

## Quantitative Aptitude for RRB NTPC

**Q1.** Let  $0 < x < 1$ . Then the correct inequality is

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

**Q2.** Three bells ring at interval of 36 seconds, 40 seconds and 48 seconds respectively. They start ringing together at a particular time. They will ring together after every

- (a) 6 minutes
- (b) 12 minutes
- (c) 18 minutes
- (d) 24 minutes

**Q3.** If the sum of the digits of a three digit number is subtracted from that number, then it will always be divisible by

- (a) 3 only
- (b) 9 only
- (c) both 3 and 9
- (d) all of 3, 6 and 9

**Q4.** Which of the following is correct ?

- (a)  $2/3 < 3/5 < 11/15$
- (b)  $3/5 < 2/3 < 11/15$
- (c)  $11/15 < 3/5 < 2/3$
- (d)  $3/5 < 11/15 < 2/3$

**Q5.** The greater of the two numbers whose product is 900 and sum exceeds their difference by 30 is

- (a) 60
- (b) 75
- (c) 90
- (d) 100



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**Q6. The smallest fraction, which should be added to the sum of  $2\frac{1}{2}$ ,  $3\frac{1}{3}$ ,  $4\frac{1}{4}$  and  $5\frac{1}{5}$  to make the result a whole number, is**

- (a)  $\frac{13}{60}$
- (b)  $\frac{1}{4}$
- (c)  $\frac{17}{60}$
- (d)  $\frac{43}{60}$

**Q7. Find the cube root of (-13824) or Find the value of  $\sqrt[3]{-13824}$**

- (a) 38
- (b) -38
- (c) 24
- (d) -24

**Q8. The sum of three positive numbers is 18 and their product is 162. If the sum of two number is equal to the third then the sum of squares of the numbers is**

- (a) 120
- (b) 126
- (c) 132
- (d) 138

**Q9. The sum of three consecutive even numbers is 28 more than the average of these three numbers. Then the smallest of these three numbers is**

- (a) 6
- (b) 12
- (c) 14
- (d) 16

**Q10. In a division sum, the divisor 'd' is 10 times the quotient 'q' and 5 times the remainder 'r'. If r = 46, the dividend will be**

- (a) 5042
- (b) 5328
- (c) 5336
- (d) 4276

**Q11.  $a - b + c = 9$ ,  $-ab - bc + ca = 19$ , then find the value of  $a^3 - b^3 + c^3 + 3abc$ ?**

- (a) 951
- (b) 332
- (c) 216
- (d) 1052

**Q12. Three brother divided Rs 1080 between themselves in such a way that the share of second is equal to  $\frac{5}{13}$  of the share of other two, combined. what is the share of second one ?**

- (a) Rs 300
- (b) Rs 600
- (c) Rs 500
- (d) Rs 400

**Q13. If the difference between area of the circumcircle and the incircle of an equilateral triangle is  $396 \text{ cm}^2$ , then the area of triangle is ?**

- (a)  $114\sqrt{3} \text{ cm}^2$
- (b)  $126 \text{ cm}^2$
- (c)  $144 \text{ cm}^2$
- (d)  $126\sqrt{3} \text{ cm}^2$

**Q14. The top of two pole of height 19 m and 39 m are connected by a wire. If the wire makes an angle of  $45^\circ$  with the horizontal, then the length of the wire is ?**

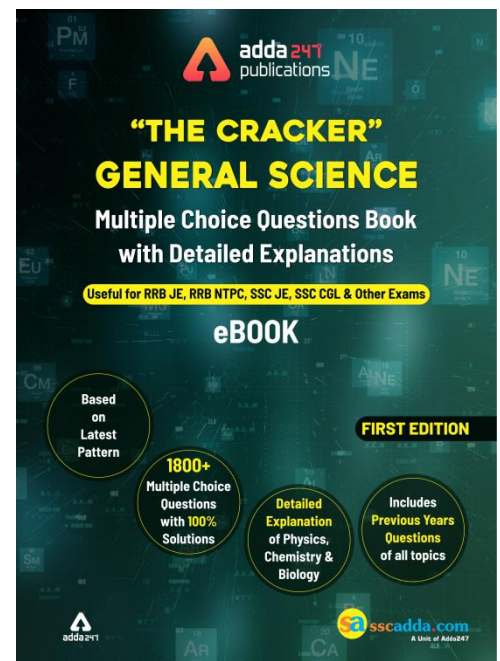
- (a)  $20\sqrt{2} \text{ m}$
- (b) 20 m
- (c)  $39\sqrt{2} \text{ m}$
- (d)  $19\sqrt{2} \text{ m}$

**Q15. Side AB = 60 cm long of a triangle whose perimeter is 130 cm. If angle ABC =  $60^\circ$ , then find the shortest side of triangle ABC (approx.).**

- (a) 20 cm
- (b) 16.2 cm
- (c) 24.8 cm
- (d) 18.2 cm

**Q16. If a sum becomes Rs 1460 in two years and Rs 1606 in three years due to the compound interest, then the annual rate of interest is ?**

- (a) 10%
- (b) 12%
- (c) 8%
- (d) 9%



**Q17.** A can do a work in 16 hrs and B can do it in 24 hrs. If both worked together then after how many hours should B be stopped so that the work is completed in 10 hrs.

- (a) 9 hrs
- (b) 7 hrs
- (c) 5 hrs
- (d)  $5\frac{1}{2}$  hrs

**Q18.** What will be total cost of polishing curved surface of a cylinder at rate of Rs 50 per  $\text{m}^2$ , if its diameter is 20 cm and height is 14 m ?

- (a)  $440\text{ m}^2$
- (b)  $420\text{ m}^2$
- (c)  $460\text{ m}^2$
- (d)  $405\text{ m}^2$

**Q19.** The average of 32 numbers is zero. Of them, how many may be greater than zero, at the most?

- (a) 30
- (b) 16
- (c) 31
- (d) 17

**Q20.** There are two containers of equal capacity. The ratio of milk to water in first is 7 : 3 and in second is 5 : 2. If they are mixed up, the ratio of water to milk in the mixture will be:

- (a) 99 : 14
- (b) 35 : 13
- (c) 53 : 23
- (d) 99 : 41

**Q21.** A ball of lead 4 cm in diameter is covered with gold. If the volume of the gold and lead are equal, then the thickness of gold [given  $\sqrt[3]{2} = 1.259$ ] is approximately

- (a) 5.038 cm
- (b) 5.190 cm
- (c) 1.038 cm
- (d) 0.518 cm

**Q22.** A large solid sphere is melted and moulded to form identical right circular cones with base radius and height same as the radius of the sphere. One of these cones is melted and moulded to form a smaller solid sphere. Then the ratio of the surface area of the smaller to the surface area of the larger sphere is

- (a)  $1 : 3^{\frac{4}{3}}$
- (b)  $1 : 2^{\frac{3}{2}}$
- (c)  $1 : 3^{\frac{2}{3}}$
- (d)  $1 : 2^{\frac{4}{3}}$

**Q23.** Two sides of a plot measuring 32 m and 24 m and the angle between them is a perfect right angle. The other two sides measure 25 m each and the other three angles are not right angles. The area of the plot in  $\text{m}^2$  is

- (a) 768
- (b) 534
- (c) 696.5
- (d) 684

**Q24.** a and b are two sides adjacent to the right angle of a right angled triangle and p is the perpendicular drawn to the hypotenuse from the opposite vertex. Then  $p^2$  is equal to

- (a)  $a^2 + b^2$
- (b)  $\frac{1}{a^2} + \frac{1}{b^2}$
- (c)  $\frac{a^2 b^2}{a^2 + b^2}$
- (d)  $a^2 - b^2$

**Q25.** A conical cup is filled with ice-cream. The ice-cream forms a hemispherical shape on its open top. The height of the hemispherical part is 7 cm. The radius of the hemispherical part equals the height of the cone. Then the volume of the ice-cream is  $\left[\pi = \frac{22}{7}\right]$

- (a) 1078 cubic cm
- (b) 1708 cubic cm
- (c) 7108 cubic cm
- (d) 7180 cubic cm

**Q26.** A is the centre of circle whose radius is 8 and B is the centre of a circle whose diameter is 8. If these two circles touch externally, then the area of the circle with diameter AB is

- (a)  $36\pi$
- (b)  $64\pi$
- (c)  $144\pi$
- (d)  $256\pi$

**Q27.** If  $a^2 + b^2 + c^2 = ab + bc + ac$  then the value of  $\frac{a+c}{b}$  is

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

**Q28.** If  $ab + bc + ca = 0$  then the value of  $\left(\frac{1}{a^2 - bc} + \frac{1}{b^2 - ca} + \frac{1}{c^2 - ab}\right)$  is

- (a) 0
- (b) 1
- (c) 3
- (d)  $a + b + c$

**Q29.** If  $(2 + \sqrt{3})a = (2 - \sqrt{3})b = 1$  then the value of  $\frac{1}{a} + \frac{1}{b}$  is

- (a) 1
- (b) 2
- (c)  $2\sqrt{3}$
- (d) 4

**Q30.** If  $3x + \frac{3}{x} = 1$  then  $x^3 + \frac{1}{x^3} + 1$  is

- (a) 0
- (b)  $1/27$
- (c)  $5/27$
- (d)  $28/27$

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