

RRB NTPC SUNDAY QUANT (Question)

Q1. The difference between simple and compound interest on a sum of money at 4% per annum for 2 years is Rs. 8. The sum is

- (a) Rs. 400
- (b) Rs. 800
- (c) Rs. 4,000
- (d) Rs. 5,000

Q2. A sum of money placed at compound interest doubles itself in 15 years. In how many years, it would amount to eight times of itself at the same rate of interest?

- (a) 30 years
- (b) 45 years
- (c) 21 years
- (d) 60 years

Q3. Ram claims to be lending money at simple interest, but he includes the interest every six months for calculating the principal. If he is charging an interest of 20%, the effective rate of interest per annum becomes


- (a) 21.5%
- (b) 21%
- (c) 20%
- (d) Cannot be determined

Q4. The difference between the compound and the simple interest on a sum for 2 years at 10% per annum, when the interest is compounded annually, is Rs. 28. If the yearly interest were compounded half-yearly, the difference in the two interests will be:


- (a) Rs. 44
- (b) Rs. 28.35
- (c) Rs. 43.41
- (d) Rs. 43.29

Q5. A certain sum of money yields Rs. 1261 as compound interest for 3 years at 5% per annum. The sum is:

- (a) Rs. 9000
- (b) Rs. 8400
- (c) Rs. 7500
- (d) Rs. 8000



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Q6. At a certain rate per annum, the simple interest on a sum of money for one year is Rs. 260 and the compound interest on the same sum for two years is Rs. 540.80. The rate of interest per annum is

- (a) 4%
- (b) 6%
- (c) 8%
- (d) 10%

Q7. A certain sum of money amounts to Rs. 2,420 in 2 years and Rs. 2,662 in 3 years at same rate of compound interest, compounded annually. The rate of interest per annum is:

- (a) 6%
- (b) 8%
- (c) 9%
- (d) 10%

Q8. On a certain sum of money, the difference between the compound interest for a year, payable half-yearly, and the simple interest for a year is Rs. 180. If the rate of interest in both the cases is 10%, then the sum is:

- (a) Rs. 60,000
- (b) Rs. 72,000
- (c) Rs. 62,000
- (d) Rs. 54,000

Q9. The compound interest on Rs. 30,000 at 7% per annum for a certain time is Rs. 4,347. The time is:

- (a) 3 years
- (b) 4 years
- (c) 2 years
- (d) 2.5 years

Q10. The compound interest on a certain sum of money at a certain rate per annum for two years is Rs. 2,050, and the simple interest on the same amount of money at the same rate for 3 years is Rs. 3000. Then the sum of money is:

- (a) Rs. 20,000
- (b) Rs. 18,000
- (c) Rs. 21,000
- (d) Rs. 25,000

Q11. Which of the following relation is correct for $0 < \theta < 90$

- (a) $\sin \theta = \sin^2 \theta$
- (b) $\sin \theta > \sin^2 \theta$
- (c) $\sin \theta < \sin^2 \theta$
- (d) $\sin \theta = \operatorname{cosec} \theta$

Q12.

$$\frac{\tan^2 60^\circ + 6 \sin^2 45^\circ - 3 \operatorname{cosec}^2 45^\circ}{\sec^2 60^\circ - \cot 45^\circ} = ?$$

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

Q13.

If $\tan \alpha = 2$, then the value of $\frac{\sin \alpha}{\sin^3 \alpha + \cos^3 \alpha}$ is:

- (a) $\frac{2}{9}$
- (b) $\frac{\sqrt{5}}{9}$
- (c) $\frac{10}{9}$
- (d) $\frac{5\sqrt{5}}{9}$

Q14. If $\cos 37^\circ = a$, then the value of $\tan 53^\circ$ is

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

Q15.

If $\frac{\tan \theta + \cot \theta}{\tan \theta - \cot \theta} = 2$ ($0 \leq \theta \leq 90^\circ$), then the value of $\sin \theta$ is

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

Q16. If the elevation of the sun changes from 30° to 60° , then the difference between the lengths of shadows of a pole 30 metre high is

- (a) $20\sqrt{3}$
- (b) $10\sqrt{3}$
- (c) 15
- (d) $15\sqrt{3}$



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Q17. If $\operatorname{cosec} \theta - \cot \theta = \frac{1}{2}$, the value of $\operatorname{cosec} \theta$ is :

- (a) $\frac{2}{3}$
- (b) $\frac{7}{8}$
- (c) $\frac{8}{7}$
- (d) $\frac{5}{4}$

Q18. The radian measure of 120° will be

- (a) $\frac{\pi}{3}$
- (b) $\frac{3\pi}{2}$
- (c) $\frac{\pi}{2}$
- (d) $\frac{2\pi}{3}$

Q19. If $\cos 2\pi/3 = x$, then the value of x is

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

Q20. If $\cot(A/2) = x$, then the value of x is

- (a) $\operatorname{cosec} A - \cot A$
- (b) $\operatorname{cosec} A + \cot A$
- (c) $\sec A + \cot A$
- (d) $\sec A - \cot A$

Q21.

In a triangle ABC, $\angle ABC = 75^\circ$ and $\angle ACB = \frac{\pi^c}{4}$.

The circular measure of $\angle BAC$ is

- (a) $\frac{5\pi}{12}$ radian
- (b) $\frac{\pi}{3}$ radian
- (c) $\frac{\pi}{6}$ radian
- (d) $\frac{\pi}{2}$ radian

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Q22. The degree measure of 1 radian (taking $\pi = 22/7$) is

- (a) $57^{\circ}61'22''$ (approx.)
- (b) $57^{\circ}16'22''$ (approx.)
- (c) $57^{\circ}22'16''$ (approx.)
- (d) $57^{\circ}32'16''$ (approx.)

Q23.

If $\tan 15^{\circ} = 2 - \sqrt{3}$, the value of $\tan 15^{\circ} \cot 75^{\circ} + \tan 75^{\circ} \cot 15^{\circ}$ is

- (a) 14
- (b) 12
- (c) 10
- (d) 8

Q24.

If $\angle A$ and $\angle B$ are complementary to each other,

then the value of $\sec^2 A + \sec^2 B - \sec^2 A \cdot \sec^2 B$ is

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

Q25.

If $\sec^2 \theta + \tan^2 \theta = \frac{7}{12}$, then $\sec^4 \theta - \tan^4 \theta =$

- (a) $7/12$
- (b) $1/2$
- (c) $5/12$
- (d) 1

Q26. ΔABC is right angled at B. If $m\angle A = 45^{\circ}$, then find the value of $(\tan C + \sqrt{3}/2)$.

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

Q27. In a ΔABC , if $4\angle A = 3\angle B = 12\angle C$, find $\angle A$

- (a) 22.5°
- (b) 90°
- (c) 67.5°
- (d) 112.5°

Q28. Value of $(\cos 53^\circ - \sin 37^\circ)$ is

- (a) 0
- (b) 1
- (c) $2 \sin 37^\circ$
- (d) $2 \cos 53^\circ$

Q29. In ΔXYZ measure of angle Y is 90° . If $\cot X = 5/12$, and $XY = 2.5$ cm, then what is the length (in cm) of side XZ?

- (a) 6
- (b) 4
- (c) 5.6
- (d) 6.5

Q30. If $\alpha + \beta = 90^\circ$ and $\alpha : \beta = 2 : 1$, then the ratio of $\cos \alpha$ to $\cos \beta$ is

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

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