Asst Manager (Sys) 2024 - Pre Examination Training for Eligible Candidates: Quantitative Aptitude - Set 2								
S.N.	**Question**	**Choice1**	**Choice 2**	**Choice 3**	**Choice 4**	**Choice 5**	**Right Ans (Numeric)**	**Explanation**
	Direction:(Q 1-Q5): What approximate value will come in place of question mark (?) in the given question?							
1	(17.92*1.01+9.96*1.02)+4(3.95*1.03+3.02*5.01)=?	86	104	121	93	92	2	(18+10)+4(4+15)=28+4*19=104
2	√(28.02*14.04*?) = 124.03	36	34	26	39	42	4	√(28*14*?)=124; 28*14*?=124*124; ?= 39.22 i.e. 39
3	18.05*√? +1434.03=(3/4) of 2872.04	1600	1681	1521	1620	1580	1	18*√? + 1434=(3/4) of 2872; 18*√?=3*718-1434; 18*√?=720; √?=40; (?)=40*40=1600
4	55.07/(?) = √(256.07/289.02)	60	55	58	65	62	3	55/(?)=√(256/289); 55/(?)=16/17; ?= (55*17)/16; (?)=58.44
5	49.89% of 10000- 29.85% 0f 9000+65.05% of 130000=?	89800	86800	96800	79800	86500	2	50% of 10000- 30% 0f 9000+65% of 130000; 5000-2700+84500=86800

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S.N.	Question	Choice1	Choice 2	Choice 3	Choice 4	Choice 5	Right Ans (Numeric)	Explanation
6	A train 150 m long is running at a speed of 76 Km/hr. In what time (in sec) will it pass a man who is running at a speed of 4 Km/hr in the same direction in which the train is going?	7	7.25	7.5	8	8.5	3	Speed of the train relative to man= (76-4) Km/hr=72Km/hr=20m/sec Time taken by it to cross the man= Time taken by it to cover 150 m at a speed of 20 m/sec; time taken=(150/20)=7.5 sec
7	A man can row 21 km/hr in still water. It takes him twice as long as to row up as to row down. Find the rate of the stream (in Km/hr)?	7.5	8.5	7	6.5	6	3	Let man's rate upstream be x km/hr; his rate downstream= 2x km/hr Rate in still water= (x+2x)/2 =3x/2 km/hr. Now, 3x/2=21; x=14; Rate upstream=14 Km/hr; Rate downstream=28 Km/hr; rate of the stream=(28-14)/2=7 Km/hr
8	If the simple interest on a sum of money at 5% per annum for 3 years is Rs 600, find the compound interest (in Rs)on the same sum for the same period at the same rate	650	630.5	634.5	624.5	637.5	2	R= 5%; T = 3 years; S.I= Rs 600; Principal= (100*600)/(3*5)=4000; Amount(C.I)= $\{4000 *(1+5/100)^3\}$ = (4000*21*21*21)/(20*20*20); Rs 4630.50 ; C.I= Rs (4630.50 - 4000)= Rs 630.50
9	If the diagonal of a rectangle is 28 cm long and its perimeter is 72 cm, find the area of the rectangle (in cm^2)	250	265	256	356	512	3	Let length= x cm, breadth=y cm; Perimeter=2(x+y)=72; (x+y)= 36-----i); Also $x^2 + y^2 = (28)^2$ ----ii) On squaring both sides of i) $(x+y)^2 = (36)^2$ $x^2+y^2+2xy=1296$; 2xy=1296-784; .....value from ii) xy=area= 512/2= 256 cm^2
10	In how many different ways can the letters of the word ' MACHINE' be arranged so that the vowels may occupy only the odd position	572	575	576	580	589	3	There are 7 letters in the given word with 3 vowels and 4 consonants; 3 vowels can be arranged in any of the 3 places out of the 4 odd marked places(1st or 3rd or 5th or 7th); No. of ways of arranging the vowels: $^4P_3 = 24$; Also the 4 consonants can be arranged at the remaining 4 position: $^4P_4$ =24 ways; Required number of ways=24*24=576

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11	Two pipes can fill a tank in 12 hours and 20 hours respectively while a third pipe empties the full tank in 30 hours. If all the three pipes operate simultaneously, in how much time (in hours) will the tank be filled?	10.5	11.5	11	10	12	4	Net part filled in 1 hour= (1/12)+(1/20)-(1/30)=1/10; The tank will be full in 10 hours
12	The cost price of 20 artcles is equal to selling price of 25 articles. Find the gain or loss percent?	Loss 20%	Gain 25%	No loss No Gain	Gain 20%	Loss 25%	1	Let cost price of each article be Re 1; Cost price of 25 articles= Rs 25; Selling price of 25 articles = Rs 20; so Loss (%)= (20-25)*100/25 =Loss 20%
13	Mohit spends 60% of his income. His income increased by 25% and his expenses increased by 10%. By what percent did his savings increase?	50%	48%	47.50%	48.50%	46.50%	3	Assume that Mohit's income is Rs.100 as such Expenses are Rs.60. Increased income is Rs.125. Expenses increased to Rs.66. Resultantly Savings are 125-66 = 59; Incresae in savings is Rs.19 and as a percentage of previous savings 19/40 * 100 = 47.50%.
14	Train A crosses a pole in 50 seconds and another train Train B crosses it in 1 min and 10 sec. The length of Train A is one third of length of Train B. What is the ratio of the speed of Train A to that of Train B?	5:9	7:15	15:13	17:15	7:11	2	Assume that Legth of Train B is x mt. Then length of Train A = x/3 mt; Now ratio of speed of Train A to that of Train B =(x/3 ÷50) : (x÷70) = x/3*50 * 70/x = 7:15
15	A man was asked to find the average of a class of 15 students. By mistake he included 50 year old teacher as well and resultantly the average went up by three years. Find the actual average of that class of 15 students.	5 years	7 years	2 years	3 years	6 years	3	Assume that the average of class of students as x years. Now 15x= 16(x+3)-50 or 15x= 16x+48+-50; 15x=16x-2; x= 2 years