

Nucleus Software mock – 1

Q1. There are 3 vacancies in a firm and 15 applicants. Find the total number of ways of filling these vacancies

- (a) 3375 (b) 2730 (c) 560 (d) 600 (e) None of these

Q2. The number of ways of selecting four numbers from 1 to 30 so as to exclude every selection of four consecutive numbers is

- (a) 27378 (b) 29465 (c) 26368 (d) 11448 (e) None of these

Q3. A train does a journey without stopping in 8 hours. If it had traveled 5 km an hour faster, it would have done the journey in 6 hours 40 min. What is its slower speed?

- (a) 35 km/hr (b) 25 km/hr (c) 40 km/hr (d) 20 km/hr (e) 30 km/hr

Q4. A person sets to cover a distance of 12 km in 45 minutes. If he covers $\frac{3}{4}$ of the distance in $\frac{2}{3}$ of time, then what is the speed in the remaining time?

- (a) 16 km/hr (b) 8 km/hr (c) 12 km/hr (d) 55 km/hr (e) 10 km/hr

Q5. In an assembly election, a candidate got 55% of the total valid votes. 2% of the total votes were declared invalid. If the total number of voters is 104000, then the number of valid votes polled in favour of the candidate is

- (a) 56056 (b) 56506 (c) 56560 (d) 56650

Q6. If 8 men or 12 women can do a piece of work in 25 days, in how many days, can the work be done by 6 men and 11 women working together?

- (a) 12 days (b) 15 days (c) 9 days (d) 18 days (e) 10 days

Q7. Some men promised to do a job in 18 days, but 6 of them became absent and remaining men did the job in 20 days. What is the original number of men?

- (a) 50 men (b) 60 men (c) 65 men (d) 70 men (e) 55 men

Q8. The product of the digits of a two-digit number is one-third of that number. If we add 18 to the required number we get a number consisting of the same digits written in reverse order. Find the number

- (a) 42 (b) 24 (c) 72 (d) 27 (e) None of these

Q9. The red blood cells in a blood sample grows by 10% per hour in first two hours, decreases by 10% in next one hour, remains constant in next one hour and again increases by 5% per hour in next two hours. If the original count of the red blood cells in the sample is 40000, find the approximate red blood cell count at the end of 6 h.

- (a) 48000 (b) 48025 (c) 48054 (d) 48920

Q10. A boy aged 12 years is left with Rs. 100000 which is under a trust. The trustees invest the money at 6% per annum and pay the minor boy a sum of Rs. 2500, for his pocket money at the end of each year. The expenses of trust come out to be Rs. 500 per annum. Find the amount that will be handed over to the minor boy after he attains the age of 18 years.

- (a) Rs. 118000 (b) Rs. 120000 (c) Rs. 125000 (d) Rs. 150000

Q11. Bill, Simon, and John are brothers, given Simon is the eldest. Bill is as many years younger than one brother as he is older than the other. Simon is 7 years younger than twice the age of John. John is 5 years older than half the age of Bill. What is the sum of the ages of Bill, Simon and John?

- (a) 12 (b) 24 (c) 48 (d) 42 (e) Can't say

Q12. Cost price of each of the articles A and B is Rs. 'X'. Article A was sold at a profit of 10% and article B was sold at a profit of 30%. If the overall profit earned after selling both the articles is Rs. 136/-, what is the value of 'X'?

- (a) 2 (b) 140 (c) 340 (d) None of these

Q13. In a school 40% of the students play football and 50% play cricket. If 18% of the students neither play football nor cricket the percentage of the students playing both is

- (a) 8% (b) 22% (c) 32% (d) 40%

Q14. A motorboat, whose speed in 15 km/hr in still water goes 30 km downstream and comes back in a total of 4 hours 30 minutes. The speed of the stream (in km/hr) is:

- (a) 4 (b) 5 (c) 6 (d) 10

Q15. The simple interest on a certain sum for 8 months at 4% per annum is Rs. 129 less than the simple interest on the same sum for 15 months at 5% per annum. The sum is

- (a) Rs. 3600 (b) Rs. 2529 (c) Rs. 2400 (d) Rs. 2580

Q16. The average age of 30 students of a class is 14 years 4 months. After admission of 5 new students in the class the average becomes 13 years 9 months. The youngest one of the five new students is 9 years 11 months old. The average age of the remaining 4 new students is

- (a) 10 years 4 months (b) 11 years 2 months (c) 12 years 4 months (d) 13 years 6 months

Q17. The effective annual rate of interest corresponding to a nominal rate of 6% per annum payable half-yearly is:

- (a) 6.06% (b) 6.07% (c) 6.08% (d) 6.09%

Q18. A cube of edge 15 cm is immersed completely in a rectangular vessel containing water. If the dimensions of the base of the vessel are 20 cm × 15 cm, find the rise in water level.

- (a) 10.25 cm (b) 11.25 cm (c) 12.25 cm (d) 13.25 cm

Q19. Try to check for the difference between numbers or multiplication, division pattern. Find the odd one out?

36, 54, 18, 27, 9, 18.5, 4.5

- (a) 4.5 (b) 18.5 (c) 54 (d) 18

Q20. Find the odd one out in the following:

Mars, Earth, Saturn, Sun, Neptune, Mercury

- (a) Mars (b) Mercury (c) Neptune (d) Sun

Q21. The volume of a cube is 1728 cc. Find its surface.

- (a) 864 Sq.cm (b) 648 Sq.cm (c) 486 Sq.cm (d) 468 Sq.cm

Q22. In a lottery, there are 10 prizes and 25 blanks. A lottery is drawn at random. What is the probability of getting a prize?

- (a) $\frac{1}{10}$ (b) $\frac{2}{5}$ (c) $\frac{2}{7}$ (d) $\frac{5}{7}$

Q23. A and B take part in 100 m race. A runs at 5 kmph. A gives B a start of 8 m and still beats him by 8 seconds. The speed of B is:

- (a) 5.15 kmph (b) 4.14 kmph (c) 4.25 kmph (d) 4.4 kmph

Q24. Two pipes A and B can fill a cistern in $37\frac{1}{2}$ minutes and 45 minutes respectively. Both pipes are opened. The cistern will be filled in just half an hour, if the B is turned off after:

- (a) 5 min. (b) 9 min. (c) 10 min. (d) 15 min.

Q25. A boat can travel with a speed of 13 km/hr in still water. If the speed of the stream is 4 km/hr, find the time taken by the boat to go 68 km downstream.

- (a) 2 hours (b) 3 hours (c) 4 hours (d) 5 hours

Q26. Two stations A and B are 110 km apart on a straight line. One train starts from A at 7 a.m. and travels towards B at 20 kmph. Another train starts from B at 8 a.m. and travels towards A at a speed of 25 kmph. At what time will they meet?

- (a) 9 a.m. (b) 10 a.m. (c) 10.30 a.m. (d) 11 a.m.

Q27. A and B invest in a business in the ratio 3:2. If 5% of the total profit goes to charity and A's share is Rs. 855, the total profit is:

- (a) Rs. 1425 (b) Rs. 1500 (c) Rs. 1537.50 (d) Rs. 1576

Q28. Solve the following simplification questions

$5 \div \sqrt{5} = ?$

- (a) $\sqrt{5}$ (b) 5 (c) 25 (d) 0.05

Q29. Find the least number of possible weights that can be used to measure 63 gm of gold using a single weight of 1 gm?

- (a) 63 (b) 62 (c) 10 (d) 6

Q30. $(\sqrt{289}/34) \times (68/\sqrt{1156}) \times (\sqrt{961}/62) = ?$

- (a) $\frac{1}{2}$ (b) $\frac{3}{4}$ (c) $\frac{5}{6}$ (d) $\frac{7}{8}$

Q31. In a 500 m race, the ratio of the speeds of two contestants A and B is 3 : 4. A has a start of 140 m. Then, A wins by:

- (a) 60 m (b) 40 m (c) 20 m (d) 10 m

Q32. Three partners shared the profit in a business in the ratio 5:7:8. they had partnered for 14 months, 8 months and 7 months respectively. What was the ratio of their investments?

- (a) 5:7:8 (b) 20:49:64 (c) 38:28:21 (d) None of these

Q33. A student finds the average of ten 2 digit numbers. While copying numbers, by mistake, he writes one number with its digits interchanged. As a result his answer is 1.8 less than the correct answer. The difference of the digits of the number, in which he made mistake, is

- (a) 6 (b) 4 (c) 3 (d) 2

Q34. The average of all the numbers between 6 and 50 which are divisible by 5 is:

- (a) 22 (b) 27.5 (c) 28.5 (d) 30

Q35. In a regular week, there are 5 working days and for each day, the working hours are 8. A man gets Rs. 2.40 per hour for regular work and Rs. 3.20 per hours for overtime. If he earns Rs. 432 in 4 weeks, then how many hours does he work for ?

- (a) 160 (b) 175 (c) 180 (d) 195

Q36. The ratio between the length and the breadth of a rectangular park is 3 : 2. If a man cycling along the boundary of the park at the speed of 12 km/hr completes one round in 8 minutes, then the area of the park (in sq. m) is:

- (a) 15360 (b) 153600 (c) 30720 (d) 307200

Q37. The sum of the digits of a two-digit number is 15 and the difference between the digits is 3. What is the two-digit number?

- (a) 69 (b) 78 (c) 96 (d) Cannot be determined (e) None of these

Q38. The product of two numbers is 9375 and the quotient, when the larger one is divided by the smaller, is 15. The sum of the numbers is:

- (a) 380 (b) 395 (c) 400 (d) 425

Q39. The product of two numbers is 4107. If the H.C.F. of these numbers is 37, then the greater number is:

- (a) 101 (b) 107 (c) 111 (d) 185

Q40. The least multiple of 7, which leaves a remainder of 4, when divided by 6, 9, 15 and 18 is:

- (a) 74 (b) 94 (c) 184 (d) 364

Answer key

1	B	9	B	17	D	25	C	33	D
2	A	10	A	18	B	26	B	34	B
3	B	11	C	19	B	27	B	35	B
4	C	12	C	20	D	28	A	36	B
5	A	13	A	21	A	29	D	37	D
6	B	14	B	22	C	30	A	38	C
7	B	15	A	23	B	31	C	39	C
8	A	16	A	24	B	32	B	40	D