**121/1 MATHEMATICS PAPER 2 FORM 4**

**END OF TERM II EXAMINATION**

**QUESTIONS**

|  |  |  |
| --- | --- | --- |
| **No** | **WORKING** | **Marks** |
| 1. | |  |  | | --- | --- | | **No** | **Log** | | 6.79 | 0.8319 | | 0.3911 | + | |  |  | | Log 5 (0.6990) | - | |  |  | |  |  |   = 2.721 | M1 logs  M1 addition and subtraction  M1 A1 |
| 2. | 1. Gradient = 2. Gradient of perpendicular line = | B1  M1  M1  A1 |
| 3. | Marked price = Sh. 800  Sold at 12% discount | M1  M1  A1 |
| 4. |  | M1  A1 |
| 5. | Length = () cm  Width = () cm  Area = | M1  M1  M1  A1 |
| 6. |  | M1  M1  A1 |
| 7. | = | B1  M1  A1 |
| 8. | =  =  units | M1  M1  A1 |
| 9. |  | M1  M1  A1 |
| 10. | And | B1  B1 |
| 11. | No of terms = 20 | M1  A1 |
| 12. | C:\Users\Sam\Desktop\STEP UP SERIES\EXAM\MOCK\wambua\Picture 041.jpg | M1  M1  A1 |
| 13. |  | M1 M1 A1 |
| 14. | Distance = | M1 A1 |
| 15. | C:\Users\Sam\Desktop\STEP UP SERIES\EXAM\MOCK\wambua\Picture 041.jpg  QT = | M1 - Angle SPQ  Parallel lines M1  Diagram M1  B1 |
| 16. | Mixture A  Mass of maize =  Total mass of mixture = 170 kg  Maize =  Beans =  Maize in mixture B = 45 kg  Beans in A = 72 – 45 = 27 kg  Beans in B = 98 – (45 + 27) = 26 kg  Ratio in mixture B  B: M = 26 : 45 | B1  M1  M1  A1 |
| 17. | Det = 15 + 1 =16   1. The distance = | B1  M1  M1  M1  M1  A1  M1  M1  M1  A1 |
| 18. | When t = 0 , V = 7  7 = c   1. Maximum velocity occurs when a = 0   For maximum velocity t =3 | M1  M1  M1  A1  M1  M1  A1  M1  M1  A1 |
| 19. | 1. Line PO is the projection of line VP   PO = PR  Line PO = 10 cm.  C:\Users\Sam\Desktop\STEP UP SERIES\EXAM\MOCK\wambua\Picture 041.jpg     1. Angle between the planes VQR and PQRS is angle OMV   C:\Users\Sam\Desktop\STEP UP SERIES\EXAM\MOCK\wambua\Picture 041.jpg  VO = | M1  M1  A1  M1 M1  A1  M1  M1  M1  A1 |
| 20. | 1. Time difference = 3 hrs   Angle difference =  Latitude of B is E   1. (i) distance = 850   r = R cos 53.50 = 3789 km  (ii) radius of the latitude r = R cos  Angle of latitude A and B is | M1  M1  A1  M1  M1  M1  A1  M1 M1  A1 |
| 21. | 1. (i)   at    (ii) at x- axis, y = 0   1. Area =   =  =  Negative means the curve is below the x - axis | M1  M1  A1  B1  M1  A1 both values  M1  M1M1  A1 |
| 22. | A =   1. Under rotation the matrix is      1. Image of (1, 0) about (2, 3) through 1800 is (3, 6). Use Cartesian.   Final image of (1, 0) under S is (3, 6) followed by R is  Image is | M1  M1  M1 A1  M1  M1  A1  M1 M1  A1 |
| 23 | 1. Area of circle =     Area =  Area of shaded region = | M1  M1  M1  M1  M1  A1  M1  M1  M1  A1 |
| 24. | 2. (i) On the graph.   (ii) Equation  (iii) |  |

