PHYSICS
PAPER 3
232/3
MARKING SCHEME

1. a)   f = 15 cm±2
    b)

Object distance (u cm)	22	24	26	28	30	32	34
Image distance (vcm)	32.9	34.2	36.0	38.9	39.5	41.0	42.1
Magnification $\dfrac{v}{u}$							

-   For u±0.2 cm values a ward 4 marks for all values within range. See accuracy above otherwise a ward ½ mark for each.
-   For m award 2 marks for all values correct but 4- 5 values correct a ward 1 mark and less than 4 values correct a ward 0 marks.

c)   Axes 1mk – both quantity and unit on V axis
      Scale (1mk)   simple and uniform
      Plotting (2mks)   atleast four correctly plotted points
      Line (1mk)   - line passing through atleast three correctly points.

d)   Gradient/ slope = $\dfrac{1}{f}$

$$f = \frac{1}{slope}$$

$$= 15 \pm 0.2 cm$$

PART B

ii)   E=1.5±01
iii)   V=1.4±0.1
iv)   I = 0.12±0.01A
       E-V=Ir
       0.1 = 0.12 x 8
       R = $\dfrac{0.1}{0.12}$
       =   0.83Ω

Question 2
PART A
    a)   R = $60^0 \pm 1^0$

On presence of plain paper showing how r is got

Angle of incidence (Deg)	30	35	40	45	50	55	60
Angle (degree)	14	22	34	39	43	48	51
E = 90 - θ							

      f)   Axes 1mk – must be labeled
              scale 1mk) – simple and uniform
              plotting (1mk) – atleast four correctly plotted points curve (1mk)- passing
              through 3 points and smooth.
          ii) $i^0 = 47^0$

PART B
a)   G = 50±0.5cm
b)   i)   P = 67.3±0.5cm
       ii)   Y = 67.3 – 50
              = 17.3 cm
       iii)   Clockwise moments = Anti clockwise moments
              (50x- 17.3)+u = (100x 10)
              U= 1000-865
              =135 N