Quant Mega Quiz for RRB NTPC

Q1. A thief is spotted by a policeman from a distance of 350 metre. When the policeman starts the chase, the thief also starts running. Assuming the speed of the thief as 5 km/h and that of the policeman as 7 km/h, how far the thief would have run, before he is over- taken?

(a) 875 metres
(b) 700 metres
(c) 1050 metres
(d) 525 metres

Q2. A does 75% of a work in 25 days. He then calls in B and they together finish the remaining work in 5 days. How long B alone would take to do the whole work?

(a) 50 days
(b) 80 days
(c) 24 days
(d) 37.5 days

Q3. The average of 29 consecutive even integers is 60. The highest of these integers is

(a) 88
(b) 118
(c) 176
(d) 120

Q4. What should be added to 5(2x-y) to obtain 4(2x - 3y) + 5(x + 4y) ?

(a) 3x - 13y
(b) 3x + 13y
(c) 13x - 3y
(d) 13x + 3y

Q5. If 3(2 - 3x) < 2 – 3x ≥ 4x – 6; then x can take which of the following values?

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

Q6. If $sec^2A + cosec^2A = X$, then the value of X is
(a) $tan^2A\ cot^2A$
(b) sinA cosA
(c) secA cosecA
(d) $sec^2A\ cosec^2A$

Q7. The effective annual rate of interest corresponding to a nominal rate of 15% per annum payable half-yearly is
(a) 15.56 percent
(b) 30 percent
(c) 31.13 percent
(d) 15 percent

Q8.If (4x - 3) - (2x + 1) = 4, then the value of x is
(a) 0
(b) 1
(c) 4
(d) 3

Q9. 25% discount is offered on an item. By applying a promo code a customer wins 10% cash back. What is the effective discount?
(a) 35.75 percent
(b) 32.5 percent
(c) 35 percent
(d) 12.5 percent

Q10. Which of the following equations has real and distinct roots?
(a) $3x^2 - 6x + 2 = 0$
(b) $3x^2 - 6x + 3 = 0$
(c) $x^2 - 8x + 16 = 0$
(d) $4x^2 - 8x + 4 = 0$

Q11. In a triangle the length of the side opposite the angle which measures 30° is 9 cm, what is the length of the side opposite to the angle which measures 60°?
(a) $3\sqrt{3}$ cm
(b) 3/2 cm
(c) 9/2 cm
(d) $9\sqrt{3}$ cm

Q12. For triangle ABC, what would be the equation of median AD if co-ordinates of A, B and C are (–5, 4) , (–4, 0) and (–2, 2) respectively?
(a) 3x – 2y = –11
(b) 3x + 2y = 7
(c) 3x + 2y = –7
(d) 3x – 2y = 11

Q13. A wholesaler sells a watch to a retailer at a gain of 37% and the retailer sells it to a customer at a loss of 25%. If the customer pays Rs 2,620.125, what had it cost the wholesaler?
(a) Rs 2550
(b) Rs 2692
(c) Rs 3327
(d) Rs 2408

Q14. The ratio of present ages of Rasika and Shami is 7:5. After 17 years the ratio of their ages will be 12:11. What is Rasika's present age?
(a) 5
(b) 80
(c) 16
(d) 7

Q15. If tanA + tanB = X, then the value of X is
(a) (tanA - tanB) /(1 + tanAtanB)
(b) (tanA + tanB) /(1 - tanAtanB)
(c) (tanA + tanB) /(1 + tanAtanB)
(d) (tanA - tanB) /(1 - tanAtanB)

Q16. At least one diagonal bisects the other in a ____.
(a) Trapezium
(b) Isosceles trapezium
(c) Kite
(d) Cyclic quadrilateral

Q17. 25% discount is offered on an item. By applying a promo code the customer wins 4% cash back. What is the effective discount?
(a) 28 percent
(b) 29.12 percent
(c) 29 percent
(d) 5 percent

Q18. What is the HCF (highest common factor) of 133 and 112?
(a) 15
(b) 7
(c) 19
(d) 16

Q19. Value of $(4a^2 + 12ab + 9b^2)$ /(2a + 3b) is
(a) 2a – 3b
(b) 2a + 3b
(b) 2a
(d) 3b

Q20. What is the equation of line whose slope is -1/2 and passes through the intersection of the lines x – y = –1 and 3x – 2y = 0?

(a) x + 2y = 8
(b) 3x + y = 7
(c) x + 2y = –8
(d) 3x + y = –7

Q21. Curved surface area of a cylinder is 1232 sq cm. If circumference of its base is 154 cm, then what will be the height of the cylinder? (Take π = 22/7)

(a) 16 cm
(b) 4 cm
(c) 8 cm
(d) 12 cm

Q22. A student multiplied a number by 3/10 instead of 10/3. What is the percentage error in the calculation?

(a) 1011.11 percent
(b) 45.5 percent
(c) 91 percent
(d) 505.56 percent

Q23. What is the area of the sector whose central angle is 90° and radius of the circle is 14 cm?

(a) 308 sq cm
(b) 77 sq cm
(c) 154 sq cm
(d) 231 sq cm

Q24. Coefficient of x^2 in (x + 9) (6 – 4x) (4x – 7) is

(a) 216
(b) –4
(c) –92
(d) 108

Q25. Given: 5x – 3(2x–7) > 3x – 1 < 7 + 4x; then x can take which of the following values?

(a) 6
(b) 9
(c) –6
(d) –9