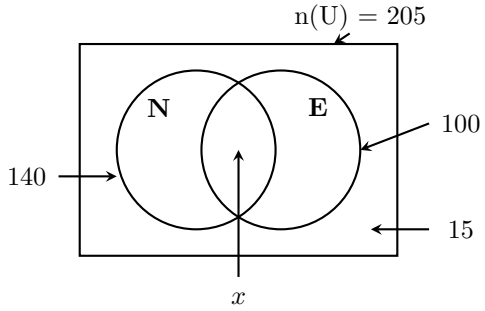
SEE - 2082 (2026)
Compulsory Mathematics
Marking Scheme(RE-1031-KaP)

Q. No.	Item No.	Answers	Marks
1	a	$n(\overline{N \cap E}) = 15$	1
	b	For the Correct Venn diagram 	1
	c	i. $140 - x + x + 100 - x + 15 = 205$ ii. $\therefore x = 50$ iii. $n_o(N) + n_o(E) = 140$	1 +1 +1
	d	At least one $n(N \cup E) = 190$ and at most one $n(\overline{N \cap E}) = 155$ $\therefore n(N \cup E) > n\overline{(N \cap E)}$ by 35. OR, $n(N \cup E) : n\overline{(N \cap E)} = 38 : 31$ OR, any other comparison	1
2	a	Yearly Compound Interest $C.I = P\left\{\left(1 + \frac{R}{100}\right)^T - 1\right\}$	1
	b	i. $C.I = 50000\left\{\left(1 + \frac{10}{100}\right)^2 - 1\right\}$ ii. $C.I = \text{Rs. } 10,500$	1 + 1
	c	i. C.I paid by Ghanshyam = Rs. 10775.31 ii. Ram gained Rs. 275.31	1 + 1
3	a	i. $532400 = 400000\left(1 + \frac{R}{100}\right)^3$ ii. $R = 10\%$	1 + 1
	b	i. $644204 = 532400\left(1 + \frac{10}{100}\right)^T$ ii. $T = 2$ years or 2080 B.S.	1 + 1
4	a	Correct definition of money exchange	1
	b	NRs. 49,280 = Pound sterling 250	1
	c	Pound sterling 500 = NRs. 100123.20	1
	d	Selling rate is more than buying rate by NRs. 0.82 or 82 paisa	1

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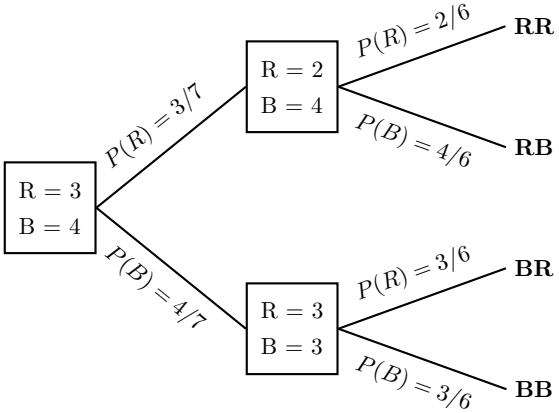
5	a	$V = \frac{1}{3}a^2h$ OR, $V = \frac{1}{3} \times$ Area of the base $\times$ height	1
	b	$V = 48$ cubic meter.	1
	c	i. Slant height $(l) = 5$m ii. TSA of Pyramid $= 2 \times 6 \times 5 + 6^2 = 96$ m^2	1 + 1
6	a	Area of base $= \pi r^2$	1
	b	i. Volume $= \frac{22}{7} \times 3.5^2 \times 4.2 + \frac{2}{3} \times \frac{22}{7} \times 3.5^3$ ii. Volume $(V) = 251.533$ cubic m and 251533 liter	1 + 1
	c	Total amount paid by one house hold = Rs. 62.88	1
7	a	i. Length of square room $(l) = 9$m ii. Area of 4 walls excluding door and windows $= 96$ m^2 iii. Cost of plastering = Rs. 250×96 = Rs. 24,000	1 +1 +1
	b	i. New rate of plastering = Rs. 312.50 ii. Total cost will be = Rs. 30000 $\therefore$ Increment in total cost = Rs. 6000	1 + 1
8	a	Common ratio $= \left(\frac{b}{a}\right)^{\frac{1}{n+1}}$	1
	b	i. $S_8 = \frac{4(2^8-1)}{2-1}$ ii. $S_8 = 1020$	1 + 1
	c	i. $4092 = \frac{4(2^n-1)}{2-1}$ ii. $n = 10$ Hence required time is 10 days	1 + 1
9	a	Age of younger sister $= (40 - x)$ year or $\frac{391}{x}$ year	1
	b	i. For quadratic equation: $x^2 - 40x + 391 = 0$ ii. Age of sisters are 23 years and 17 years.	1 + 1
	c	i. For, $\frac{27+x^2}{17+x^2} = \frac{13}{11}$ ii. $x = 4$ (after 4 years)	1 + 1
10	a	i. $\frac{x^2+xy-x^2+xy}{(x-y)(x+y)}$ ii. $\frac{2xy}{x^2-y^2}$	1 + 1
	b	i. Let $2^x = a$, then, $a^2 - 12a + 32 = 0$ ii. $a = 8$ or 4 iii. $x = 3$ or 2	1 +1 +1
11	a	Area of $\Delta QRT = \frac{1}{2}$ of area of parallelogram PQRS.	1
	b	i. Area of $\Delta QRT = 48$ sq. cm ii. Area of parallelogram $PQRS = 96$ sq. cm	1 + 1
	c	Area of ΔQTU = area of parallelogram PQRS with reason.	1
12	a	For, $\angle PSQ = 90^\circ$	1

Q. No.	Item No.	Answers	Marks
	b	For, $\angle PRS = 65°$	1
	c	i. Correct figures ii. Correct measurements with conclusion	1 + 1
13	a	i. Construction of ΔPQR ii. Construction of line parallel to base iii. Construction of parallelogram	1 +1 +1
	b	i. $\angle EAB + \angle ABE = \angle AED$ ii. $\frac{1}{2}$ of $\angle BOC + \frac{1}{2}$ of $\angle AOD = \angle AED$ thus, $\angle BOC + \angle AOD = 2\angle AED$	1 + 1
14	a	For correct definition of angle of elevation (Sample: An angle formed by a line of sight with a horizontal line while viewing an object from downwards to upwards.)	1
	b	For, correct figure	1
	c	Height of the pole above water level = 22.4 m	1
	d	Reduced by 8.876 m or, 8.88 m	1
15	a	Median class = 30-40	1
	b	i. $34 = 30 + \frac{\left\{\frac{15+p}{2} - 9\right\}}{p} \times 10$ ii. $p = 15$	1 + 1
	c	i. For, $\Sigma fm = 950$ and $N = 30$ ii. Mean $(\bar{X}) = 31.67$	1 + 1
	d	Required percent = 30%	1
16	a	Dependent events	1
	b	 i. For correct probability tree diagram till first draw ii. For correct probability tree diagram till second draw (N.B. Way of drawing figure may vary.)	1 + 1
	c	$P(RB) = \frac{3}{7} \times \frac{4}{6} = \frac{2}{7}$	1
	d	For, $P(RR) = \frac{5}{9} \times \frac{4}{8} = \frac{5}{18}$	1