1. The total marks obtained by a student in Physics, Chemistry and Mathematics together is 120 more than the marks obtained by him in Physics, and Mathematics together?

a. 40

b. 60

c. 120

d. Cannot be determined

Ans: B

$$P + C + M = C + 120 \Rightarrow P + M = 120.$$

$$\therefore \text{ Required average } = \frac{P+M}{2} = \frac{120}{2} = 60.$$

2. The monthly incomes of five persons are Rs.1132, Rs.1140, Rs.1144, Rs.1136 and Rs.1148 respectively. What is their arithmetic mean?

  a. Rs. 1100

  b. Rs. 1120

  c. Rs. 1132

  d. Rs. 1140

    Ans: D

$$\text{Arithmetic mean } = ₹\left(\frac{1132+1140+1144+1136+1148}{5}\right)$$

$$= ₹\left(\frac{5700}{5}\right) = ₹1140.$$

3. Find the average of all the numbers between 6 and 34 which are divisible by 5.

a. 18

b. 20

c. 24

d. 30

Ans: B

Numbers between 6 and 34, which are divisible by 5 are 10, 15, 20, 25 and 30.

$$\therefore \text{Average of above numbers} = \frac{10+15+20+25+30}{5} = \frac{100}{5} = 20$$

4. Out of 10 teachers of a school, one teacher retires and in place of him a new teacher 25 years old joins. As a result of it average age of the teachers reduces by 3 years. Age of the retired teacher (in years) is

a. 55

b. 60

c. 58

d. 56

Ans: A

Total number of teachers = 10

Age of new teacher = 25 years

Age of the retired teacher

= (25 + 3 × 10) years

= 55 years

5. The average of the first nine prime numbers is

(a) 9   (b) 11

(c) $11\frac{1}{9}$ (d) $11\frac{2}{9}$

Ans: C

$$\text{Average} = \left(\frac{2+3+5+7+11+13+17+19+23}{9} \right)$$

$$= \frac{100}{9} = 11\frac{1}{9}.$$

6. The average weight of 8 men is increased by 1.5 kg when one of the men, who weight 65 kg is replaced by a new man. The weight of the new man is

a. 70 kg

b. 74 kg

c. 76 kg

d. 77 kg

Ans: D

. Total weight increased = (8 × 1.5) kg = 12 kg.
  Weight of the new man = (65 + 12) kg = 77 kg.

7. A motorist travel to a place 150 km away at an average speed of 50 km/hr and returns at 30 km/hr. His average speed for the whole journey in km/hr is

a. 35

b. 37

c. 37.5

d. 40

Ans: C

$$\text{Average speed} = \frac{2xy}{x+y} = \left(\frac{2 \times 50 \times 30}{50+30}\right) \text{km/hr} = 37.5 \text{ km/hr.}$$

8. A man travels by a car to his office at 60 km/hr and returns home along the same route at 20 km/hr. Find the average speed of his whole journey.

a. 40 km/hr

b. 50 km/hr

c. 30km/hr

d. 25 km/hr

Ans: C

$$\text{Average speed} = \frac{20 \times 60 \times 20}{60+20} = \frac{2 \times 60 \times 20}{80} = \mathbf{30\ km/h}$$

9. Average age of 15 students of a class is 15 years. Out of these the average age of 5 students is 14 years and that of the other 9 students is 16 years. The age of the 15th student is

a. 11 years

b. 14 years

c. 15 years

d. 16 years

Ans: A

Total age of 15 students = 15 × 15 = 225 years

Sum of ages of 5 students = 5 × 14 = 70 years

Sum of ages of 9 students = 9 × 16 = 144 years

∴ Age of 15th student = (1) − (2) − (3) = 225 − (70 + 144) = **11 years**

10. The body weight of seven students of a class is recorded as 54 kg, 78 kg, 43 kg, 82 kg, 67 kg, 42 kg and 75 kg. What is the average body weight of all the seven students?

a. 63 kg

b. 69 kg

c. 71 kg

d. 73 kg

Ans: A

Average body weight

$$= \left(\frac{54 + 78 + 43 + 82 + 67 + 42 + 75}{7} \right) kg$$

$$= \left(\frac{441}{7} \right) kg = 63 \text{ kg.}$$