Simple Interest	
Q.No	Answer
Type I – Basic Questions	
1	**Answer: Option 'C'** **P = Rs.5000/-** **T = 2 years** **R = 12%** **I = PTR/100** **I = Rs.5000 × 2 × 12/100 = Rs.1200/-**
2	**Answer: Option 'B'** **P = Rs.6000/-** **T = 3 years** **R = 15/2%** **I = PTR/100** **I = (6000 × 3 × 15/2)/100** **I = 90 × 15 = Rs.1350/-**
3	**Answer: Option 'A'** **P = Rs.6000/-** **T = ?** **R = 8%** **I = Rs.1200/-** **I = PTR/100** **T = (I × 100)/PR** **T = (1200 × 100)/(6000 × 8)** **T = 5/2 ==> 2 1/2 years**
4	Answer: Option 'A' 2 years 3months = 27/12 = T P = Rs.6000/- R = 10% I = (6000 × 27/12 × 10)/100 = 27 × 50 I = Rs.1350/-
5	**Answer: Option 'D'** **T = 9 months = 9/12 = 3/4** **P = Rs.4000/- , R = 15%** **I =(4000 × 3/4 × 15) /100 = 30 v 15 = Rs.450/-** **I = Rs.450/-**
6	**Answer: Option 'B'** **73 days = 73/365 = T** **P = Rs.5000** **R = 12%** **I = (5000*73/365*12)/100 = 120/-** **I = Rs.120/-**
7	Correct Option: (c) We are given: 1) Principal = Rs. 5000 2) Rate of interest = 6 % 3) Time = 5th Feb to 19th April, 2015 First find the time period 5th Feb to 19th April, 2015 Feb = 28 – 5 = 23 days March = 31 days April = 19 days Total days = 23 + 31 + 19 = 73 days **Convert days into years, by dividing it by 365**

	Time = $\frac{73}{365} = \frac{1}{5}$ Simple Interest = $\frac{(P \times R \times T)}{100}$ = $\frac{[5000 \times 6 \times (1/5)]}{100}$ =Rs.60 **Simple Interest = Rs. 60**
8	**Answer: Option 'A'** **247.20**
9	**Answer: Option 'A'** **P = ?** **T = 3 years** **R = 6%** **I = Rs.900/-** **I = PTR/100** **P = 100I/TR** **P = (100 × 900)/(3 × 6)** **P = Rs.5000/-**
10	**Answer: Option 'C'** **I = Rs.400/-** **T = 3 years** **P = Rs.4000/-** **R = ?** **S.I = (P×T×R/100)** **R = (S.I×100)/(P×T)** **R = (400×100)/(4000×3)** **R = 10/3 = 3 1/3%**
11	**Answer: Option 'B'** **I = Rs.1120/-** **T = 2 years** **P = Rs.8000/-** **R = ?** **S.I = (P×T×R/100)** **R = (S.I×100)/(P×T)** **R = (1120×100)/(8000×2)** **R = 56/8 = 7%**
12	**Answer: Option 'B'** **P = Rs.4000/-** **T = ?** **R = 9%** **I = Rs.1080/-** **I = PTR/100** **T = I × 100/PR** **T = (1080 × 100)/(400 × 9)** **T = 3 years**
13	**Answer:** D) Rs. 3 **Explanation:** I = PTR/100 I = 25 x 4 x 0.03/100 I = 0.03 x 100 = 300 Ps = Rs. 3

14	Correct Option: (b) **We have to calculate the gain in 2 years.** **1) In case of Suresh** S.I. $\frac{10000 \times 4 \times 2}{100}$ = Rs. 800 **2) In case of Ramesh** S.I. $\frac{10000 \times 6 \times 2}{100}$ = Rs. 1200 Suresh has a pay a simple interest of Rs. 80 to the person from whom he borrowed Rs. 1000 and Ramesh has to pay Rs. 120 to Suresh. Hence, gain in 2 years = 1200 – 800 = Rs. 400 But we are asked to find gain of Suresh per year. Therefore, Gain in 1 year = 400 / 2 = Rs. 200
15	**Answer: Option 'B'** **2 years = Rs.120/-** **year = 120/2** **Rate of Interest = 1%** **100/1% × 120/2 = Rs.6000/-** **P = Rs.6000/-**
16	**Answer: Option 'B'** **2% ------> Rs.240/-** **3 years = Rs.240/-** **1 year = 240/3 = Rs.80/-** **100/2% × 80 = Rs.4000/-** **P = Rs.4000/-**
17	**Answer:** A) Rs.1200 **Explanation:** At 5% more rate, the increase in S.I for 10 years = Rs.600 (given) So, at 5% more rate, the increase in SI for 1 year = 600/10 = Rs.60/- i.e. Rs.60 is 5% of the invested sum So, 1% of the invested sum = 60/5 Therefore, the invested sum = 60 × 100/5 = Rs.1200
18	**Answer:** C) 0.3% **Explanation:** (1500 x R1 x 3)/100 => 4500 (R1-R2) = 1350 => (R1-R2)= 1350/4500 = 0.3 %
19	**Answer:** C) 12% **Explanation:** S.I. for 3 years = Rs. (12005 - 9800) = Rs. 2205. S.I. for 5 years = Rs2205/3×5= Rs.3675 Principle = Rs.(9800-3675) = Rs.6125 Hence, Rate = 100×3675/6125×5 =12%
20	**Answer:** D) Rs. 1250 **Explanation:** 2500 in 5th year and 3000 in 7th year So in between 2 years Rs. 500 is increased => for a year 500/2 = 250 So, per year it is increasing Rs.250 then in 5 years => 250 x 5 = 1250 Hence, the initial amount must be 2500 - 1250 = Rs. 1250

21	Correct Option: (d) **We are given,** 1) Nikhil borrowed some money at the rate of interest 5 % p.a. for first 2 years. 2) 8 % p.a. for next 5 years 3) 10 % p.a. for a period beyond 7 years. 4) He pays total interest of Rs. 8000 at the end of 10 years **Therefore, considering these 4 points, we can form a simple equation to find the money borrowed.** **Let the principal/money borrowed be x.** 4) Simple Interest = $\frac{(P \times R \times T)}{100}$ Total Simple Interest paid at the end 10 years= S.I.paid in 1st 2 years+S.I.paid in 1st 5 years+ S.I.paid in remaining 3 years $8000 = \frac{(x \times 5 \times 2)}{100} + \frac{(x \times 8 \times 5)}{100} + \frac{(x \times 10 \times 3)}{100}$ $8000 = \frac{(10x)}{100} + \frac{(40x)}{100} + \frac{(30x)}{100}$ 800000=80x x=Rs.10,000 **The money borrowed by Nikhil = Rs. 10,000**
22	**Answer:** C) 2900
23	Correct Option: (c) **Let the sum be P.** As the S.I. on sum of money P for 4 years at 15 % is Rs. 180 more than S.I. on same sum P for 5 years at 10 %. $\frac{(P \times 15 \times 4)}{100} - \frac{(P \times 10 \times 5)}{100} = 180$ $\frac{6P}{10} - \frac{5P}{10} = 180$ P=Rs.1800 **The required sum is Rs. 1800**
24	**Answer:** B) Rate = 8% and Time = 8 years. **Explanation:** Let sum = X. Then S.I = 16x/25 Let rate = R% and Time = R years. Therefore, (x * R * R)/100 = 16x/25 => R = 40/5 = 8 Therefore, Rate = 8% and Time = 8 years.
25	**Answer:** B) 50/9 % **Explanation:** Let sum = S. Then, amount = 7S/6 S.I. = 7S/6 - S = S/6; Time = 3 years. Rate = (100 x S) / (S x 6 x 3) = 5 5/9 = 50/9 %.
26	**Answer:** A) 3.46% **Explanation:** let the original rate be R%. Then, new rate = (2R)%. Note: Here, original rate is for 1 year(s); the new rate is for only 4 months i.e.1/3 year(s). 725*R*1/100+(362.50*2R*1)/(100*3)=33.50 => (2175 + 725) R = 33.50 x 100 x 3 => (2175 + 725) R = 10050
27	**Answer:** D) Both I and II are necessary to answer **Explanation:** Given : S.I. = Rs. 50. I gives, R = 10% p.a. II gives, T = 10 years.

	Sum = (100 x S.I)/(t x r) = Rs.(100 x 50)/(10 x 10) = Rs.50
28	**Answer:** D) Any two of the three **Explanation:** Clearly, any of the three will give us the answer
29	**Answer:** B) 6 **Explanation:** Let rate = R% and time = R years. Then,1200×R×R/100=432 432/12R2=432 > R = 6.
30	**Answer:** B) 6% **Explanation:** Principle amount = Rs. 29000 Interest = Rs. 10440 Let rate of interest = r% => So, time = r years According to the question, 10440 = 29000 x r x r/100 290 x r x r = 10440 r x r = 1044/29 = 36 r = 6 Hence, the rate of interest = 6% and time = 6 yrs.
	Type II
1	**Answer:** B) 25% **Explanation:** The rate of percent R is given by, $R = \frac{100 \times (3-1)}{8}$ $= \frac{100 \times 2}{8}$ $= 25\%$
2	**Answer: Option 'B'** **P = 1 , I = 1 , T = 5years R = ?** **I = PTR/100** **1 = 1×5×R/100** **R = 20%**
3	**Answer: Option 'B'** **Let principal be Rs P. Then, S.I = Rs P and Time = 8 years>** **Rate = (100 × S.I)/(P × T) = (100 × P/P × 8)% p.a** **= 25/2 % p.a = 12.5% p.a**
4	**Answer:** C) 6 times **Explanation:** A = P(1 + rt/100)

	So, A= 3P (it becomes triples) 3P = P(1 + 8r/100)→r = 25% Now, when t = 20 ⇒A = P(1 + 25*20/100) ⇒A = P(1+ 5)⇒A = 6P So, it becomes 6 times.
5	**Answer:** C) 10
	Type III
1	**Answer:** C) 16:15 **Explanation:** let the sum lent at 5% be Rs.x and that lent at 8% be Rs.(1550-x). then, Interest on x at 5% for 3 years + interest on (1550-x) at 8% for 3 years = 300 300x*5*3/100+1500-x*8*3/100=300 x=800 Required ratio = x : (1550-x) = 800 : (1550-800) = 800 : 750 = 16 : 15
2	**Answer:** A) Rs. 500 **Explanation:** (kx5x1)/100 + [(1500 - k)x6x1]/100 = 85 5k/100 + 90 – 6k/100 = 85 k/100 = 5 => k = 500
3	**Answer:** C) 2:3 **Explanation:** Let the principal be P and rate of interest be R%. Required ratio = $\left[\left(\frac{P*R*6/100}{P*R*9/100}\right)\right] = \frac{6PR}{9PR} = \frac{6}{9} = \frac{2}{3}$
4	**Answer:** A) Rs. 14,400 **Explanation:** Let the required Sum = Rs.S From the given data, 1008 = [(S x 11 x 5)/100] - [(S x 8 x 6)/100] => S = Rs. 14,400.
5	**Answer:** B) Rs. 4,000 **Explanation:** Let sum invested @ 5% be P1, @ 6% be P2 then @ 9% =17200-(P1+P2) So according to question P1*5*2/100 = P2*6*2/100 or P1 = (6/5) P2 Also P2*6*2/100 = [17200-(P1+P2)]*9*2/100 Or 2 P2 = [17200–(11/5)P2] * 3 Or (2 + 33/5)P2 = 17200 * 3 P2 = 17200 * 3 * 5 / 43 = 6000 So P1 = 6/5 P2 = 7200 So Sum invested @ 9% = 17200–(6000+7200) = Rs 4000
6	**Answer:** C) 4000