**Quiz Date: 29th February 2020**

**Directions (1-5):** What will come in place of (?) question mark in the following questions?

Q1. $7^{?} = 343 \div 512 \times 64 \times 56 \div 49$

(a) 1
(b) 3
(c) 5
(d) 4
(e) 2

Q2. $5^{?} = 25^{4.9} \div 5^{3\times0.6} \div 125 \times 625^{0.5}$

(a) 5
(b) 4
(c) 7
(d) 6
(e) 8

Q3. $? = 225 \div 45 \div 0.5 \times 75$

(a) 250
(b) 750
(c) 500
(d) 150
(e) 900

Q4. $70\%\ of\ 500 - 200\% of 74 + 12 \times 15 - 382 = ?$

(a) 1
(b) -2
(c) -1
(d) 0
(e) 2

Q5. $12^3 - 10800 \div 36 + ? = 11^3$

(a) -98
(b) -95
(c) -100
(d) -92
(e) -97

Q6. The respective ratio of the present ages of Anshu and her mother is 1 : 2. After 6 yrs the ratio of their ages will be 11 : 20. 9 years before, what was the respective ratio of their ages ?

(a) 3 : 5
(b) 2 : 7
(c) 1 : 4

(d) 2 : 5
(e) 5 : 7

Q7. How many different words can be formed with the letters of the word UNIVERSITY so that all the vowels are together?
(a) 60840
(b) 60480
(c) 60460
(d) 40680
(e) None of these



Q8. The radius of a circular wheel is $\frac{7}{4}$ metre. How many revolutions will it make in travelling 22 kilometres?
(a) 1500
(b) 2500
(c) 1800
(d) 2000
(e) 2400

Q9. A trader marks his goods 30% above the cost price and gives a discount of 15% on the marked price. What gain% does he make?
(a)10.5%
(b)12%
(c)10%
(d)14.5%
(e) 16.5%

Q10. 30 laborer's working 7 hours a day can finish a piece of work in 18 days. If the laborer's work 6 hours a day, then the number of laborers required to finish the same piece of work in 30 days will be
(a) 15
(b) 21
(c) 25
(d) 22
(e) 28

**Directions (11 - 15):** What will come in place of question mark (?) in the following number series?

Q11. 1, 2, 6, 33, 49, 174, ?
(a) 255
(b) 284
(c) 210
(d) 251
(e) 198

Q12. 1728, 1740, 1764, 1800, 1848, 1908, ?
(a) 1980
(b) 1988
(c) 2008
(d) 1976
(e) 1955

Q13. 4, 4, 9, 29, 119, 599,?
(a) 1242
(b) 1642
(c) 1824
(d) 3599
(e) 4023

Q14. 49, 47, 53, 41, 61, 31, ?
(a) 75
(b) 73
(c) 71
(d) 79
(e) 81

Q15. 80, 122, 168, 226, 288, 362, ?
(a) 420
(b) 440
(c) 480
(d) 460
(e) 520

**Solutions**

S1. Ans(e)
Sol. $7^{?} = \frac{343}{512} \times 64 \times \frac{56}{49}$
$7^{?} = 49$

$? = 2$

S2. Ans(c)
Sol. $5^{?} = 5^{2\times4.9} \div 5^{3\times0.6} \div 5^{3} \times 5^{0.5\times4}$
$5^{?} = 5^{9.8-1.8-3+2}$
$? = 7$



S3. Ans(b)
Sol. $? = 225 \times \frac{1}{45} \times \frac{1}{0.5} \times 75$
$? = 750$

S4. Ans(d)
Sol. $\frac{70}{100} \times 500 - \frac{200}{100} \times 74 + 180 - 382 = ?$
$? = 350 - 148 + 180 - 382$
$? = 0$

S5. Ans(e)
Sol. $1728 - \frac{10800}{36} + ? = 1331$
$? = 1331 - 1728 + 300$
$? = -97$

S6. Ans.(d)
Sol. Let present age of Anshu and her mother be $x$ & $y$ years respectively.
$\therefore \frac{x}{y} = \frac{1}{2}$
and $\frac{x+6}{y+6} = \frac{11}{20}$
on solving, $x = 27$ and $y = 54$
$\therefore$ Required ratio $= \frac{18}{45} = \frac{2}{5}$

S7. Ans.(b)
Sol. Required number of words $= \frac{4!\times7!}{2} = 60480$

S8. Ans.(d)

Sol. Number of revolutions $= \frac{22000}{2\times\frac{22}{7}\times\frac{7}{4}} = 2000$ revolutions.

S9. Ans.(a)
Sol. Let C.P. be Rs. 100
∴ S.P. = $\frac{85}{100} \times 130 =$ Rs. 110.5
∴ Profit% = $\frac{10.5}{100} \times 100 = 10.5\%$

S10. Ans.(b)
Sol. Required number of laborer's = $\frac{30\times7\times18}{6\times30} = 21$ days

S11. Ans. (c)
Sol.
$1+1^3 = 2$
$2+2^2 = 6$
$6+3^3 = 33$
$33+4^2 = 49$
$49+5^3 = 174$
So, $174+6^2 = 210$

S12. Ans. (a)
Sol.
1728+12=1740
1740+24=1764
1764+36=1800
1800+48=1848
1848+60=1908
So, 1908+72=1980



S13. Ans. (d)
Sol.
$4 \times 1 + 0 = 4$
$4 \times 2 + 1 = 9$
$9 \times 3 + 2 = 29$

$29 \times 4 + 3 = 119$
$119 \times 5 + 4 = 599$
$599 \times 6 + 5 = 3599$

S14. Ans. (b)
Sol.
49-(1× 2)=47
47+(2× 3)=53
53-(3×4)=41
41+(4×5)=61
61-(5×6)=31
So, 31+(6×7)=73

S15. Ans. (b)
Sol.
$9^2 - 1 = 80$
$11^2 + 1 = 121$
$13^2 - 1 = 168$
$15^2 + 1 = 226$
$17^2 - 1 = 288$
$19^2 + 1 = 362$
So, $21^2 - 1 = 440$