Railway Group D Expected Questions – Mathematics 2018

QUESTION 1

If 243 = 3^x, then x =?

a) 9   b) 4

c) 5   d) 7

QUESTION 2

Two pipes can fill a tank in 12 hours and 24 hours respectively. The pipes are opened simultaneously, and it is found that due to leakage in the both pipes it took 2 hours more to fill the tank. When the tank is completely full, in what time will the leak empty it?

a) 34 hours   b) 36 hours

c) 38 hours   d) 40 hours

QUESTION 3

A series is given, with one term missing. Choose the correct alternative from the given ones that will complete the series 484, 1024, 1764, 2704?

a) 3456   b) 3844

c) 4223   d) 3988

QUESTION 4

An oven when sold for Rs. 16,756, the profit earned is 18%. What is the cost price of the Oven?

a) Rs. 14,200   b) Rs. 14,400

c) Rs. 15,200   d) Rs. 14,800

QUESTION 5

A sum of Rs. 625.25 was lent out at simple interest and at the end of 2 year 8 months the total amount was Rs. 725.29. Find the rate of interest per annum.

a) 5.5%   b) 7%

c) 6%   d) 9%

QUESTION 6

The ratio between two numbers is 2: 3. If each number is increased by 4, the ratio between them becomes 5: 7. The difference between the numbers is

a) 8   b) 6

c) 4   d) 2

QUESTION 7

What should come in place of the question mark '?' in the following question?

287 × 57 + 241 = 25 ×?

a) 664   b) 660

c) 668   d) 604

QUESTION 8

Value of the expression 9 − {16 ÷ 5 − (8 ÷ (7 − 2))} is

a) 2.6   b) 3.5

c) 6.8   d) 7.4

QUESTION 9

If y cos 60° = x sin 45°, then $\frac{y^4}{x^4}$ is equal to

a) 4   b) 1/4

c) 4/9   d) 9/4

QUESTION 10

One-eighth of a number is 18.75. What will 73% of the number be?

a) 109.50   b) 138.00

c) 96.42   d) 82.66

QUESTION 11

The product of two numbers is 4107. If the HCF of the numbers is 37, the greater number is

a) 185
b) 111
c) 107
d) 101

QUESTION 12

A cycle wheel makes 1000 revolution in moving 880 m. What is the diameter of the wheel? (Take π = 22/7)

a) 7cm
b) 14cm
c) 28cm
d) 21cm

QUESTION 13

Each side of a rectangular field is diminished by 20%. By how much % the area of the rectangular field will diminish?

a) 20%
b) 36%
c) 25%
d) 42%

QUESTION 14

What should come in place of the question mark '?' in the following number series?
499, 622, 868, 1237, 1729, 2344, ?

a) 3205
b) 3082
c) 2959
d) 3462

QUESTION 15

If $3\frac{4}{5}$ is subtracted from $6\frac{3}{5}$ and the difference is multiplied by 355 then what will be the final number?

a) 1004
b) 884
c) 774
d) 994

QUESTION 16

Which is the largest fraction?

a) 3/4
b) 7/9
c) 7/8
d) 9/10

QUESTION 17

If $1/\sqrt{(1 - \cos2A)} = x$, then the value of x is?

a) secA
b) sinA
c) cotA
d) cosecA

QUESTION 18

Simplify: $\frac{6}{11} \times \frac{11}{6} \div \frac{33}{12} + \frac{4}{3} - \frac{3}{2} \times \frac{8}{9}$

a) 8/3
b) 13/11
c) 3/7
d) 4/11

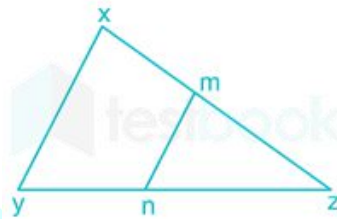## QUESTION 19

If x = 16 then what is the value of $\sqrt{x} + \frac{1}{\sqrt{x}}$?

a) 4
b) 4.5
c) 4.25
d) $2\sqrt{8}$

QUESTION 20

The line segment MN is parallel to side XY of △XYZ and it divides the triangle in 2 parts of equal areas. The ratio NZ/YZ is?

a) 2.1
b) √2: 1
c) 1: 2
d) 1: √2