Quant Mega Quiz for SSC Tier - 1

Q1. Two donkeys are standing 400 meters apart. First donkey can run at a speed of 3 m/sec and the second can run at 2 m/sec. If two donkeys run towards each other after how much time (in seconds) will they bump into each other?
(a) 40
(b) 60
(c) 80
(d) 400

Q2. A man travels for 14 hours 40 minutes. He covers half of the journey by train at the rate of 60 km/hr. and rest half by road at the rate of 50 km/hr. The distance travelled by him is?
(a) 720 kms
(b) 800 kms
(c) 960 kms
(d) 1000 kms

Q3. A man can cover a certain distance in 3 hours 36 minutes if he walks at a speed of 5 km/hr. If he covers the same distance on cycle at the rate of 24 km/hr. then the time taken by him in minutes is?
(a) 40
(b) 50
(c) 55
(d) 45

Q4. Two rifles are fired from the same place at a difference of 11 min. 45 seconds. But a man who is coming towards the same place in a train hears the second sound after 11 minutes. Find the speed of the train (Assuming speed of sound = 330 m/s)?
(a) 81 km/hr.
(b) 72 km/hr.
(c) 36 km/hr.
(d) 108 km/hr.

Q5. If a distance of 50 m is covered in 1 minute, 90 m in 2 minutes and 130 m in 3 minutes and so on find the distance covered in 15 minutes?
(a) 650 m
(b) 610 m
(c) 750 m
(d) 1000 m

Q6. The distance between place A and B is 999 km. An express train leaves place A at 6 am and runs at a speed of 55.5 km/hr. The train stops on the way for 1 hour 20 minutes. It reaches B at?
(a) 12 AM
(b) 1:20 PM
(c) 12 PM
(d) 1:20 AM

Q7. Two trains, A and B, start from stations X and Y towards Y and X respectively. After passing each other, they take 4 hours 48 minutes and 3 hours 20 minutes to reach Y and X respectively. If train A is moving at 45 km/hr., then the speed of the train B is?
(a) 60 km/hr.
(b) 64.8 km/hr.
(c) 54 km/hr.
(d) 45 km/hr.

Q8. A is twice as fast runner as B, and B is thrice as fast runner as C. If C travelled a distance in 1 hour 54 minutes, the time taken by B to cover the same distance is?
(a) 19 min.
(b) 38 min.
(c) 57 min.
(d) 51 min.

Q9. A man has to be at a certain place at a certain time. He finds that he shall be 20 minutes late if he walks at 3 km/hour speed and 10 minutes earlier if he walks at a speed of 4 km/hour. The distance he has to walk is?
(a) 24 km
(b) 12.5 km
(c) 10 km
(d) 6 km

Q10. Ravi and Ajay start simultaneously from a place A towards B, 60 km apart. Ravi's speed is 4km/hr. less than that of Ajay. Ajay, after reaching B, turns back and meets Ravi at a place 12 km away from B. Ravi's speed is?
(a) 12 km/hr.
(b) 10 km/hr.
(c) 8 km/hr.
(d) 6 km/hr.

Q11. A man completed a certain journey by a car. If he covered 30% of the distance at the speed of 20km/hr. 60% of the distance at 40km/hr. and the remaining distance at 10km/hr. his average speed for the whole journey was?
(a) 25 km/hr.
(b) 28 km/hr.
(c) 30 km/hr.
(d) 33 km/hr.

Q12. In covering a distance of 30 km, Abhay takes 2 hours more than Sameer. If Abhay doubles his speed, then he would take 1 hour less than Sameer. Abhay's speed (in km/hr.) is?
(a) 5
(b) 6
(c) 6.25
(d) 7.5

Q13. A and B started at the same time from the same place for a certain destination. B walking at 5/6 of A's speed reached the destination 1 hour 15 minutes after A. B reached the destination in?
(a) 6 hours 45 minutes
(b) 7 hours 15 minutes
(c) 7 hours 30 minutes
(d) 8 hours 15 minutes

Q14. Two persons ride towards each other from two places 55 km apart, one riding at 12km/hr. and the other at 10 km/hr. In what time will they be 11 km apart?
(a) 2 hours and 30 minutes
(b) 2 hours and 45 minutes
(c) 1 hour and 30 minutes
(d) 2 hours

Q15. In a 100m race, Raman defeats Aman by 8 seconds. If the speed of Raman is 30 Kmph, then the speed of Aman is?
(a) 12 km/hr.
(b) 16 km/hr.
(c) 18 km/hr.
(d) 24 km/hr.

Q16. Two trains of equal length are running on parallel lines in the same direction at 46 km/hour and 36 km/hour. The faster train passes the slower train in 36 seconds. The length of each train is?
(a) 72 m
(b) 80 m
(c) 82 m
(d) 50 m

Q17. A goods train starts running from a place at 1 P.M. at the rate of 18 km/hour. Another goods train starts from the same place at 3 P.M. in the same direction and overtakes the first train at 9 P.M. The speed of the second train in km/hr.is?
(a) 24
(b) 30
(c) 15
(d) 18

Q18. A thief is noticed by a policeman from a distance of 200m. The thief starts running and the policeman chases him. The thief and the policeman run at the rate of 10 km/hr. and 11 km/hr. respectively. What is the distance between them after 6 minutes?
(a) 200 m
(b) 100 m
(c) 150 m
(d) 180 m

Q19. A constable is chasing a thief, he is 114 meters behind the thief. The constable runs 21 meters and the thief runs 15 meters in a minute. In what time will the constable catch the thief?
(a) 17 min.
(b) 16 min.
(c) 19 min.
(d) 18 min.

Q20. The ratio of length of two trains is 5: 3 and the ratio of their speed is 6: 5. The ratio of time taken by them to cross a pole is?
(a) 18: 25
(b) 5: 6
(c) 25: 16
(d) 25: 18

Q21.
If $6x^2 - 12x + 1 = 0$,
then the value of $27x^3 + \dfrac{1}{18\,x^3}$ is
(a) 234
(b) 162
(c) 198
(d) 189

Q22.
$x^4 + x^{-4} = 1154$, $(x > 0)$,
then the value of $x^3 + x^{-3}$?
(a) 198
(b) 234
(c) 189
(d) 36

Q23.
If $x = a + \dfrac{1}{a}$ and $y = a - \dfrac{1}{a}$,
then the value of $x^4 + y^4 - 2\,x^2\,y^2$ is?
(a) 4
(b) 8
(c) 16
(d) 64

Q24.

If $a^3 - b^3$ = 56 and a − b = 2,

what is the value of $(a^2 + b^2)$?

(a) 12

(b) 20

(c) 28

(d) 32

Q25.

$x^2 + \dfrac{1}{x^2}$ = 38,

then find the value of $\dfrac{6x\,(x-1)}{x^3 - x^2 - x + 1}$

(a) 0

(b) 1

(c) 2

(d) 3

Q26.

If (a > b) such that a^2 + ab = 21 and ab + b^2 = -9,

then find a − b =?

(a) $2\sqrt{5}$

(b) $4\sqrt{2}$

(c) $5\sqrt{3}$

(d) $6\sqrt{6}$

Q27.

If a^3 = 117 + b^3 and a = 3 + b,

then the value of (a + b) is?

(a) ± 7

(b) ± 49

(c) ± 13

(d) 0

Q28.

If a + b + c = 12 and $a^2 + b^2 + c^2$ = 134, find the value of

bc (b + c) + ca (c + a) + ab (a + b) + 3abc = ?

(a) 48

(b) 60

(c) 66

(d) 72

Q29.

If $x^2 + y^2 + z^2 = xy + yz + zx$,

then the value of $\dfrac{3x^4 + 7y^4 + 5z^4}{5x^2y^2 + 7y^2z^2 + 3z^2x^2}$

(a) 1
(b) 2
(c) 0
(d) -1

Q30.

If $a^3 + b^3 = 20$ and a + b = 5,

then find the value of $a^4 + b^4 =$?

(a) 24
(b) 26
(c) 25
(d) 23