Quiz Date: 16th February 2020

Directions (1-10): What should come in place of question mark (?) in the following questions?

Q1. $456 + 24 \times 0.75 - 12 = ?$
(a) 462
(b) 346
(c) 294
(d) 432
(e) 544

Q2. $1\frac{1}{4} + 1\frac{5}{6} + 1\frac{5}{8} + 6\frac{1}{4} = ?$
(a) $9\frac{3}{8}$
(b) $9\frac{23}{24}$
(c) $10\frac{23}{24}$
(d) $9\frac{7}{15}$
(e) $10\frac{1}{24}$

Q3. If $289 = 17^{\frac{1}{5}\times ?}$
(a) $\frac{9}{5}$
(b) 8
(c) 2
(d) $\frac{2}{5}$
(e) 10

Q4. $0.01 \times 0.1 - 0.001 \div 10 + 0.01 + 2 = ?$
(a) 2.01009
(b) 1.0101
(c) 2.0109
(d) 2.109
(e) 2.19

Q5. $25\%\ of\ 480 + 22\%\ of\ 150 = ?$
(a) 150
(b) 163
(c) 173
(d) 153
(e) 143

Q6. $\frac{16\times 32}{9\times 27\times 81} = ?$

(a) $\left(\frac{2}{3}\right)^{12}$
(b) $\left(\frac{2}{3}\right)^{11}$
(c) $\left(\frac{2}{3}\right)^{13}$
(d) $\left(\frac{2}{3}\right)^{9}$
(e) $\left(\frac{1}{3}\right)^{9}$

Q7. $\sqrt{144} + \sqrt{361} - \sqrt{169} = \sqrt{?}$
(a) 289
(b) 324
(c) 361
(d) 400
(e) 256

Q8. 4846 + 3454 + 5156 = ? + 11342
(a) 2114
(b) 2314
(c) 2144
(d) 2014
(e) 2018

Q9. $4^{?} \times (8 \times 128) = 256 \times 1024$
(a) 5
(b) 3
(c) 2
(d) 4
(e) 8

Q10. 264 ÷ 8 × 12 + 224 – 64 = ?
(a) 350
(b) 450
(c) 465
(d) 655
(e) 556

Directions (11-15): Two equations I and II are given below in each question. You have to solve these equations and give answer
(a) if x<y
(b) if x>y
(c) if x≤y
(d) if x≥y
(e) if x=y or no relation can be established

Q11. I. $x^2 - 11x + 24 = 0$
II. $2y^2 - 9y + 9 = 0$

Q12. I. $x^2 - 3481 = 0$
II. $3y^2 = \sqrt[3]{216000}$

Q13. I. $x^2 - 5x - 14 = 0$
II. $y^2 + 7y + 10 = 0$

Q14. I. $5x^2 + 2x - 3 = 0$
II. $2y^2 + 7y + 6 = 0$

Q15. I. $(17)^2 + 144 \div 18 = x$
II. $(26)^2 - 18 \times 21 = y$

Solutions

S1. Ans. (a)
Sol.
$456 + 24 \times \frac{3}{4} - 12 = ?$
$? = 456 + 6 = 462$

S2. Ans. (c)
Sol.
$9+\left[\frac{1}{4}+\frac{5}{6}+\frac{5}{8}+\frac{1}{4}\right]=?$
$9+\left[\frac{47}{24}\right]=?$
$?=10\frac{23}{24}$

S3. Ans. (e)
Sol.
$17^2=17^{\frac{1}{5}\times?}$
$2=\frac{1}{5}\times?$
$?=10$

S4. Ans. (c)
Sol.
$0.001-0.0001+2.01=?$
$?=2.0109$

S5. Ans. (d)
Sol.
$\frac{25}{100}\times480+\frac{22}{100}\times150=?$
$120+33=?$
$?=153$

S6. Ans. (d)
Sol.
$\frac{2^4\times2^5}{3^2\times3^3\times3^4}=?$
$\left(\frac{2}{3}\right)^9=?$

S7. Ans. (b)
Sol.
$12 + 19 - 13 = \sqrt{?}$
$\sqrt{?} = 18$
$? = 324$

S8. Ans.(a)
Sol.
? = 13456 – 11342
⇒ ?= 2114

S9. Ans.(d)
Sol.
$4^{?} \times (4^5) = 4^4 \times 4^5$
$\Rightarrow 4^{?} = 4^4$
$\Rightarrow ? = 4$

S10. Ans.(e)
Sol.
? = 396 + 224 – 64
⇒ ?= 556

S11. Ans.(d)
Sol. I. $x^2 - 8x - 3x + 24 = 0$
$x(x-8) - 3(x-8) = 0$
$x = 3, 8$
II. $2y^2 - 6y - 3y + 9 = 0$
$2y(y-3) - 3(y-3) = 0$
$y = 3, \frac{3}{2}$
$\therefore x \geq y$

S12. Ans.(e)
Sol.
I. $x = \pm 59$ | II. $3y^2 = 60$
$\Rightarrow y = \pm\sqrt{20}$
∴ No relation exists.

S13. Ans. (d)
Sol.
I. $x^2 - 7x + 2x - 14 = 0$
$x(x-7) + 2(x-7) = 0$
$x = 7, -2$
II. $y^2 + 5y + 2y + 10 = 0$

$y = -2, -5$
$x \geq y$

S14. Ans. (b)
Sol.
I. $5x^2 + 5x - 3x - 3 = 0$
$5x(x + 1) - 3(x + 1) = 0$
$x = \frac{3}{5}, -1$
II. $2y^2 + 4y + 3y + 6 = 0$
$2y(y + 2) + 3(y + 2) = 0$
$y = \frac{-3}{2}, -2$
$x > y$

S15. Ans.(a)
Sol.
$I.\ \mathrm{x} = 289 + \frac{144}{18} = 297 \ \Big| \ II.\ y = 298$

$x < y$