



**RRB JE 23rd May 2019 Shift-2**

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## RRB JE 23rd May 2019 Shift-2

### Instructions

For the following questions answer them individually

### Question 1

P can do some work in 4 hours. Q and R together can finish it in 3 hours while P and R can do it in 2 hours. How long will Q take to complete it, if he works alone?

- A 8 hours
- B 12 hours
- C 10 hours
- D 15 hours

**Answer: B**

### Explanation:

P's one hour's work

$$= \frac{1}{4}$$

(Q + R)'s one hour's work

$$= \frac{1}{3}$$

(P + R)'s one hour's work

$$= \frac{1}{2}$$

∴ R's one hour's work

$$= \frac{1}{2} - \frac{1}{4} = \frac{2-1}{4} = \frac{1}{4}$$

Q's one hour's work

$$= \frac{1}{3} - \frac{1}{4} = \frac{4-3}{12} = \frac{1}{12}$$

Hence Q alone can do the work in 12 hours,

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### Question 2

If  $0.001 + x = 0.01$ , then find 'x'.

- A 0.5
- B 1
- C 0.1
- D 0.01

**Answer: C**

### Question 3

The frequency of a sound wave is 50 Hz and its wavelength is 4 m. What is the speed of the sound wave?

- A 200 m/s
- B 80 m/s
- C 400 m/s

D 100 m/s

Answer: A

**Question 4**

Complete the series. 15, 8, 20, 18, 25, 28, (...)

A 32

B 37

C 30

D 35

Answer: C

## RRB JE Previous Papers ( Download Pdf)

**Question 5**

The present age of a mother and daughter is in the ratio of 8 : 3. After 12 years, the ratio of their ages will be 2 : 1. What is the sum of the present age of the mother and the daughter?

A 71 years

B 66 year

C 69 year

D 74 year

Answer: B

**Explanation:**

Let the age of the mother be  $8x$ , and that of the daughter be  $3x$  (since their ages are in the ratio 8:3)

After 12 years, their ages will be  $(8x + 12)$  and  $(3x + 12)$  respectively, which will be in the ratio 2:1.

$$\text{Therefore, } \frac{(8x+12)}{(3x+12)} = \frac{2}{1}$$

On cross multiplying we get;

$$8x + 12 = 6x + 24$$

$$2x = 12$$

$$x=6.$$

So, the mother is currently  $(8 \times 6)$  48 years old, and the daughter is  $(3 \times 6)$  18 years old. Therefore, the sum in their ages is  $48+18=66$  years.

**Question 6**

How long does a train 110 m long running at a speed of 72 km/h take to cross a bridge 132 metres in length?

A 10 seconds

B 12.1 seconds

C 14.2 seconds

D 15.5 seconds

Answer: B

Explanation:

$$\begin{aligned} \text{Speed} &= 72 \text{ km/hour} = 72 \times \frac{5}{18} \text{ m/sec} \\ &= 20 \text{ m/sec} \end{aligned}$$

Total distance to be covered =  $110+132 = 242$  meters

$$\text{Time} = \frac{\text{Distance}}{\text{Speed}}$$

$$\begin{aligned} \text{Time} &= \frac{242}{20} \\ &= 12.1 \text{ seconds} \end{aligned}$$

Question 7

Which of these religions do the Jews follow?

- A Jainism
- B Christianity
- C Judaism
- D Zoroastrianism

Answer: C

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Question 8

Choose the figure that best represents the relationship among the classes given below?  
Mother, Children, Human, Father.



Answer: A

Explanation:

Mother, children, Father are different from each other but all are Human

**Question 9**

In this question, two statements are given followed by a conclusion. Find out which of the alternatives justifies the given conclusion.

**Statements:**

- 1) Coals are atoms of carbon.
- 2) Diamonds are atoms of carbon.

**Conclusion:**

Diamonds are coal.

- A The conclusion drawn is false
- B The conclusion drawn is definitely true
- C The conclusion drawn is irrelevant
- D The conclusion drawn is probably true

**Answer: A**

**Explanation:**

Conclusion is false

on the basis of given statement we cant correlate diamond and coal .both have different number of atoms of carbon

**Question 10**

**Electric current is the flow of?**

- A Light
- B Waves
- C Electric charges
- D Water

**Answer: C**

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**Question 11**

Find the ODD one out from the given options.

- A AWAY : WAYA
- B LIKE : KILE
- C HAVE : AVEH
- D MEET : EETM

**Answer: B**

**Explanation:**

In each option last three alphabet come at first 3 position than first one except option B

**Question 12**

Sum and difference of the ages of two kids are 9 and 1 respectively. How long ago were their ages in the ratio 3 : 2?

- A 2 years

- B 4 years
- C 1 years
- D 3 years

**Answer: A**

**Explanation:**

Let age of first kid = x

Let age of second kid = y

Thus  $x + y = 9$  ..... (1)

and  $x - y = 1$  ..... (2)

By adding two equations, we get

$$2x = 10$$

$$x = 5$$

$$y = 9 - 5$$

Thus  $y = 4$

2 year ago their age were in ratio 3:2

It will never become 3:2 in future

**Question 13**

Which number will best complete the relationship given below?

9 : 20 :: 21 : ?

- A 102
- B 97
- C 44
- D 131

**Answer: C**

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**Question 14**

The radii of the base of the cylinder and cone are in the ratio  $\sqrt{3} : \sqrt{2}$  and the heights are in the ratio  $\sqrt{2} : \sqrt{6}$  what are their volumes?

- A  $2\sqrt{3} : 3$
- B  $\sqrt{3} : \sqrt{2}$
- C  $3\sqrt{3} : 2$
- D  $3\sqrt{3} : \sqrt{2}$

**Answer: C**

**Question 15**

**Simplify:**  $\frac{\cos\theta}{(1+\sin\theta)}$

- A  $\operatorname{cosec}\theta - \cot\theta$
- B  $\sec\theta + \tan\theta$
- C  $\sec\theta - \tan\theta$
- D  $\operatorname{cosec}\theta + \cot\theta$

**Answer:** C

**Explanation:**

$$\frac{\cos\theta}{(1+\sin\theta)}$$

Multiply top (numerator) and bottom(denominator) by  $1 - \sin\theta$

$$\frac{\cos\theta \times (1 - \sin\theta)}{(1 + \sin\theta) \times (1 - \sin\theta)}$$

$$\frac{\cos\theta - \cos\theta \sin\theta}{(1 - \sin^2\theta)} \quad (1 = \sin^2\theta + \cos^2\theta)$$

$$\frac{\cos\theta - \cos\theta \sin\theta}{(\cos^2\theta)}$$

$$\frac{\cos\theta}{(\cos^2\theta)} - \frac{\cos\theta \sin\theta}{(\cos^2\theta)}$$

$$\frac{1}{(\cos\theta)} - \frac{\sin\theta}{(\cos\theta)}$$

$$\sec\theta - \tan\theta$$

**Question 16**

Priya's father was 38 years of age when she was born. Her mother was 36 when her brother 4 years younger to her was born. How many years is her mother younger than her father?

- A 8
- B 6
- C 5
- D 4

**Answer:** B

**Explanation:**

Father's age when Ayesha's brother was born = 38 years.

Mother's age when Ayesha's brother was born = (36-4) years = 32 years.

∴ Required difference = (38 - 32) years = 6 years.

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**Question 17**

**Complete the series.**

Z, W, T, Q, (...)

- A S
- B P

C O

D N

Answer: D

**Explanation:**

In given series

Each alphabet followed by (alphabet-3) potions's alphabet

Z-3=W

W-3=T

T-3=Q

Q-3=N

**Question 18**

If  $A=30^\circ$  then find the value of  $\cos^2 A + \cos^2(60 + A) + \cos^2(60 - A)$

A  $\frac{3}{2}$

B  $\frac{\sqrt{3}}{2}$

C  $\frac{-3}{2}$

D 1

Answer: A

**Question 19**

In this question, three statements are given followed by four conclusions. Choose the conclusion(s) which best fit(s) logically.

**Statements:**

- 1) All laptops are keyboards.
- 2) Some printers are laptops.
- 3) All keyboards are scanners.

**Conclusions:**

- I. Some scanners are laptops.
- II. Some printers are scanners.
- III. All laptops are scanners.
- IV. Some laptops are not scanners.

- A Only conclusions III and IV follow
- B Only conclusions I, III and IV follow
- C Only conclusions I, II and III follow
- D Only conclusions I and IV follow

Answer: C

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**Question 20**

Simplify  $\frac{121}{3^3} + \frac{92}{7^3} ?$



A  $43\frac{11}{19}$

B  $41\frac{12}{13}$

C  $40\frac{13}{11}$

D  $45\frac{6}{11}$

Answer: D

Question 21

Which of the following cricketers set a record for most runs in an ODI single game?

A Sachin Tendulkar

B Rohit Sharma

C Shahid Afridi

D Virat Kohli

Answer: B

Question 22

Find the place value of 5 in 2.00589.

A  $\frac{5}{100}$

B  $\frac{5}{10}$

C 5

D  $\frac{5}{1000}$

Answer: D

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Question 23

Which is better?

Successive discounts of 10% and 20%

b: Successive discounts of 20% and 10%

A Cannot be determined

B Both are same

C Successive discounts of 20% and 10%

D Successive discounts of 10% and 20%

Answer: B

Question 24

Archimedes principle is used to design which of the following?

- A Submarines
- B Aircraft
- C Trucks
- D Cars

Answer: A

**Question 25**

Find the LCM of  $ab^2c^2$ ,  $a^2bc$  and  $a^3b^3c^2$ .

- A  $abc$
- B  $a^2b^2c^2$
- C  $a^3b^3c^2$
- D  $a^3b^3c^3$

Answer: C

**Explanation:**

$ab^2c^2$ ,  $a^2bc$  and  $a^3b^3c^2$ .

LCM

$abc$	$ab^2c^2$ , $a^2bc$ , $a^3b^3c^2$
$bc$	$bc$ , $a$ , $a^2b^2c$
$a$	$1, a$ , $a^2b$
	$1, 1, ab$

$$= (abc) \times (bc) \times (a) \times (ab)$$

$$= a^3b^3c^2$$

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**Question 26**

\_\_\_ is the first e-governance project of the Government of Karnataka in land records Computerization system.

- A Nai Disha
- B E-choupal
- C Akshaya
- D Bhoomi

Answer: D

**Question 27**

Common salt besides being used as condiment and food preservative can also be used as the raw material for making?

- A Baking soda
- B Sodium hydroxide
- C All of the options
- D Bleaching powder

**Answer: C**

**Question 28**

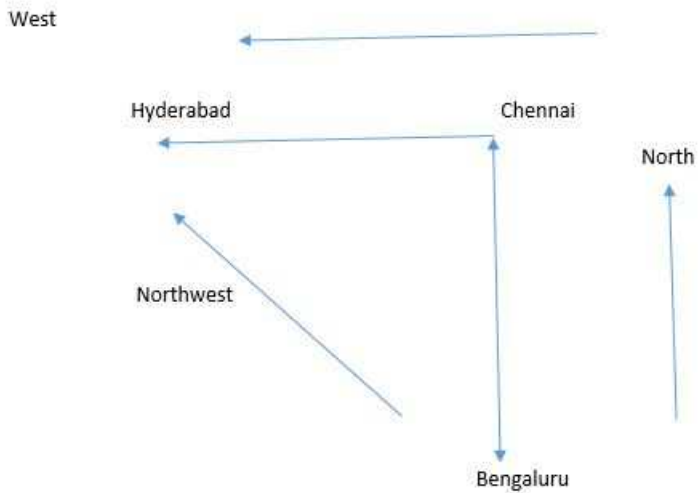
Chennai is at the north of Bengaluru; and Hyderabad is located to the west of Chennai. With respect to Bengaluru, in which direction is Hyderabad located?

- A North east
- B North west
- C West
- D South

**Answer: B**

**Explanation:**

Chennai is at the north of Bengaluru; and Hyderabad is located to the west of Chennai



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**Question 29**

Which of the following is NOT a root vegetable?

- A Turnip
- B Radish
- C Carrot

D Tomato

Answer: D

**Question 30**

Which scientist formulated 'the theory of Evolution'?

A Alexander Fleming

B Charles Darwin

C Aristotle

D Issac Newton

Answer: B

**Question 31**

Find the missing number in the following series. 2, 4, 16, 96, (...), 7680

A 768

B 773

C 796

D 752

Answer: A

## RRB NTPC Previous Papers (Download PDF)

**Question 32**

Who among the following inaugurated India's first hi-tech forensic lab in 2019?

A Uma Bharti

B Nitin Gadkari

C Suresh Prabhu

D Rajnath Singh

Answer: D

**Question 33**

Read the following information carefully and answer the question given below.

Eight friends—Manoj, Ritu, Banu, Rishi, Anu, Rohan, Sonu and Akash sit in a row having chairs numbered one to eight in ascending order from left to right. They all are facing north direction. Banu sits on the chair numbered six. There are exactly two persons between Banu and Manoj. Ritu and Akash always sit adjacent to each other. Sonu sits adjacent to neither Manoj nor Banu. Anu never sits on a chair having an odd number on it. Neither Ritu nor Akash sits on chair numbered four. There is only one person between Rohan and Ritu. Anu sits on the right (not an immediate right) of Rishi, and Rishi never sits adjacent to Rohan. Who among the following sits on a chair which is having an even number on it?

A Ritu

B Rohan

C Manoj

D Anu

**Answer: D**

**Question 34**

**Lemon juice tastes sour because it contains?**

A Minerals

B Salts

C Acids

D Bases

**Answer: C**

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**Question 35**

**Which is the largest internal organ in the human body?**

A Kidneys

B Heart

C Pancreas

D Liver

**Answer: D**

**Question 36**

**With which of the following games is Nomura Cup associated?**

A Basketball

B Football

C Golf

D Badminton

**Answer: C**

**Question 37**

**How many gold medals did India win at the Asian Airgun Championships, 2019?**

A 21

B 30

C 37

D 16

Answer: D

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Question 38

When is 'World Environment Day' observed?

- A August 27
- B June 5
- C July 5
- D November 25

Answer: B

Question 39

Which of these is an anatomical cavity filled with air?

- A Tendon
- B Cartilage
- C Sinus
- D Bone

Answer: C

Question 40

Galvanisation is a method of protecting iron from rusting by coating it with a thin layer of?

- A Silver
- B Zinc
- C Aluminium
- D Copper

Answer: B

## RRB JE Previous Papers ( Download Pdf)

Question 41

Find the HCF of 175, 56 and 70.

- A 5
- B 35
- C 7
- D 70

Answer: C

**Question 42**

Who among the following was the first woman President of the General Assembly of UNO?

- A Annie Besant
- B Vijayalakshmi Pandit
- C Chonira Belliappa Muthamma
- D Sarojini Naidu

**Answer: B**

**Question 43**

P gets 360 marks out of a total score of 500. Marks of P are 10% less than Q's score. Q got 25% more than R, and R got 20% less than S. What is the percentage marks of S?

- A 68%
- B 72%
- C 75%
- D 80%

**Answer: D**

**Explanation:**

Let marks obtained by S = M

R's marks =  $0.80M$

Q's marks =  $(1.25) \times (0.80M)$

P's marks =  $(0.90) \times (1.25) \times (0.80M)$

=  $0.9M$

But  $0.9M = 360$

M = ?

M = 400

Hence % of marks obtained by S

=  $\frac{400}{500} \times 100 = 80\%$ .

## RRB JE Free Mock Test

**Question 44**

Which law states that mass can neither be created nor destroyed in a chemical reaction?

- A Law of Conservation of energy
- B Law of Conservation of mass
- C Law of Reciprocal proportion
- D Law of Constant proportions

**Answer: B**

#### Question 45

From a picnic arranged for 10 persons, 2 opted out. The expenses had to be equally shared by them. What is the percentage increase in the expenses of each person after the two left?

- A 12%
- B 25%
- C 20%
- D 15%

**Answer: B**

#### Explanation:

From a picnic arranged for 10 persons 2 opted out. The expenses had to be equally shared by them. What is percentage increases in expenses of each person after the two left?

Let say Per person planned expense =  $E$

Total Expense =  $10E$

2 Person opted out

so total expense to be shared by  $10-2 = 8$  People

Expense per person =  $10 \frac{E}{8} = 1.25E$

Increase in expense per person =  $1.25E - E = 0.25E$

% Increase in expense per person =  $\frac{0.25E}{E} \times 100 = 25\%$

#### Question 46

P and Q run along a circular track in 4 minutes and 7 minutes respectively. They start from the same point at the same time. When Q has completed 12 rounds, how many times will they meet if (i) they run in the same direction and (ii) in the opposite direction respectively?

- A (i) 9, (ii) 33
- B (i) 9, (ii) 12
- C (i) 6, (ii) 18
- D (i) 9, (ii) 8

**Answer: A**

#### Explanation:

P run along a circular track in 4 minutes

Q run along a circular track in 7 minutes

Let say Track one round length =  $R$

P speed =  $R/4$

Q speed =  $R/7$

1. they run in same direction

P runs faster so p will meet Q when he has done 1 circular round extra

Let say after  $T$  min they meet

$$\Rightarrow T \times \frac{R}{4} = R + T \times \frac{R}{7}$$

$$\Rightarrow T \times \left( \frac{R}{4} - \frac{R}{7} \right) = R$$



$$\Rightarrow T(3R) = 28R$$

$$\Rightarrow T = \frac{28}{3} \text{ mins}$$

Every  $\frac{28}{3}$  they meet once

$$Q \text{ completes } 12 \text{ rounds in } 12 \times 7 = 84 \text{ mins}$$

$$\text{Number of times they meet} = \frac{84}{\frac{28}{3}} = 9$$

9 Times

2. in opposite direction

They Meet together when they have completed one circular round together

$$\Rightarrow T \times \frac{R}{4} = R - T \times \frac{R}{7}$$

$$\Rightarrow T = \frac{28}{11}$$

Every  $\frac{28}{11}$  mins they meet

$$Q \text{ completes } 12 \text{ rounds in } 12 \times 7 = 84 \text{ mins}$$

$$\text{Number of times they meet} = \frac{84}{\frac{28}{11}} = 33$$

33 Times

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Question 47

Choose the alternative that best replaces the question mark in the given figure?



A 336

B 312

C 318

D 324

Answer: D

Question 48

A sum of money at Simple Interest amounts to Rs.2800 in 2 years and Rs.3250 in 5 years. Find the sum and the rate of interest.

A Rs.2500 and 6%

B Rs.1000 and 10%

C Rs.2000 and 5%

D Rs.3000 and 15%

Answer: A

Explanation:

Given:

Amount in 2 years = Rs. 2800

Amount in 5 years = Rs. 3250

To find: Principal and rate of interest.

We know that,

A = Total Accrued Amount (principal + interest)

$$A = P + SI$$

$$SI = A - P$$

let, P be the principal and R is the rate of interest.

According to the Question,

$$A = P + SI = P + \frac{P \times (R) \times T}{100}$$

Amount in 2 years = Rs. 2800

$$2800 = \frac{P \times (R) \times 2}{100}$$

$$140000 - 50P = PR \dots\dots\dots(1)$$

Amount in 5 years = Rs. 3250

$$A = P + SI = P + \frac{P \times (R) \times T}{100}$$

$$3250 = \frac{P \times (R) \times 5}{100}$$

$$65000 - 20P = PR \dots\dots\dots(2)$$

Divide (2) by (1),

$$140000 - 50P = 65000 - 20P$$

$$50P - 20P = 140000 - 65000$$

$$30P = 75000$$

$$P = 2500$$

Put this value of P in (1),

$$140000 - 50(2500) = 2500R$$

$$2500R = 140000 - 125000$$

$$2500R = 15000$$

$$R = 6$$

Therefore, The sum is Rs. 2500 and rate of interest is 6%.

**Question 49**

**Which of the following gives you a large supply of vitamin C?**

- A Bananas
- B Citrus fruits
- C Potatoes
- D Meat

**Answer: B**

Question 50

The study of different types of tissues is called -

- A Cytology
- B Histology
- C Cell physiology
- D Cell biology

Answer: B

Question 51

The cost of an article is Rs.380. The profit is 20% of the cost while packing expenses are 5% of the sales. Find the net selling price.

- A Rs.470 B
- B Rs.480 B
- C Rs.510 B
- D Rs.486.50B

Answer: B

Question 52

Which word will best complete the relationship given below?  
Amber Palace : Rajasthan :: Ajanta Caves : ?

- A Sikkim
- B Bihar
- C Maharashtra
- D Kerala

Answer: C

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Question 53

Find the ODD one out from the given options.

- A 37
- B 27
- C 61
- D 19

Answer: B

Question 54

If  $x^3 = n$  and the units digit of 'n' is a prime number, what are the possible choices for 'x' among the numbers from 1 to 9.

- A 3, 5, 7, 8
- B 3, 5, 7
- C 2, 3, 4, 5
- D 1, 5, 3

Answer: A

Question 55

simplify  $\sqrt{10 + \sqrt{25 + \sqrt{108 + \sqrt{154 + \sqrt{225}}}}$

- A 3
- B 8
- C 4
- D 6

Answer: C

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Question 56

Find the volume of the cuboid whose length is 24 cm, breadth is 18 cm and height is 16 cm.

- A  $7142cm^3$
- B  $7089cm^3$
- C  $5184cm^3$
- D  $6912cm^3$

Answer: D

**Explanation:**

Volume of a cuboid = (length  $\times$  breadth  $\times$  height) cubic units.

= (l  $\times$  b  $\times$  h) cubic units

put all given value

=  $24 \times 18 \times 16$

=  $6912cm^3$

Question 57

If west becomes north and north becomes east and so on, what will be the south west?

- A South

- B North west
- C North east
- D West

**Answer: B**

**Question 58**

**With which sport is Murugappa Gold Cup associated**

- A Cricket
- B Badminton
- C Hockey
- D Golf

**Answer: C**

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**Question 59**

**A concave mirror produces 3 times magnified real image of an object placed at 5 cm in front of it. At what distance from the front of the mirror is the image located?**

- A 15 cm
- B 5 cm
- C 20 cm
- D 10 cm

**Answer: A**

**Question 60**

**Find the ODD one out from the given options.**

- A Heavy - Fat
- B Birth - Death
- C Near - Away
- D Profit - Loss

**Answer: A**

**Explanation:**

Except Option A all are opposite pair

Birth - Death

Profit - Loss

Near - Away

But

Heavy - Fat have same meaning

**Question 61**

The speed of the sound depends upon the \_\_\_\_\_ properties of the medium.

- A Pressure
- B Elasticity
- C All of the options
- D Temperature

**Answer: C**

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**Question 62**

Which of the following is NOT a fossil source of energy?

- A Kerosene oil
- B Cow dung cakes
- C CNG
- D Coal

**Answer: B**

**Question 63**

How many triangles are there in the given figure?



- A 8
- B 4
- C 7
- D 5

**Answer: D**

**Question 64**

If the two roots of a quadratic equation are  $\alpha$ ,  $\beta$  where  $\alpha + \beta = 8$  and  $\alpha - \beta = 2$ , then the equation is:

- A  $x^2 + 8x + 15 = 0$
- B  $x^2 - 8x - 15 = 0$
- C  $x^2 + 8x - 15 = 0$

D  $x^2 - 8x + 15 = 0$

**Answer:** D

**Explanation:**

Given that

$$\alpha + \beta = 8 \text{ .....1 and } \alpha - \beta = 2 \text{ .....2}$$

by solving both equation and adding the both equation we get

$$\alpha + \beta + \alpha - \beta = 10$$

$$2\alpha = 10$$

$$\alpha = 5$$

$$\beta = 3$$

We substitute these values into the expression

$$x^2 - (\alpha + \beta)x + \alpha\beta = 0$$

$$x^2 - (5 + 3)x + 5 \times 3 = 0$$

$$x^2 - 8x + 15 = 0$$

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**Question 65**

Which of the following is discrete in Bohr's theory?

- A Velocity
- B Angular momentum
- C Energy
- D Linear momentum

**Answer:** C

**Question 66**

Soaps are sodium or potassium salts of long chain

- A Esters
- B Alcohols
- C Aldehydes
- D Carboxylic acid

**Answer:** D

**Question 67**

Unsaturated carbon compounds will give a \_\_\_\_\_ flame with lots of black smoke.

- A Blue
- B Red
- C Green

D Yellow

Answer: D

## RRB NTPC Previous Papers (Download PDF)

Question 68

The movement of a substance from an area of high concentration to an area of low concentration is known as?

A Sublimation

B Diffusion

C Condensation

D Evaporation

Answer: B

Question 69

Which of the following is used in acupuncture treatment?

A Needles

B Knives

C Cups

D Thread

Answer: A

Question 70

The horizontal row of the periodic table is called the?

A Group

B Period

C Table

D Column

Answer: B

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Question 71

In a certain code, 'PSHO' is coded as 'FIRE'. How would 'KQDS' be coded?

A CARD

B WIRE

C AGNI

D BAVO



**Answer:** C

**Explanation:**

'PSHO' is coded as 'FIRE'. How would 'KQDS'?

Each alphabet from letter is replaced by (*alphabet*  $\pm$  10*th*) position's alphabet

P=F, S=I, H=R, O=E      P=16, F=6, S=19, I=9, H=8, R=18, O=15, E=5

K=A, Q=G, D=N, S=I

AGNI

**Question 72**

**Rusting of iron is an example of?**

- A Combination reaction
- B Neutralisation reaction
- C Redox reaction
- D Decomposition reaction

**Answer:** A

**Question 73**

**Find the missing number in the following series. 25, 52, 27, (...), 29, 92**

- A 72
- B 62
- C 92
- D 82

**Answer:** A

## RRB NTPC Free Mock Tests

**Question 74**

**The Jaisalmer Fort is located in?**

- A Tamil Nadu
- B Punjab
- C Uttar Pradesh
- D Rajasthan

**Answer:** D

**Question 75**

**When a sound producing source moves with a speed higher than the sound, shock waves are produced in air. What is the very sharp and loud sound produced by these shock waves called?**

- A Normal sound

- B Sonic boom
- C Infrasonic sound
- D Sonic thunder

Answer: B

#### Question 76

Two places—P and Q are 400 miles apart. A car starts from P at a speed of 50 mph towards Q. After 75 minutes, another car starts from Q to P at a speed of 40 mph. At what time will the cars meet?

- A 5 hours
- B 4 hours
- C 2 hours 45 minutes
- D 4 hours 30 minutes

Answer: A

#### Explanation:

ANS: 3 hr and 45 mins

The distance between the points P and Q is 400 miles.

Car A (say) starts to move from P towards Q at a speed of 50 mph.

Hence, after 75 mins i.e. 1.25 hours, it will cover a distance

$$= \text{Speed} \times \text{time} = 50 \times 1.25 = 62.5 \text{ miles.}$$

Since, after 75 mins another car B (say) starts to move from Q towards P at a speed of 40 mph.

Hence, the remaining  $(400 - 62.5) = 337.5$  miles will be covered by both Car A and Car B with a combined speed of  $(50 + 40) = 90$  mph. {opposite directing speed add}

$$\text{time} = \frac{\text{Distance}}{\text{speed}}$$

$$\text{time} = \frac{337.5}{90}$$

$$\text{time} = 3.75$$

Therefore, they will take = 3.75 hr. or 3 hr and 45 mins more to meet each other.

## RRB JE Previous Papers ( Download Pdf)

#### Question 77

The layer of atmosphere closest to the earth surface is the?

- A Lithosphere
- B Asthenosphere
- C Stratosphere
- D Troposphere

Answer: D

#### Question 78

In the following question, which one of the four interchanges in signs and numbers would make the given equation correct?  $7 \div 2 - 4 + 1 = 6$

- A  $\div$  and + ; 2 and 7
- B - and + ; 2 and 1
- C  $\div$  and - ; 2 and 4
- D  $\div$  and + ; 7 and 4

**Answer:** C

**Explanation:**

Option c

2 interchange by 4 &  $\div$  by-

now expression become

$$7 - 4 \div 2 + 1 = 6$$

be solving we get

$$6 = 6$$

**Question 79**

**Which of the following becomes difficult without a frictional force?**

- A Moving a heavy box from one place to another
- B The movement of door
- C Walking on a wet marble floor
- D Playing carrom

**Answer:** C

## RRB JE Free Mock Test

**Question 80**

**Vijayawada is located on the banks of the river?**

- A Krishna
- B Tapti
- C Brahmaputra
- D Cauvery

**Answer:** A

**Question 81**

**\_\_\_\_\_ is the richest source of Vitamin-B.**

- A Apple
- B Pulses
- C Biscuits

D Cereals

Answer: D

Question 82

Which is the largest organelle in a cell?

A Golgi body

B Nucleus

C Mitochondria

D Endoplasmic reticulum

Answer: B

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Question 83

simplify  $\frac{\sin 3A}{\sin A} - \frac{\cos 3A}{\cos A}$  ?

A 2

B -2

C  $\frac{1}{3}$

D 3

Answer: A

Explanation:

$$\frac{\sin 3A}{\sin A} - \frac{\cos 3A}{\cos A}$$

$$\frac{(\sin 3A)(\cos A) - (\cos 3A)(\sin A)}{\sin A \cos A}$$

$$\frac{[(3\sin A - 4\sin^3 A)\cos A] - [(4\cos^3 A - 3\cos A)(\sin A)]}{\sin A \cos A}$$

$$\frac{3\sin A \cos A - 4\sin^3 A \cos A - 4\cos^3 A \sin A + 3\sin A \cos A}{\sin A \cos A}$$

$$\frac{6\sin A \cos A - 4\sin^3 A \cos A - 4\cos^3 A \sin A}{\sin A \cos A}$$

$$= \frac{\sin A \cos A (6 - 4\sin^2 A - 4\cos^2 A)}{\sin A \cos A}$$

$$= 6 - 4\sin^2 A - 4\cos^2 A$$

$$= 6 - 4(\sin^2 A + \cos^2 A) \quad [\because \sin^2 \theta + \cos^2 \theta = 1]$$

$$= 6 - 4 \times 1$$

$$= 6 - 4$$

$$= 2$$

Question 84

Amoebiasis causes -

A Dysentery

B Fever

C Headache and cold

D Severe cold

Answer: A

Question 85

Find the largest two-digit prime number.

A 91

B 97

C 93

D 89

Answer: B

## RRB Group-D Previous Papers

Question 86

Which of the following sounds is pleasant to hear and is of rich quality?

A Low pitch

B Noise

C High pitch

D Music

Answer: D

Question 87

In a certain code, 'TABLE' is written as 'WDEOH'. How would 'SKY' be written in that code?

A NYB

B TBN

C VNB

D BNY

Answer: C

**Explanation:**

each alphabet replaced by adding 3

TABLE=WDEOH

T=W, A=D, B=E, L=O, E=H

T=20, W=23, A=1, D=4, B=2, E=5, E=5, H=8

Similarly

SKY

S=V, K=N, Y=B

SO ans is

VNB

Question 88

The normal human heart-beat per minute on an average is -

- A 50-100
- B 90-100
- C 60-100
- D 100-120

Answer: C

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Question 89

If the side of a square is increased by 20%, its area is increased by k%. Find the value of 'k'.

- A 24
- B 44
- C 20
- D 36

Answer: B

**Explanation:**

Assume that the side of the square is  $x$ .

Therefore, if side of a square is increased by 20%, then new side length would be  $1.2x$

Now the area:

For the Old square it would be  $(x) \times (x)$

For the New square: would be  $(1.2x) \times (1.2x)$

$$1.44x^2 - x^2 = 44$$

Thus, the area of the square will be increased by 44

Question 90

Complete the series. 25, 125, 62.5, 250, 125, 375, (...)

- A 165
- B 187.5
- C 185
- D 175.7

Answer: B

**Explanation:**

$$25 \times 5 = 125$$

$$125 \div 2 = 62.5$$

$$62.5 \times 5 = 250$$

$$250 \div 2 = 125$$

$$125 \times 5 = 375$$

$$375 \div 2 = 187.5$$

ans=187.5

**Question 91**

P and Q can do some work individually in 8 and 16 days respectively. They work together and completed the work. What is the ratio of work done by P and Q, when the work was completed?

A 2 : 3

B 2 : 5

C 3 : 2

D 2 : 1

**Answer: D**

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**Question 92**

Who is the present Governor of Kerala?

A Vidyasagar Rao

B Navaniti Prasad Singh

C Banwarilal Purohit

D P. Sathasivam

**Answer: D**

**Question 93**

Which of the following countries was formed in 1971?

A Nepal

B Sri Lanka

C Bangladesh

D Bhutan

**Answer: C**

**Explanation:**

Modern Bangladesh emerged as an independent nation on 26th March 1971 after breaking away and achieving independence from Pakistan in the Bangladesh liberation war.

**Question 94**

In a certain language, 'pre nat bis' means 'smoking is harmful', 'vog dor nat' means 'avoid harmful habit', and 'dor bis yel' means 'please avoid smoking'. Which of the following means 'habit' in that language?

A vog

- B dor
- C bis
- D nat

**Answer: A**

**Explanation:**

'pre nat bis' means 'smoking is harmful'

'vog dor nat' means 'avoid harmful habit'

'dor bis yel' means 'please avoid smoking'

from this we get

avoid means dor

harmful means nat

habit means 'vog'

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**Question 95**

If  $\frac{a}{b} + \frac{b}{a} = 1$  then find  $a^3 + b^3$

- A 2
- B -1
- C 0
- D 1

**Answer: C**

**Question 96**

Find the missing group of alphabets in the following series.

RZ, BX, FU, (...), NL

- A UN
- B GS
- C JQ
- D SL

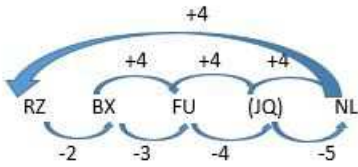
**Answer: C**

**Explanation:**



In Alphabetic order

R=18, Z=26, B=2, X=23, F=6, U=21 N=14, L=12



J=10 Q=17

so ans is JQ

### Question 97

The Simple Interest on a sum of money will be Rs.600 after 10 years. If the principal is increased three times after 5 years, what will be the total interest at the end of 10 years?

- A Rs.300
- B Rs.600
- C Rs.900
- D Rs.1200

Answer: D

### Explanation:

Given that

$$SI = 600$$

$$T = 10 \text{ years}$$

$$SI = \frac{(P) \times (R) \times (T)}{100}$$

$$SI = \frac{(P) \times (R) \times (10)}{100}$$

$$SI = \frac{(P) \times (R)}{10}$$

$$PR = 6000$$

Given that the simple interest for 10 years = Rs.600

Then for 5 years, it will be Rs.300

If the principal is tripled for next 5 years, then the SI for next 5 years will be  $= \frac{3P \times (R) \times 5}{100}$

Where PR=6000

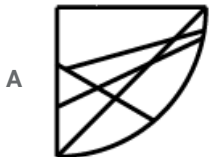
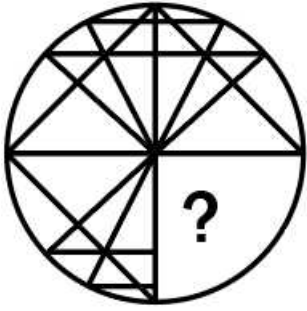
$$\frac{15 \times 6000}{100} = 15 \times 60 = 900$$

∴ Total interest = 300+900=Rs.1200

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Question 98

Choose the alternatives from the figure that best completes the pattern given below?

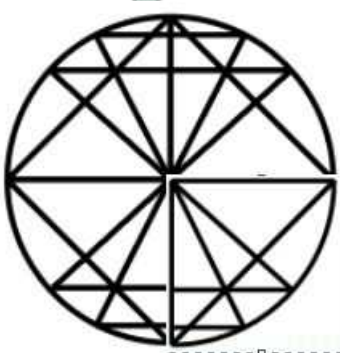


Answer: B

Explanation:

option B is correct

by using B option we completed the figure



Question 99

Read the following information carefully and answer the question given below.

J, K, L, M, N, X, Y and Z are playing a game standing in a circle facing outwards. L is neither the neighbour of J nor of Y. M is the neighbour of J but not of Z. N is the neighbour of Z and is third to the right of X. K is the neighbour of X and fourth to the left of M. Who among the following stands third to the right of K?

- A L
- B J
- C Y
- D M

Answer: A

**Question 100**

Crude birth rate is the number of live births per \_\_\_\_\_ people each year.

- A 10000
- B 100
- C 10
- D 1000

Answer: D

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