Part A

01) Rs 10 .... 1Mark
02) $x = 7$ 1Mark
03) $x = 70^0$ 1Mark
04) 3 .... 1Mark
05) $x = 3$ 1Mark
06) 3 x 2 .... 1Mark
07) $x(x - 1)$ 1Mark

08) $\dfrac{1}{4}$ 1Mark

09) x < 2 .... 1Mark
10) x = 4 .... 1Mark

11) $\dfrac{3}{x-3} + \dfrac{2}{x-3}$ 1Mark

$= \dfrac{5}{x-3}$ 1Mark

12) a)   Rs 1600 x 4 = Rs 6400 .... 1Mark

b)   Rs $\dfrac{6400}{8}$ x 100 = Rs 80000 .... 1Mark

13) $\lg x^2 \times 8 = \lg 2^5$ 1Mark
$8\,x^2 = 32$
$x^2 = 4$
$x = 2$ 1Mark

14) DE =   3cm 1Mark
Perimeter $= 6cm + 3cm + 3cm + 3cm$
$= 15cm$ 1Mark

15) Man days of this work = 3 x 4 = 12 .... 1Mark

OR

Man days of three time of this work = 12 x 3 = 36 .... 1Mark

No. of days $= \dfrac{36}{9}$

$= 4$ Days 1Mark

16) a) $x = 2$ 1Mark
b)   (-3) 1Mark
17) $x = 40^0$ 1Mark
$y = 50^0$ 1Mark

18) $E = \dfrac{r}{r-1}$ (r)

$Er - E = r$
$Er - r = E$
$r(E - 1) = E$

$r = \dfrac{E}{E-1}$ 2Marks

19) Exterior angle $\quad = \quad 30^0$ 1Mark

$\quad$ No. of sides $\qquad = \quad \dfrac{360^\circ}{30^\circ}$

$\qquad\qquad\qquad = \quad 12$ 1Mark

20) a) $\dfrac{Rs\,6000}{Rs\,15} = \quad 400$ 1Mark

$\quad$ b) $400 \times Rs\,10$

$\qquad = \quad Rs\,4000$ 1Mark

21) $Tn \; = \quad a + (n\text{-}1)\,d$ 1Mark

$\quad 0 \quad = \quad 60 + (n\text{-}1) \times \text{-}3$

$\quad 3n \; = \quad 60 + 3$

$\quad 3n \; = \quad 63$

$\quad\; n \; = \quad 21$ 1Mark

(for direct answer only one mark)

22) $\dfrac{AC}{PR} = \dfrac{BC}{QR}$ 1Mark

$\quad \dfrac{10cm}{8cm} = \dfrac{6cm}{QR}$

$\quad 10QR = 48cm$

$\qquad QR = 4.8cm$ .... 1 Mark

23) $\left(x + \dfrac{1}{x}\right)^2 = x^2 + 2 + \dfrac{1}{x^2}$ .... 1 Mark

$\qquad\qquad = \; x^2 + \dfrac{1}{x^2} + 2$

$\qquad\qquad = \; 23 + 2$

$\quad \left(x + \dfrac{1}{x}\right)^2 = \; 25$

$\quad x + \dfrac{1}{x} \qquad = \; (\pm 5)$ 1Mark

24)
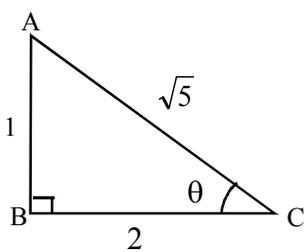
$AC = \sqrt{5}$ 1Mark

$Sin\,\theta = \dfrac{1}{\sqrt{5}}$ 1Mark

25)

The bearing of A from B is 007^0 .... 2 Mark
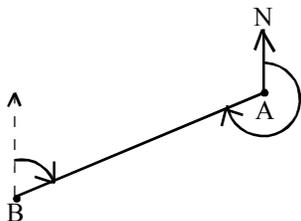
26) $4\frac{1}{3} \div \left(3\frac{1}{3} - 2\frac{1}{4}\right)$

$$= \frac{13}{3} \div \left(\frac{10}{3} - \frac{9}{4}\right)$$

$$= \frac{13}{3} \div \left(\frac{40 - 27}{12}\right) \qquad \qquad \text{... 1Mark}$$

$$= \frac{13}{3} \div \frac{13}{12}$$

$$= \frac{\cancel{13}}{\cancel{3}} \times \frac{\cancel{12}^4}{\cancel{13}}$$

$$= 4 \text{ .... 1Mark}$$

27) Area of Δ ADC $= \dfrac{60\text{cm}^2}{4} \times 3$

$\qquad\qquad\qquad\quad = 45\text{cm}^2$ 1Mark

Area of Δ AED $= \dfrac{45\text{cm}^2}{5} \times 2$

$\qquad\qquad\qquad\quad = 18\text{cm}^2$ 1Mark

28) OB $= 10$cm 1Mark

BC $= 10$cm $- 6$cm

$\quad = 4$cm 1Mark

for direct answer give two marks

29) AB, AC 1Mark

B, C 1Mark

30) lg $0.02 = \overline{2}.3010$ 2Marks

OR

$= -2 + 0.3010$

$= -1.6990$ 2Marks

01) a) $\dfrac{5}{8}$ 1Mark

b) $\dfrac{5}{8} \times \dfrac{1}{10} = \dfrac{1}{16}$ 2Mark

c) $1 - \left(\dfrac{3}{8} + \dfrac{1}{16}\right)$

$1 - \dfrac{7}{16}$

$= \dfrac{9}{16}$

small fruits $= \dfrac{9}{16} \times \dfrac{2}{3}$

$= \dfrac{3}{8}$ 2Mark

d) $\dfrac{Rs1200}{Rs40} = 30$ fruits 1Mark

e) $1 - \left(\dfrac{3}{8} + \dfrac{1}{16} + \dfrac{3}{8}\right)$

$= 1 - \dfrac{13}{16}$

$= \dfrac{3}{16}$ 2Mark

f) 160 fruits 2Mark

02) a) 100m x 14m
$= 1400$ m^2 .... 2Mark

b) $\dfrac{1}{2}\pi r^2$

$= \dfrac{1}{\cancel{2}} \times \dfrac{22}{\cancel{7}} \times \overset{2}{\cancel{14}}\,m \times 14m$

$= 308m^2$ 2Mark

c) 100m x 28m + 308m^2 + 308m^2
$= 2800m^2 + 616m^2$
$= 3416m^2$ 2Mark

d) 3416m^2 - 1400m^2
$= 2016m^2$ 2Mark

e) 1400m^2 x 2.5m
$= 3500m^3$
$= 3500 \times 1000 l$
$= 3500,000 l$ 2Mark

03) a) Ravi : Rajah : Kamal = Rs 40,000 : Rs 60,000 : Rs 75,000

              = 8 : 12 : 15 .... 2Mark

  b) Ravi : Rajah : Kamal = 12 : 12 : 8

              = 3 : 3 : 2 .... 2Mark

  c) Ratio of profit

    Ravi : Rajah : Kamal = Rs 40,000 x 12 : Rs 60,000 x 12 : Rs 75,000 x 8

              = 24 : 36 : 30

              = 4 : 6 : 5 .... 3Mark

  d) The profit gained by Ravi = $\dfrac{4}{15}$ x Rs 60,000

              = Rs 16000 .... 3Mark

04)

Playing cricket
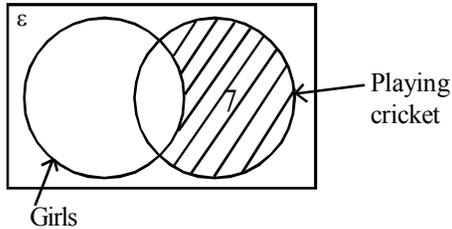
Girls

  a) Drawing the Venn diagram 2Mark

  b) 4 girls 2Mark

  c) 12 Boys 2Mark

  d) $\dfrac{9}{25}$ 2Mark

  e) $\dfrac{9}{16} \times 100 = 56.25\%$ 2Mark

05) a) 8 .... 1Mark

  b) $\dfrac{10}{35} = \dfrac{2}{7}$ 1Mark

  c)

axis - 2Marks
Correct diagram - 2Marks
(histogram)
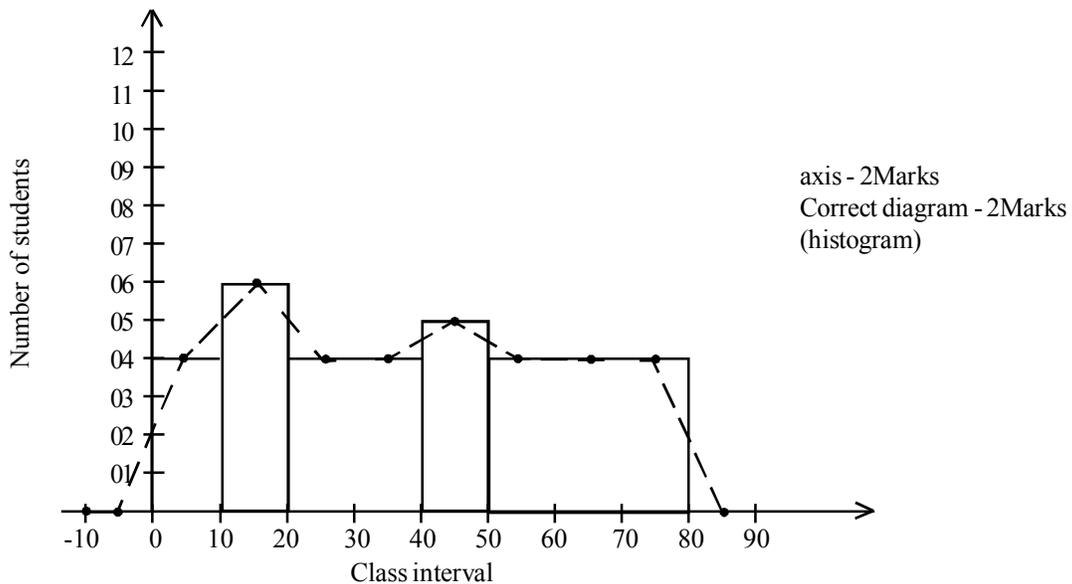
  d) frequency polygon 2Mark

  e) Area of the histogram and the area of the frequency polygon are equal 2Mark