Partnership

Q.No	Answer
	Type I-Basic
1	Correct Option: B P : Q : R = 3 : 5 : 9 Hire charges paid by Q = Rs[680 × $\frac{5}{17}$] ⇒ 40 × 5 = Rs 200. Hence, option B is correct.
2	**Option C** **Solution:** 8p = 10q = 12r 4p = 5q = 6r q = 4p/5 r = 4p/6 = 2p/3 P : Q : R = p : 4p/5 : 2p/3 15:12:10 Q's share = 2590 * (12/37) = 70*12 = Rs. 840.
3	Correct Option: A Ratio of amount invested by P, Q, R = 45k : 70k : 90k = 9 : 14 : 18 Total profit = ₹ 164K Q's share = $\frac{14}{41}$ × 164k = 14 × 4k = ₹56k. Hence, option A is correct.
4	Correct Option: B Profit ratio = Investment by Puneet × Time : Investment by Sumit × Time : Investment by Amit × Time = 11 × 3 : 16.5 × 3 : 8.25 × 3 = 11 : 16.5 : 8.25 = 44 : 66 : 33 Amit's share in profit = $\frac{33}{143}$ × 19.5 = Rs 4.5 lakh ∴ 50% of Amit's share = $\frac{1}{2}$ × 4.5 = Rs 2.25 lakh Hence, option B is correct.
5	Correct Option: C Let the total investment = Rs x Mukul's investment = x × $\frac{2}{7}$ Rest investment = x – x × $\frac{2}{7}$ = $\frac{5x}{7}$ Let Atul's investment = Rs a, Rahul's investment = Rs b Rahul's investment + Atul's investment = $\frac{5x}{7}$ a + b = $\frac{5x}{7}$ b = $\frac{5x}{7}$ – a ... 1 According to the question, $\frac{2x}{7}$ + a = b

	$\frac{5x}{7} - a = \frac{2x}{7} + a$ (value of b is taken out from equation 1) $\frac{5x}{7} - \frac{2x}{7} = a + a$ $\frac{3x}{7} = 2a$ $a = \frac{3x}{14}$ = Atul's investment Rahul's investment = $x - \frac{3x}{14} - \frac{2x}{7}$ $= \frac{14x - 3x - 4x}{14}$ $= \frac{7x}{14} = \frac{x}{2}$ Investment Ratio, Mukul : Atul : Rahul = $\frac{2x}{7} : \frac{3x}{14} : \frac{x}{2}$ = 4 : 3 : 7 As Atul's Profit = Rs.1530 Total profit = $\frac{1530}{3} \times 14$ = Rs 7140 Hence, option C is correct.
Type II- Time is given	
1	**Answer:** Option **B** **Explanation:** Let their investments be Rs. *x* for 14 months, Rs. *y* for 8 months and Rs. *z* for 7 months respectively. Then, 14*x* : 8*y* : 7*z* = 5 : 7 : 8. Now, $\frac{14x}{8y} = \frac{5}{7} \Leftrightarrow 98x = 40y \Leftrightarrow y = \frac{49}{20}x$ And, $\frac{14x}{7z} = \frac{5}{8} \Leftrightarrow 112x = 35z \Leftrightarrow z = \frac{112}{35}x = \frac{16}{5}x$. $\therefore x : y : z = x : \frac{49}{20}x : \frac{16}{5}x = 20 : 49 : 64$.
2	**Option E** **Solution:** Ratio of shares of profit of A : B : C is 25300*7 : 25200*11 : 27500*7 23*7 : 252 : 25*7 23 : 36 : 25 Total of profit of A and C is (23+25)/(23+36+25) * 33600 = Rs 19,200
3	Correct Option: B Ratio of the capital = 10000 × 12 : 15000 × 9 : 18000 × 7 = 40 : 45 : 42 Chintu's profit is Rs 2100. 42x = 2100 x = 50 Difference between Ananya and Dhairya's profit = 45x – 40x = 5x = 5 × 50 = Rs 250 Hence, option B is correct.
4	Correct Option: D Suppose P invested Rs. 5x for 8 months and Q invested 6x for y months then,

	$\frac{5x \times 8}{6x \times y} = \frac{2}{3} \Rightarrow y = \frac{40x \times 3}{6x \times 2}$ $y = \frac{120x}{12x} \Rightarrow y = 10.$ Hence, option D is correct.
5	**Option B** **Solution:** Let N invest 'x' rupees so M will invest (x+250) Total investment made by M = (x+250)*4 and by N = 6x According to the problem- [[4(x+250) – 6x]/(1000+ 10x)]*1000 = 200. X = 200. Total investment = 200+250+200 = 650
6	**Option E** **Solution:** Tarun's contribution in the business = 1-[(1/2)+(1/3)] = 1/6 Prabhu's share : Sunny's share : Tarun's share (1/4)*(1/2):(1/2)*(1/3):(1/6)*1 3:4:4 Tarun's share in profit = (4/11)*1,21,000 = Rs.44,000
Type III- After some time second partner joins	
1	Correct Option: A Profit ratio investment ratio among Gita, Kanchan and Rekha Gita's investment for 36 months : Kanchan's investment for 30 months : Rekha's investment for 24 months = 60000 × 36 : 90000 × 30 : 135000 × 24 = 4 : 5 : 6 Hence, option A is correct.
2	Correct Option: D Let Q's Capital be Rs. x. Then = $\frac{4500 \times 12}{3x}$ $= \frac{4500 \times 12}{3x} = \frac{3}{5} \Rightarrow x = \frac{4500 \times 12 \times 5}{3 \times 3}$ ⇒ 1500 x 4 x 5 ⇒ Rs. 30,000. Hence, option D is correct.
3	E
4	**Answer:** Option **B** **Explanation:** Aman : Rakhi : Sagar = (70,000 x 36) : (1,05,000 x 30) : (1,40,000 x 24) = 12 : 15 : 16.
5	Correct Option: E Shubham's Profit = 6050 - 2750 = 3300 Rs. Shivam's profit = 2750 Rs. Ratio of the profit = 3300 : 2750 = 6 : 5 Because the ratio of the capital is equals to the ratio of the profit then, 2250 × 12 : 2500 × x = 6 : 5 5 (2250 × 12) = 6 (2500 × x) x = 9 months So Shivam invested after 3 months. Hence, option E is correct.
6	**Option B** **Solution:** Ratio of shares of profit of Arun : Vibha : Tisha 20000*4 + 23000*8 : 16000*4 + 19000*8 : 24000*8 => 20 + 23*2 : 16 + 19*2 : 24*2 => 11 : 9 : 8 So difference in profits of Arun and Tisha = [latex s="1″]\frac {11 – 8}{11+9+8} * 26,880 = Rs 1880
Type IV- Addition/Withdrawal of capital	
1	**Option E** **Solution:**

	Ratio of shares of profit of Priya : Varun : Rekha 2050*7 + 1750*5 : 2310*5 : 2730*5 => 2050 + 250*5 : 330*5 : 390*5 => 41+25 : 33 : 39 => 22 : 11 : 13 So total profits of Varun and Rekha = {11 + 13}/{22+11+13} * 11,500 = Rs 6000
2	**Correct Option: B** P : Q : R = (8000 × 3 + 6000 × 9) : (6000 × 3 + 8000 × 9) : (11000 × 6) ⇒ (24000 + 54000) : (18000 + 72000) : (6600) ⇒ 78000 : 90000 : 66000 ⇒ 26 : 30 : 22 ⇒ 13 : 15 : 11 ∴ Difference of Q's & R's shares $= Rs(35100 \times \frac{15}{39} - 35100 \times \frac{11}{39})$ ⇒ Rs.(900 × 15 – 900 × 11) ⇒ 13500 – 9900 ⇒ Rs 3600. Hence, option B is correct.
3	**Answer:** Option **A** **Explanation:** $A : B = \left[4x \times 3 + \left(4x - \frac{1}{4} \times 4x\right) \times 7\right] : \left[5x \times 3 + \left(5x - \frac{1}{5} \times 5x\right) \times 7\right]$ $= (12x + 21x) : (15x + 28x)$ $= 33x : 43x$ $= 33 : 43.$ ∴ A's share = Rs. $\left(760 \times \frac{33}{76}\right)$ = Rs. 330.
4	Correct Option: D Initially, A's capital = Rs. x B's capital = Rs.$\frac{3x}{2}$ Ratio of the equivalent capitals of A and B for 1 month $= (x \times 10 + \frac{3x}{4} \times 2) : (\frac{3x}{2} \times 8 + \frac{3x}{4} \times 4)$ $= (10x + \frac{3x}{4} \times 2) : (12x + 3x)$ = 23 : 30 A's share = $\frac{23}{53}$ × 53000 = ₹ 23000. Hence, option D is correct.
5	**Option B** **Solution**: A : B : C 4000*4 6000*6 8000*8 (4000-1000)*8 (6000+1000)*6 (8000-2000)*4 = 40000 : 78000 : 32000 20:39:16 A = 20/(20+39+16) * 7500=2000
6	**Option A** **Solution:** Their ratio's 30000*12: (40000*2+30000*6) : (50000*3+40000*4) 36:26:31 Total profit is Rs 27900 Then (36+26+31) 93 == 27900 Diff of Q-R (31-26) 5 ? ==>Rs1500

Type V- Active and sleeping partner	
1	**Option B** **Solution:** Profit sharing ratio is 25000*12 : 60000*8=5:8 Total profit 100% Edwin got 10% for Managing the business so remaining 90% is shared by both. Edwin got 10%profit + 5/13 * 90%profit 0.1p + 5/13 * (0.9p)=58,000 Then 5.8p/13=58000==>p=1,30,000. Now Thomas profit is 1,30,000-58,000=72,000.
2	**Answer:** Option **B** **Explanation:** For managing, A received = 5% of Rs. 7400 = Rs. 370. Balance = Rs. (7400 - 370) = Rs. 7030. Ratio of their investments = (6500 x 6) : (8400 x 5) : (10000 x 3) = 39000 : 42000 : 30000 = 13 : 14 : 10 $\therefore$ B's share = Rs. $\left(7030 \times \frac{14}{37}\right)$ = Rs. 2660.
3	**Option C** Let total Profit be x. Amount received by Ratan (from the total profit) =120×12=1440=120×12=1440 Amount received by Ranit (from Ratan) as interest =22500×10/100=2250 Let total profit =2x+1440=2x+1440 Then, Ranit and Ratan gets xx as share of the profit. Ranit's total income in the year = x+2250 Ratan's total income in the year =x+1440−2250=x−810 2(x−810)=x+2250 ⇒2x−1620=x+2250 ⇒x=3870 Total yearly profit =2x+1440= Rs.9180
4	**Option D** **Solution:** Profit received by N as working partner = 14.5% of Rs. 24000= Rs. 3480 Balance in profit = 24000-3480 = Rs. 20520 Ratio of M and N=1,80,000: 90,000==>2:1 Then M's share 2/3* 20520 =Rs13680
Type VI- Miscellaneous questions	
1	Correct Option: B Profit earned by C = $1 - (\frac{1}{3} + \frac{1}{4}) = 1 - \frac{7}{12} = \frac{5}{12}$ So, $\frac{5}{12}$ = 5,000 $\therefore$ 1 $\rightarrow$ 12,000 $\therefore$ Profit received by A = $\frac{1}{3} \times$ 12,000 = Rs. 4,000 Hence, option B is correct.
2	Correct Option: D Annual profit = 157300 A : B = 3 : 2 ⇔ 6 : 4 A : C = 2 : 1 ⇔ 6 : 3 A : B : C = 6 : 4 : 3 B's share = $\frac{4}{13} \times$ 157300 = 4 × 12100 = 48400/- Hence, option D is correct.
3	Correct Option: D Saurabh's investment = x, Sanjay' investment = x × 75%, Sanjay's investement is 80% of the Shubham's investment (x × 75%) Hence, Shubham's investment = x × 75% ÷ 80%

	Ratio of Saurabh : Sanjay : Shubham = x : x × 75% : x × 75% ÷ 80% = x × 80% : x × 80% × 75% : x × 75% = 16 : 12 : 15 Shubham's profit = 10500 Rs. = 10500 ÷ 15 × 43 = 30100 Rs. Hence option D is correct
4	**Answer:** Option **D** **Explanation:** Ratio of initial investments = $\left(\frac{7}{2} : \frac{4}{3} : \frac{6}{5}\right)$ = 105 : 40 : 36. Let the initial investments be 105*x*, 40*x* and 36*x*. $\therefore$ A : B : C = $\left(105x \times 4 + \frac{150}{100} \times 105x \times 8\right)$: (40*x* x 12) : (36*x* x 12) = 1680*x* : 480*x* : 432*x* = 35 : 10 : 9. Hence, B's share = Rs. $\left(21600 \times \frac{10}{54}\right)$ = Rs. 4000.
5	**Answer:** Option **B** **Explanation:** Let the total profit be Rs. 100. After paying to charity, A's share = Rs. $\left(95 \times \frac{3}{5}\right)$ = Rs. 57. If A's share is Rs. 57, total profit = Rs. 100. If A's share Rs. 855, total profit = $\left(\frac{100}{57} \times 855\right)$ = 1500.
6	Correct Option: D Current Ratio = 3 : 5 Ratio of Next year = 3 × 110% : 5 × 88% = 3 : 4 A's Profit = Rs. 3450 Total Profit = 3450 ÷ 3 × 7 = Rs. 8050 Hence, option D is correct.
7	Correct Option: D Azad invested Rs 55000 for a year and Rs 65000 for the next year. Hind invested Rs 70000 for 8 months and Rs 60000 for the next year. Capital Ratio = 55000 × 12 + 65000 × 12 : 70000 × 8 + 60000 × 12 = 660000 + 780000 : 560000 + 720000 = 1440000 : 1280000 = 9 : 8 Let total profit = Rs x Azad's profit = x × 50% × 50% + x × 50% × 9/17 $32375 = \frac{x}{4} + \frac{9x}{34}$ $32375 = \frac{35x}{68}$ x = 62900 Hence, option D is correct.
8	**Option A** **Solution**: 120000*1 : 84000*1 10: 7 (difference = 3) 3 == 900 1 == 300 17 == 5100 ; this is 30% 100%=5100*100/30 = 17,000
9	**Option A** **Solution**: Quarters means 3 months each Ratio of investments in 2nd quarter – 1 : 4 : 2, so let amounts – x, 4x, 2x

	Ratio of investments in 3rd quarter – 3 : 2 : 3, so let amounts – 3y, 2y, 3y In last quarter, respective amount is double then in 2nd quarter, so amounts – 2x, 8x, 4x **In the last quarter the ratio of investments was same as in 2nd quarter. — this is not required to solve question.** Given: (2000 + 2x + 3y) = 1400 + (800+x+3y) Solve, x = Rs 200 Now ratio of profit share —A : B : C is 800*3 + x*3 + 3y*3 + 2x*3 : 1600*3 + 4x*3 + 2y*3 + 8x*3 : 2000*3 + 2x*3 + 3y*3 + 4x*3 3 gets cancelled, gives (800+3x+3y) : (1600+12x+2y) : (2000+6x+3y) Put x = 200 gives 1400+3y : 4000+2y : 3200+3y Now given (4000+2y)/(1400+3y + 4000+2y + 3200+3y) = 66/153 (2000+y)/(4300+4y) = 22/51 Solve, y = Rs 200 So now the total investment is—(800+3x+3y) + (1600+12x+2y) + (2000+6x+3y) = (4400 + 21x + 8y) put x = 200, y = 200, total investment = Rs 10,200
10	**Option D** **Solution**: 800, 1600, 2000 as it is for 3 months, and then for next 9 months x, 4x and 2x So ratio of profit share – A : B : C is 800*3 + 200*9 : 1600*3 + 800*9 : 2000*3 + 400*9 7 : 20 : 16 So profit share of A = 7/43 * 19350 = Rs 3150
11	**Answer:** Option **E** **Explanation:** Let us name Ravi, Gagan and Nitin by R, G and N respectively. **I.** R : G : N = 2 : 4 : 7. **II.** N = 8750.. From I and II, we get: When N = 7, then G = 4. When N = 8750, then G = $\left(\frac{4}{7} \times 8750\right)$ = 5000. Thus, both I and II are needed to get the answer. ∴ Correct answer is (E).
12	**Answer:** Option **E** **Explanation:** Let the total investment be Rs. *x*. Then, R = $\left(\frac{x}{4}\right)$ R + V = $\left(\frac{75}{100} \times x\right) = \frac{3x}{4}$ V = $\left(\frac{3x}{4} - \frac{x}{4}\right) = \frac{x}{2}$. ∴ A = $x - \left(\frac{x}{4} + \frac{x}{2}\right) = \frac{x}{4}$ R : A : V = $\frac{x}{4} : \frac{x}{4} : \frac{x}{2}$ = 1 : 1 : 2. Thus, both I and II are needed to get the answer. ∴ Correct answer is (E).