Quantitative Aptitude for RRB NTPC

Q1. If ABC is an equilateral Δ & P, Q, R are the mid points on AB, BC & CA respectively then -
(a) PQR will be an equilateral Δ
(b) PQ + QR + PR = AB
(c) PQ + QR + PR = 2AB
(d) PQR will be a right angled Δ

Q2. The angle subtended by a chord of a circle to its centre is 60°, what is the ratio of length of chord to the radius?
(a) 1 : 2
(b) 1 : 1
(c) 1 : 3
(d) √2 : 1

Q3.
$1^2 + 2^2 + 3^2 + \ldots\ldots\ldots + 10^2 = 385$,
then value of $2^2 + 4^2 + 6^2 + \ldots\ldots\ldots + 20^2$.
(a) 770
(b) 1540
(c) 1155
(d) $(385)^2$

Q4. ABCD is a trapezium with AD and BC parallel sides. E is a point on BC. The ratio of the area of ABCD to that of ΔAED is -
(a) $\frac{AD}{BC}$
(b) $\frac{BE}{EC}$
(c) $\frac{AD + BE}{AD + CE}$
(d) $\frac{AD + BC}{AD}$

Q5. ABCD is a cyclic quadrilateral and AD is a diameter. If ∠DAC = 55°, then value of ∠ABC.
(a) 55°
(b) 35°
(c) 145°
(d) 125°

Q6. The height of the right pyramid whose area of the base is 30 m^2 and volume is 500 m^3, is-

(a) 50 m

(b) 60 m

(c) 40 m

(d) 20 m

Q7. The base of a prism is a right angled triangle with two side 5 cm and 12 cm. The height of the prism is 10 cm. The total surface area of the prism is:

(a) 360 sq. cm

(b) 300 sq. cm

(c) 330 sq. cm

(d) 325 sq. cm

Q8. If P = 99, then find the value of $P(P^2 + 3P + 3)$.

(a) 10000000

(b) 999000

(c) 999999

(d) 990000

Q9.

If a = 64 and b = 289,

then find the value of $\left(\sqrt{\sqrt{a}+\sqrt{b}}-\sqrt{\sqrt{b}-\sqrt{a}}\right)^{1/2}$

(a) $2^{1/2}$

(b) 2

(c) 4

(d) -2

Q10.

$\frac{\cos^3\theta+\sin^3\theta}{\cos\theta+\sin\theta}+\frac{\cos^3\theta-\sin^3\theta}{\cos\theta-\sin\theta}$ is equal to which of the following:

(a) -1

(b) 1

(c) 2

(d) 0

Q11. If the cost price of 50 oranges is equal to the selling price of 40 oranges, then the profit percent is

(a) 5

(b) 10

(c) 20

(d) 25

Q12. The batting average for 40 innings of a cricket player is 50 runs. His highest score exceeds his lowest score by 172 runs. If these two innings are excluded, the average of the remaining 38 innings is 48 runs. The highest score of the player is?

(a) 165

(b) 170

(c) 172

(d) 174

Q13. A boat moves downstream at the rate of 1 km in 7 ½ minutes and upstream at the rate of 5 km an hour. What is the speed of the boat in the still water ?

(a) 8 km/hr

(b) 6½ km/hr

(c) 4 km/hr

(d) 3½ km/hr

Q14. A sum of Rs. 2000 amounts to Rs. 4000 in two years at compound interest. In how many years does the same amount becomes Rs. 8000.

(a) 2

(b) 4

(c) 6

(d) 8

Q15. The compound interest on a certain sum for 2 years at 10% per annum is Rs. 525. The simple interest on the same sum for double the time at half the rate percent per annum is:

(a) Rs. 520

(b) Rs. 550

(c) Rs. 500

(d) Rs. 515

Q16. A shopkeeper allows a discount of 10% on the marked price of an item but charges a sales tax of 8% on the discounted price. If the customer pays Rs. 3,402 as the price including the sales tax, then the marked price is

(a) Rs. 3,400

(b) Rs. 3,500

(c) Rs. 3,600

(d) Rs. 3,800

Q17. The cost price of a table is Rs. 3,200. A merchant wants to make 25% profit by selling it. At the time of sale he declares a discount of 20% on the marked price. The marked price (in Rs.) is
(a) 5,000
(b) 6,000
(c) 4,000
(d) 4,500

Q18. A shopkeeper allows a discount of 12.5% on the marked price of a certain article and makes a profit of 20%. If the article costs the shopkeeper Rs. 210, then the marked price of the article will be
(a) Rs. 387
(b) Rs. 350
(c) Rs. 386
(d) Rs. 288

Q19. If O is the orthocenter of triangle ABC and $\angle BOC = 100°$, the measure of BAC is
(a) 100°
(b) 180°
(c) 80°
(d) 200°

Q20. O is the circumcenter of the isosceles ΔABC. Given that $AB = AC = 17$ cm and $BC = 6$ cm, the radius of the circle is
(a) 3.015 cm
(b) 3.205 cm
(c) 3.025 cm
(d) 8.6 cm

Q21. A train 180 m long moving at the speed of 20 m/sec overtakes a man moving at a speed of 10 m/sec in the same direction. The train passes the man in?
(a) 6 sec
(b) 9 sec
(c) 18 sec
(d) 27 sec

Q22. The distance between two cities A and B is 330 km. A train starts from A at 8 a.m. and travels towards B at 60 km/hr. Another train starts from B at 9 a.m. and travels towards A at 75 km/hr. At what time do they meet?
(a) 10:00 am
(b) 10:30 am
(c) 11:00 am
(d) 11:30 am

Q23. Two men are standing on opposite ends of a bridge 1200 meter long. If they walk towards each other at the rate of 5 m/minute respectively, in how much time will they meet each other?

(a) 60 minutes
(b) 120 minutes
(c) 85 minutes
(d) 90 minutes

Q24. If θ be an acute angle and $7\sin^2\theta + 3\cos^2\theta = 4$, then the value of tan θ is

(a) $\sqrt{3}$
(b) $\frac{1}{\sqrt{3}}$
(c) 1
(d) 0

Q25. The value of $\sin^2 1° + \sin^2 5° + \sin^2 9° + \ldots\ldots + \sin^2 89°$ is

(a) $11\frac{1}{2}$
(b) $11\sqrt{2}$
(c) 11
(d) $\frac{11}{\sqrt{2}}$

Q26. $\sin^2 5° + \sin^2 10° + \sin^2 15° + \ldots\ldots \sin^2 85° + \sin^2 90°$ is equal to

(a) 7½
(b) 8½
(c) 9
(d) 9½

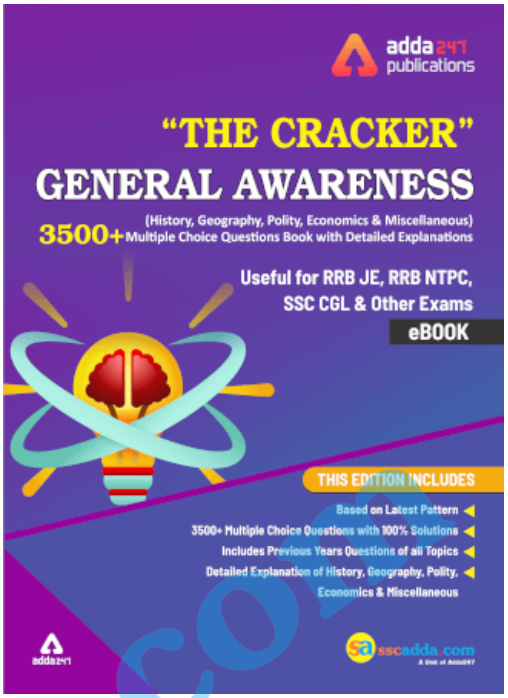
Q27.

If $\sin 17° = \frac{x}{y}$,

then the value of (sec 17° – sin 73°) is

(a) $\frac{y^2}{x\sqrt{y^2-x^2}}$
(b) $\frac{x^2}{y\sqrt{y^2-x^2}}$
(c) $\frac{x^2}{y\sqrt{x^2-y^2}}$
(d) $\frac{y^2}{x\sqrt{x^2-y^2}}$

Q28. Harveen can do a piece of work in 18 days. He worked for 12 days and left. Deepak finished the remaining work in 8 days. In how many days can Deepak alone complete the work?
(a) 21
(b) 22
(c) 23
(d) 24



Q29. A and B can complete a work in 15 days. A is 50% less efficient than B. How long would A take to complete the work alone?
(a) 20 days
(b) 22 days
(c) 24 days
(d) None of these

Q30. If 35 persons can do a piece of work in 6 days, in how many days can 15 persons do it?
(a) 12
(b) 14
(c) 16
(d) 18