Simple and Compound Interest Questions for RRB NTPC Set-4

Instructions

For the following questions answer them individually

Question 1

The simple interest at the rate of 8% on the amount Rs. 20,000 for 3 months is

A 400

B 600

C 500

D 200

Answer: A

Explanation:

S.I=P x r x t/100 , t in years

=(20,000 x 8 x 3)/(100 x 12)=400

Question 2

A certain amount which was loaned on simple interest doubled in 10 years Then the amount received is loaned on compound interest for another 2 years on the same rate What is the total rise in the amount after 12 years with the initial principal amount ?

A 42%

B 142%

C 242%

D 150%

Answer: B

Explanation:

The amount doubled in 10 years. So, the interest = principle.

So, rt/100 = 1

r = 10% pa

Now compound interest = ?

2P $(1 + .1)^2$ = 2P x 1.21 = 2.42P

Total rise is P to 2.42P = rise of 142%

Question 3

One-fourth of an amount was loaned at simple interest with 2% rate of interest and the remaining part was lent on simple interest at 3% rate of interest What is the average rate of interest for the whole amount ?

A $2\frac{1}{4}\%$

B $2\frac{3}{4}\%$

C $1\frac{1}{4}\%$

D 4%

Answer: B

Explanation:

Let the amount be 100 Rs.

One fourth of it is at 2 % pa

So, 25 x 2 x 1 /100 = .5

The rest is on 3% pa interest.

So, 75 x 3 x 1 /100 = 2.25

So total interest = 2.75

Interest rate = ?

Interest rate = i x 100/ pt

= 2.75 x100/100 = 2.75%

Question 4

The simple interest on a certain sum at the rate of 4% per annum in 4 years is Rs. 80 more than the simple interest on the same sum at 5% per annum after 3 years. The sum is

A Rs. 7000

B Rs. 7,500

C Rs. 8000

D Rs. 8,500

Answer: C

Explanation:
Let the principal be P

SI = P xT x R/100

difference = P x 4 x 4 /100 - P x 5 x 3/100

= 16P/100 - 15P/100 = 80

P = 8000 Rs.

Question 5

Find the simple interest on ₹ 4800 at the rate of $8\frac{1}{2}$% per annum for a period of 2 years 3 months.

A ₹ 796

B ₹ 816

C ₹ 918

D ₹ 990

Answer: C

Explanation:
Given that P = 4800, T = 2.25, R = 8.5

We know that Simple Interest $I = \frac{PTR}{100}$

Therefore,$I = \frac{4800 \times 2.25 \times 8.5}{100}$

=> $I = \frac{91800}{100} = Rs918/-$

Question 6

What is the difference between Compound Interest and Simple Interest on Rs.1000 at 10% after 4 years?

A Rs.64.10

B Rs.74

C Rs.16.40

D Rs.52

Answer: A

Explanation:
Simple interest SI= P× N×R ÷ 100

P=principle amount

N= Time period

R= rate of interest

SI=1000×10×4÷100

SI=400

For compound interest (CI)

Amount=P×(1+R÷100)^N

Amount=1000×(1+10÷100)^4

Amount=1464.1

Amount=P+CI

CI=Amount-P

CI=464.1

CI-SI=64.1

Question 7

The Compound Interest on a certain sum for 2 years at 10% is Rs.2100. What will be the Simple Interest for the same period, on the same sum and at the same rate?

A Rs.2000

B Rs.1600

C Rs.1800

D Rs.1980

Answer: A

Explanation:
amount= principle+interest

compound interest,

$amt = p \times (1 + \frac{r}{100})^n$

amt=p+interest

interest=2100

r=10%

n=2

$p + 2100 = \ p \times (1 + {}^{10}_{100})^2$

solving we get p=10000

simple interest

$si = {}^{p \times n \times r}_{100}$

p=10000

n=2

r=10%

substituting

$si = {}^{10000 \times 10 \times 2}_{100}$

=2000

Question 8

Find the difference between the Simple Interest and Compound Interest on Rs.10000 for 3 years at the rate of 3% per annum.

A Rs.27.27

B Rs.17.82

C Rs.21.54

D Rs.16.25

Answer: A

Explanation:

SI = ${}^{PNR}_{100}$

CI = $P(1 + {}^{r}_{100})^n$

P = 10000

N = 3 years

R = 3%

$SI = {}^{10000 \times 3 \times 3}_{100} = 900$

CI = $10000(1 + {}^{3}_{100})^3$

= 927.27

CI - SI = 927.27 - 900 = 27.27

Question 9

Compound Interest and Simple Interest on a certain sum of money for 2 years is Rs.282.15 and Rs.270 respectively. The rate of interest is:

A $6{}^{2}_{3}\%$

B 11%

C 9%

D $8\frac{1}{3}\%$

Answer: C

Explanation:
CI for 2 years = Rs 282.15

SI for 2 years = Rs 270

SI for 1 year = $\frac{270}{2} = 135$

difference between SI and CI = 282.15 - 270 = 12.15 Rs

rate% = $\frac{12.15}{135} \times 100 = 9\%$

for 1st year CI and SI will be same

Question 10

On a sum of money, the Simple Interest for 2 years is Rs.660 while the Compound Interest for two years is Rs.696.30, the rate of interest being the same. Find the rate of interest.

A 10%

B 12.75%

C 11%

D 13%

Answer: C

Explanation:
Difference in C.I and S.I for 2 years

= Rs(696.30-660)

=Rs. 36.30.

S.I for one years = Rs330.

S.I on Rs.330 for 1 year =Rs. 36.30

$R = \frac{S.I \times 100}{P \times T}$

Rate

$= \frac{100 \times 36.30}{330 \times 1}$

= 11%