Vidhigya Challenger Series
Daily Practice Sheet 12
Quantitative Techniques

Directions (1-5): Read the following information carefully and answer the questions that follow.
There are three persons 'A', 'B' and 'C'. They are working in a firm named 'Vidhi Enterprise'. All three of them work from Monday to Saturday. 'A' takes 8 hours to complete a work on Monday while 'B' and 'C' takes 7 and 6 hours to complete the same work on the same day. 'A' can complete a task in 7 hours on Tuesday and 'B' and 'C' can complete the same task in 4 and 6 hours on Tuesday. On Wednesday, 'A' can complete a work in 6 hours, 'B' in 4 hours and 'C' in 5 hours. When the 4^{th} day of the week arrives, i.e. Thursday, 'A' can complete a work in 8 hours, 'B' in 6 hours and 'C' in 8 hours while on Friday 'C' can complete a work in 4 hours and 'A' & 'B' both take 5 hours each to complete the same work. The last working day of the week is Saturday. On this day, 'A' can complete a work in 4 hours while 'B' and 'C' can complete the same work in 7 hours each.

1. On 'Sunday' A takes half the time taken by him on Tuesday to complete a work, B takes 50% of the time taken by him on Saturday and C takes one hour more than what he takes on Thursday. Find the no. of hours in which of three of them will complete the work if they work together.
(a) 67/23 (b) 63/43 (c) 61/37 (d) 65/29

2. What is the ratio of efficiency of work done by A, B and C on Tuesday?
(a) 14:15:22 (b) 10:17:21 (c) 14:10:15 (d) 12:21:14

3. How much time will 'A', 'B' and 'C' take to complete thrice the work on Friday?
(a) 20/13 hours (b) 60/39 hours (c) 20/39 hours (d) 60/13 hours

4. Find the ratio of total no. of hours for which 'A' and 'C' worked from Monday to Saturday to that of 'C'.
(a) 74:18 (b) 71:36 (c) 37:18 (d) 37:33

5. On Thursday, A started working alone and left after one-third of the task was completed. B completed half of the remaining work alone and rest of the work was completed by C alone. Find the total no. of hours in which the work gets completed.
(a) 22/3 (b) 20/3 (c) 22/9 (d) 20/9

Answers & Explanations

1. Ans. b

Sol. COMMON EXPLANATION

	A	B	C
MONDAY	8	7	6
TUESDAY	7	4	6
WEDNESDAY	6	4	5
THURSDAY	8	6	8
FRIDAY	5	5	4
SATURDAY	4	7	7
TOTAL	38	33	36

Required no. of days
A = 7/2
B = 7/2
C = 9
LCM = 63
Thus, efficiency of A = 18, efficiency of B = 18, efficiency of C = 7
No. of days = 63/(18+18+7) = 63/43
Hence, option (b) is correct.

2. Ans. d

Sol. Following the COMMON EXPLANATION
No. of hours taken by A, B and C = 7, 4 and 6
LCM = 84
Efficiency of A, B and C = 12, 21 and 14
Thus, ratio of efficiency of A, B and C = 12:21:14
Hence, option (d) is correct.

3. Ans. d

Sol. Following the COMMON EXPLANATION
No. of hours taken by A, B and C = 5, 5 and 4
LCM = 20
Efficiency of A, B and C = 4, 4 and 5
Total efficiency = 13
No. of days required = (3*20)/13 = 60/13
Hence, option (d) is correct.

4. Ans. c

Sol. Following the COMMON EXPLANATION
Required ratio = (A+C): C = (38+36): 36 = 74:36 = 37:18
Hence, option (c) is correct.

5. Ans. a

Sol. Following the COMMON EXPLANATION
The no. of hours taken by A, B and C on Thursday = 8, 6 and 8
LCM = 24
Efficiency of A, B and C = 3, 4 and 3
A completed 1/3rd of the work = 24/3 = 8
Time = 8/3
B completed half of the remaining = (24-8)/2 = 16/2 = 8
Time = 8/4 = 2
C completed half of the remaining = (24-8)/2 = 16/2 = 8
Time = 8/3
Total time = 8/3 + 2 + 8/3 = 2 + 16/3 = 22/3
Hence, option (a) is correct.