1  M1  M1  A1  B1  B1  M1  M1  A1 |  |
| **10** |
| **18.** | a)   |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | x | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 | 5 | | y = x3 – 3x2-9x + 2 | -25 | 0 | 7 | 2 | -9 | -20 | -25 | -18 | 7 |   C:\Users\JM\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Word\scan0064.jpg  c) i) at y = 0 x = 0.2 + 0.1 or x = -2 or x = 4.8 + 0.1  ii) y = -2x – 4  x -3 0 5  y 2 -4 -14  x= -2 or x = 0.7 + 0.1 or  x = 4.3 +0.1 | | | B2  S1  P1 or  P1✓1  C1 | B1 if 2 points are wrong |
| **19.** | C:\Users\JM\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Word\scan0065.jpg  b) i) (0.8 x 0.3 x 0.7) + (0.2 x 0.6 x 07)  = 0.168 + 0.084  = 0.252  ii) (0.8 x 0.7 x 0.2) + (0.8 x 0.3 x 0.3) +  (0.2 x 0.4 x 0.2) + (0.2 x 0.6 x 0.3)  0.112 + 0.072 + 0.016 + 0.036)  = 0.236  iii) 0.8 x 0.3 x 0.7  = 0.168 | | | B2  M1  M1  A1  M1  A1  M1  A1 | For ✓ tree diagram otherwise B1 for one branch correct |
|  |  | | | **10** |  |
| **20.** | |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | U.C.L | 24.5 | 34.5 | 44.5 | 54.5 | 64.5 | 74.5 | 84.5 | 94.5 | | C.F. | 0 | 3 | 9 | 25 | 37 | 45 | 49 | 50 |     C:\Users\JM\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Word\scan0066.jpg  b) i) The median Q2 = 54.5  ii) The interquartile range = Q3 – Q1  Q3 = 65.5 Q = 47.5  65.5 – 47.5 = 18  iii) The 60th percentile = 58.5  iv) 8th Decile = 67.5 | | | B1  S1  P1  C1  B1  B1  M1  B1  B1  **10** | **(**for ct) |
|  |  |
| 21. | C:\Users\JM\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Word\scan0067.jpg    45  90  45 | | | B1  M1  M1  A1  M1  A1  M1  M1  A1 | For both |
|  |  | | | **10** |  |
| **22.** | C:\Users\JM\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Word\scan0068.jpg    O1  60  C  13  V  b) i)  A  F  V  O2  O1  14.64  9.75cm  θ  13cm  3.25    V  ii)  3.75  N  O2  14.64  M  1.25  O1  θ  X  5 | | | M1  A1  M1  M1  A1  M1  M1  A1  M1  A1  **10** |  |
| 23. | C:\Users\JM\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Word\scan0069.jpg | | | B1  B1  M1  B1  B1  B1  B1    M1  A1 | (Object)  (Translation)  image |
| 10 |
| 24. |  | | | M1M1  A1  M1  A1  M1  A1  M1  M1  A1 | (For both values) |
|  |  | | | 10 |  |