ANNUAL EXAMINATION, MARCH 2022 - 2023

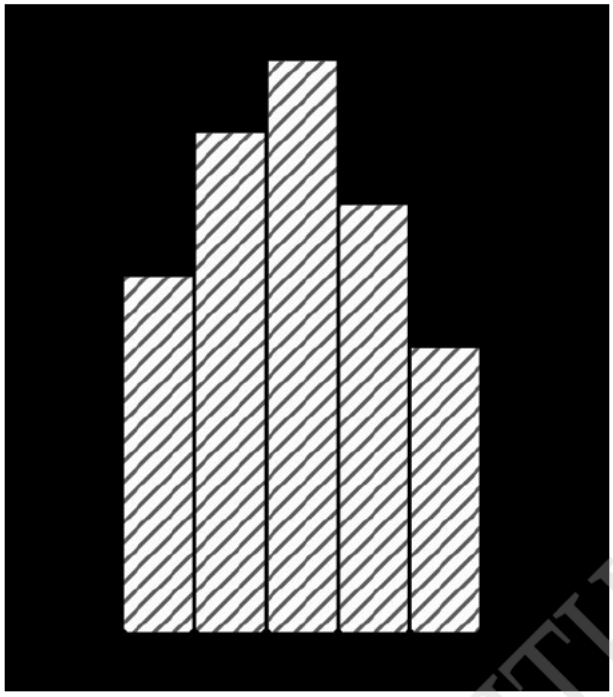
STD 8 - MATHEMATICS – ANSWER KEY

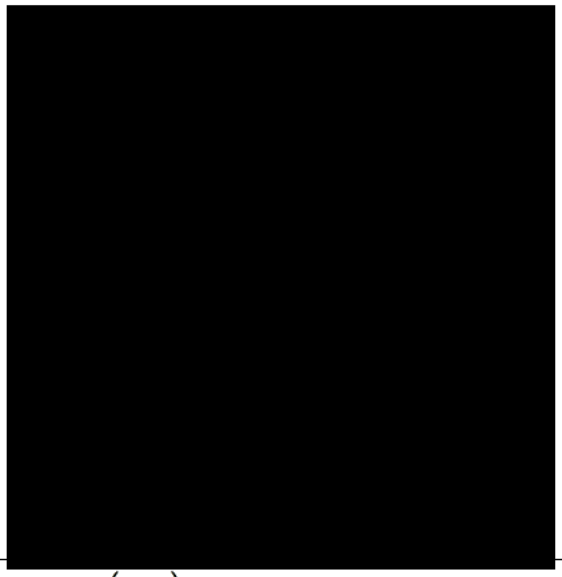
E-803

Qn no.	Key	Score	
	Answer any 4 questions from 1 to 5		
1	a) $\angle R = 30^0$ b) $\angle P = 180^0 - (30^0 + 30^0) = 180^0 - 60^0 = 120^0$	1 1	2
2	3 times a number $= 17 - 2 = 15$ Number $= \frac{15}{3} = 5$	1 1	2
3	a) $\angle ABC = 360^0 - (70^0 + 110^0 + 80^0) = 360^0 - 260^0 = 100^0$ b) $\angle CBE = 180^0 - 100^0 = 80^0$	2	2
4	a) Number of girls $= 50 \times \frac{2}{5} = 20$ b) Number of boys $= 50 \times \frac{3}{5} = 30$	1 1	2
5	a) $-3 \times 4 = -12$ b) $5 - (-2) = 5 + 2 = 7$	1 1	2
	Answer any 4 questions from 6 to 11		
6	a) $a^2 - b^2 = (a + b)(a - b)$ b) $100^2 - 99^2 = (100 + 99)(100 - 99) = 199 \times 1$ c) $(a+1)^2 - 1^2 = (a+1+1)(a+1-1) = (a+2) \times a$	1 1 1	3
7	$36 \times \frac{2}{9} = 8\ cm$ $36 \times \frac{3}{9} = 12\ cm$ $36 \times \frac{4}{9} = 16\ cm$	1 1 1	3

8	a) Area of the rectangle ABCD $= 8 \times 4 = 32\ sq.cm$ b) $AP = 8 - 3 = 5\ cm$ c) Area of the parallelogram APCQ $= 5 \times 4 = 20\ sq.cm$	1 1 1	3
9	a) $x + y = 3 + (-7) = -4$ b) $x - y = 3 - (-7) = 3 + 7 = 10$ c) $(x + y)(x - y) = -4 \times 10 = -40$	1 1 1	3
10		3	3
11	a) Sum of the parallel sides of the trapezium $= 6 + 3 = 9$ b) Area of the trapezium $= \frac{1}{2}(AB + CD)\ AD = \frac{1}{2}(6 + 3)\ 4$ $= 18\ sq.cm$	1 1 1	3
	Answer any 5 questions from 12 to 18		
12	[redacted]	4	4

Score	Tally mark	Number of students
0 – 10	|||	2
10 – 20	𝍸	5
20 – 30	𝍸||	7
30 – 40	𝍸||	7
40 – 50	||||	4
Total		25

13		4	4
14	Amount got after 2 years $= P\left(1 + \frac{r}{100}\right)^2$ $= 10000\left(1 + \frac{10}{100}\right)^2 = 10000\left(\frac{110}{100}\right)^2$ $= 10000 \times \frac{110}{100} \times \frac{110}{100} = 12100$ Rs Third year's balance $= 12100 + 10000 = 22100$ Rs Amount get at the end of the third year $= 22100\left(1 + \frac{10}{100}\right)$ $= 22100 \times \frac{110}{100} = 24310$ Rs	1 1 1 1	4
15	a) length + breadth $= \frac{48}{2} = 24\ cm$ b) Length $= 24 \times \frac{5}{8} = 15\ cm$ Breadth $= 24 \times \frac{3}{8} = 9\ cm$ c) $15 : 10 = 3 : 2$	1 1 1 1	4

16		**4**	**4**
17	**a)** $x - y = -5 - (-6) = -5 + 6 = 1$ **b)** $(x - y)\,z = 1 \times 4 = 4$ **c)** $xz - yz = -5 \times 4 - (-6) \times 4 = -20 - (-24)$ $= -20 + 24 = 4$ $(x - y)\,z = xz - yz$	**1** **1** **1** **1**	**4**
18	**a)** $5^2 + 4^2 = 9^2 - 2 \times (5 \times 4)$ **b)** $8^2 + 7^2 = 15^2 - 2 \times (8 \times 7)$ **c)** $20^2 + 10^2 = 30^2 - 2 \times (20 \times 10)$ **d)** $a^2 + b^2 = (a+b)^2 - 2 \times (a \times b)$	**1** **1** **1** **1**	**4**