Quantitative Aptitude Mega Quiz for RRB NTPC (Questions)

Q1. If $x^2 - 5y^2 = 1232$, how many pairs are possible for (x, y) (x, y are integers)

(a) 2
(b) 3
(c) 1
(d) 0

Q2. If x + y + z = 0, then what is the value of $(3y^2 + x^2 + z^2)/2y^2 - xz$?

(a) 2
(b) 1
(c) 3/2
(d) 5/3

Q3. What is the value of sinC-sinD

(a) $2\cos\frac{C+D}{2} \cdot \sin\frac{C-D}{2}$

(b) $2\cos\frac{C+D}{2}\ \sin\frac{C+D}{2}$

(c) $-2\sin\frac{(C+D)}{2}\cos(\frac{C+D}{2})$

(d) $-2\sin\frac{C-D}{2}\ \cos\frac{C-D}{2}$

Q4.

If $x = 3 - \sqrt{7}$, find the value of $\frac{x^3}{8} + x^{-3}$

(a) 20
(b) 22
(c) 22 ½
(d) 19

Q5. A can do a piece of work in 20 days and B and can do same work in 15 days. What percent of the work will get completed if A and B work together for $5\frac{3}{7}$ days?

(a) 67%
(b) $63\frac{1}{3}\%$
(c) 72%
(d) $71\frac{1}{7}\%$

Q6. A dishonest milkman buy some milk at Rs. 10/lt. and mixed 5lt. water to this milk and then sold it Rs. 12/lt. and gains 30% profit. Find the quantity of milk that he bought.

(a) 70lt
(b) 75lt
(c) 50lt
(d) 60lt

Q7. Two chords AB & CD of a circle intersects at E and are perpendicular to each other segment EA, EB, & ED are of length 2, 6 & 3cm respectively. Find the length of EC.

(a) 3
(b) 4
(c) 7
(d) 8

Q8. A person estimated his tour for Rs. 360. If he exceed his tour programme by 4days he must cut down his daily expense by Rs. 3per day. For how many days did he plan for tour programme?

(a) 15
(b) 20
(c) 18
(d) 12

Q9. In a ΔABC, the bisector of ∠ B and ∠C meet at point O within the triangle, If ∠A is 144°, then the measure of ∠BOC.

(a) 162°
(b) 158°
(c) 178°
(d) 160°

Q10. If secθ= -7;what is the value of sinθ+tanθ.

(a) $-\frac{6\sqrt{48}}{7}$
(b) $\frac{6\sqrt{48}}{7}$
(c) $\frac{9\sqrt{48}}{7}$
(d) Both a & b

Q11. Amit spends 70% of his income. If his income increases by 16% and the saving decreases by 10%, then what will be the percentage increase in his expenditure?

(a) 22.14%
(b) 24.14%
(c) 25.14%
(d) 27.14%

Q12. A person marks his goods x% above the cost price and allows a discount of 10% on the marked price. If his profit is 20%, then the value of x will be:
(a) 50%
(b) 33.33%
(c) 25%
(d) 42.23%

Q13. When an article is sold for Rs. 414, there is a loss of 31%. To gain 23%, it should have been sold for Rs.
(a) Rs. 618
(b) Rs. 638
(c) Rs. 718
(d) Rs. 738

Directions (14-16): The following table indicates the number of employees working in three companies under five departments:

Companies	Departments				
	A	B	C	D	E
Adda247	300	400	375	300	375
SSC Adda	350	500	425	375	350
Bankers Adda	450	350	350	350	400

Q14. What is the ratio of the total number of employees working in Adda247 to that of working in SSC Adda stream in all five departments taken together?
(a) 7:8
(b) 7:9
(c) 8:7
(d) 9:7

Q15. What percentage of total workers working in SSC Adda in all five departments together?
(a) 28.5%
(b) 30.4%
(c) 32.1%
(d) 35.3%

Q16. If a pie-chart is drawn representing the number workers in all three companies, what is the central angle (correct to the nearest whole number) of the sector representing the workers in department B?
(a) 80°
(b) 82°
(c) 84°
(d) 86°

Q17. In a circle with center O, ABCD is a cyclic quadrilateral and AC is the diameter. Chords AB and CD are produced to meet at 'E'. if ∠CAE = 44° and ∠E = 40°, then ∠CBD is equal to–

(a) 20°
(b) 22°
(c) 6°
(d) 84°

Q18.

Find the value of $\tan\left(\frac{x}{2}\right)\sin(x) + \cos x$

(a) 0
(b) 1
(c) 1 + cos x
(d) 1 – cos x

Q19. Find the area enclosed by 2x + y = 5, x – y = 0 and x – axis?

(a) $1\frac{1}{6}$
(b) $2\frac{1}{12}$
(c) $3\frac{5}{6}$
(d) $4\frac{7}{12}$

Q20. In finding HCF of two numbers by division method, the last divisor is 11 and the quotients are 1, 13 and 4 respectively. What is the sum of the two numbers?

(a) 1214
(b) 1210
(c) 1213
(d) 1207

Q21. Anu spends 90% of her income. If her expenditure increases by 25% and savings increase by 30%, then by what percent does her salary increase?

(a) 25.5%
(b) 24%
(c) 22.5%
(d) 20%

Q22. Let Δ ABC ~ ΔQPR and $\frac{ar(\Delta ABC)}{ar(\Delta PQR)} = \frac{9}{16}$, If AB = 12cm, BC =6cm and AC =9cm, then QP is equal to:

(a) 16cm
(b) 9cm
(c) 12cm
(d) 8cm

Q23. A circle is inscribed in a quadrilateral ABCD, touching sides AB, BC CD and DA at P, Q, R and S, respectively. If AS= 8cm, BC=11cm, and CR=5cm, then the length AB is equal to:

(a) 12 cm
(b) 13 cm
(c) 16 cm
(d) 14 cm

Q24.

If $3cos^2A + 6sin^2A = 3, 0° \leq A \leq 90°$,
then the value of A is:

(a) 30°
(b) 0°
(c) 90°
(d) 45°

Q25. In ΔABC, AD ⊥ BC at D and AE is the bisector of ∠ A. If ∠B=72° and ∠C=26°, then what is the measure of ∠DAE?

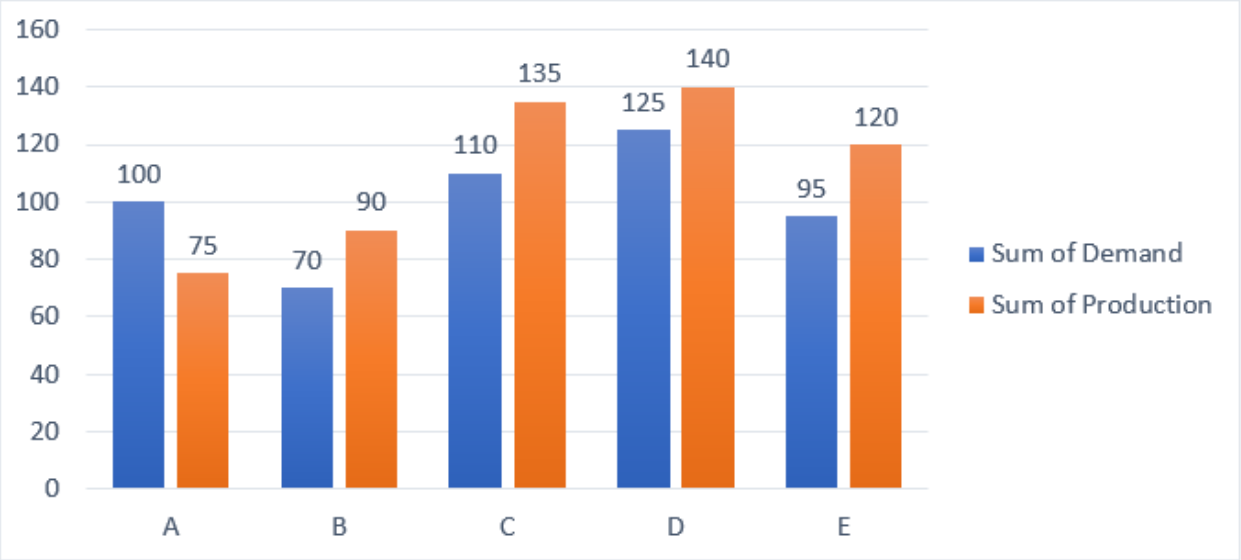
(a) 23°
(b) 25°
(c) 49°
(d) 37°

Q26.

The value of $\frac{(cos9°+sin81°)(sec9°+cosec81°)}{sin56°\ sec34°+cos25°\ cosec65°}$ is:

(a) ½
(b) 4
(c) 2
(d) 1

Q27. The given Bar Graph presents the Demand an Production of motorcycles of five companies (in lakhs).



The average Production of motorcycles of companies B, C and E taken together is what percent less than the demand of motorcycles of D?

(a) 8%
(b) 8.7%
(c) 9.3%
(d) 6%

Q28.

A simplified value of $\left(\frac{sin\theta}{1+cos\theta}+\frac{1+\cos\theta}{\sin\theta}\right)\left(\frac{1}{tan\theta+cot\theta}\right)$ is:

(a) cosθ
(b) 2sinθ
(c) sinθ
(d) 2cosθ

Q29. If $3-2\sin^2\theta-3\cos\theta=0, 0°<\theta<90°$, then what is the value of $(2\operatorname{cosec}\theta+\tan\theta)$?

(a) $7\sqrt{3}$
(b) $5\sqrt{3}$
(c) $\frac{5\sqrt{3}}{3}$
(d) $\frac{7\sqrt{3}}{3}$

Q30. Abhi sold two articles for 5,220 each. On one, he gained 16% and on the other, he lost 10%. His profit or loss on the whole was:

(a) Profit, 140
(b) Loss, 125
(c) Profit, 180
(d) Loss, 130