RRB NTPC 18 Jan 2021 Shift 1 Solution

Que. 1
Where is the headquarters of the International Court of Justice located?
1. Paris
2. The Hague
3. New York
4. Geneva

Ans. Correct Option - 2
The headquarters of the International Court of Justice "The Hague" is located in the Netherlands.
The International Court of Justice is the principal judicial body of the United Nations. It comprises 193 member countries.
Its official languages are English and French.
The World Health Organization is headquartered in Geneva, Switzerland.
UNESCO has its headquarters in Paris, France.
The headquarters of the United Nations is in New York.

Que. 2
B is twice as efficient than A and the total time taken to complete the work by both A and B together is 22 days. Find Number of days taken by B to complete the work alone.
1. 11 days
2. 44 days
3. 33 days
4. 30 days

Ans. Given: Correct Option - 3
B is twice efficient than A
The total time taken to complete the work by both A and B together is 22 days
Concept used:
Total Work = total efficiency × number of days
Calculation:
B is twice efficient than A

Efficiency ratio of A and B = 1 : 2
Total work = total efficiency × number of days
⇒ 3 × 22 = 66 unit
Number of days required to complete the work along
⇒ Total work / efficiency of B
⇒ 66/2
⇒ 33 Days

Que. 3
Select the related number from the given alternatives.
3 : 28 :: 9 : ?
1. 330
2. 730
3. 630
4. 830
Ans. Correct Option - 2
Logic is as follows
$3 : 28 \rightarrow 3 : (3^3 + 1) \rightarrow 3 : (27 + 1)$
Similarly
$9 : ? \rightarrow 9 : 9^3 + 1 \rightarrow 9 : (729 + 1) \rightarrow 9 : 730$
Hence, "730" is the correct answer.

Que. 4
Who is the author of the book "Why I Am a Hindu"?
1. Shashi Tharoor
2. Mohan Bhagwat
3. Yogi Adityanath
4. Ram Nath Kovind

Ans. Correct Option - 1
The correct answer is Shashi Tharoor.
The book "Why I Am a Hindu" is authored by Shashi Tharoor.
Tharoor in this book explains how Hinduism is different from the ideology of Hindutva.
Some other popular books written by Shashi Tharoor are 'An Era of Darkness: The British Empire in India', 'Inglorious Empire, and India: From Midnight to the Millennium'.

Que. 5 If x = 3 2 × 2 and y = 2 3 × 3 and z = 3 2 × 4, then find the LCM of xy, yz and zx.

1.2592

2.2416

3.2748

4.2936

Ans. Given

Correct Option - 1

$x = 3^2 \times 2$

$y = 2^3 \times 3$

$z = 3^2 \times 4$

Formula used

Prime factorization method Calculation

$x = 9 \times 2$

⇒ 18

⇒ $y = 8 \times 3$

⇒ 24

⇒ $z = 9 \times 4$

⇒ 36

⇒ xy = 18 × 24

⇒ 432

⇒ yz = 24 × 36

⇒ 864

⇒ zx = 18 × 36

⇒ 648

⇒ LCM of number 432, 864, 648

⇒ 432 = 2 × 2 × 2 × 2 × 3 × 3 ×3

⇒ 864 = 2 × 2 × 2 × 2 × 2 × 3 × 3 × 3

⇒ 648 = 2 × 2 × 2 × 3 × 3 × 3 × 3

⇒ Multiply each factor the greater number of times it occurs in steps i) or ii) above to find the LCM

⇒ LCM = 2 × 2 × 2 × 2 × 2 × 3 × 3 × 3 × 3

⇒ 2592

⇒ xy = 432

⇒ yz = 864

⇒ zx = 648

⇒ Largest number is 864

⇒ 864 × 3 = 2592

⇒ 2592 is divide by 432 and 648

⇒ 2592 is LCM

Que. 6 In a certain code language,

12 × 7 = 408

9 × 8 = 207

13 × 7 = ?

What will replace the '?' mark sign.

1. 190

2. 910

3. 901

4. 109

Ans. Correct Option - 4

Logic : Multiply the number reverse the resultant and write 0 in between

12 × 7 = 84 → Reverse and 0 in between = 408

9 × 8 = 72 → Reverse and 0 in between = 207

13 × 7 = 91→ Reverse and 0 in between = 109

Hence, "109" is the correct answer.

Que. 7

The other name of the Yarlung Tsangpo river in India is .

1. Ganga

2. Indus

3. Brahmaputra

4.Mahanadi

Ans. Correct Option - 3

The correct answer is Brahmaputra.

The Yarlung Tsangpo River is the highest major river in the world. It is the longest river of Tibet Autonomous Region, China.

Downstream from Arunachal Pradesh, the river becomes wider and after reaching Assam, the river is known as the Brahmaputra.

The river has been called the "Everest of Rivers" because of the extreme conditions of the river. Ganga river originates from the Gangotri Glacier of the western Himalayas in the Indian state of Uttarakhand. Indus river originates in the Tibetan Plateau in the close proximity of Lake Manasarovar, the river runs a course throughtheLadakh region of India.

Mahanadi river flows through the states of Chhattisgarh and Odisha. Mahanadi is also known for the HirakudDam.

Que. 8

The price of an article depreciates 10% per year. If the present price of the article is Rs. 162,000 then, find the price of the article before 2 years.

1. Rs. 2,00,000

2. Rs. 1,81,000

3. Rs. 1,92,000

4. Rs. 2,05,000

Ans. Given Correct Option - 1

price of an article depreciates 10% per

present price of the article is Rs 162,000

Calculation

Let the value of machine 2 years ago = x

Then, $x \times \frac{90}{100} \times \frac{90}{100} = 162000$

$\Rightarrow x \times \frac{9}{10} \times \frac{9}{10} = 162000$

$\Rightarrow x = \frac{10}{9} \times \frac{10}{9} \times 162000$

$\Rightarrow x = 200000$

∴ Price of article 2 years ago is 2,00,000

$\Rightarrow$ Successive percentage = -10% -10% -(10%× 10%)/100

$\Rightarrow$ decrease in percentage = 21%

$\Rightarrow$ 81% = 162000

$\Rightarrow$ 100% = 200000

∴ Price of article 2 years ago is 2,00,000

Que. 9 Question:-

In the following question below some statements are given followed by some conclusions. Taking the given statements to be true even if they seem to be at variance from commonly known facts, read all the conclusions and then decide which of the given conclusions logically follows the given statements.

Statement:

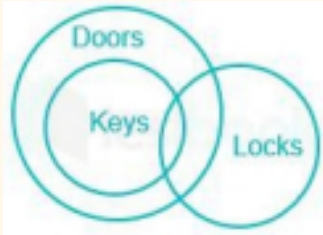**I. All keys are doors**

II. Some locks are keys

Conclusion:

I. Some keys are doors.

II. All doors are locks.

1. Only conclusion I follow

2. Only conclusion II follow

3. Neither conclusion I nor II follow

4. Both conclusion I and II follow

Ans. Correct Option - 1

Least possible Venn diagram is:

I. Some keys are doors.→ True (All keys are doors)

II. All doors are locks. →False (It is possible but not definite)

Hence, only conclusion I follow.

Que. 10

In Which year did Mahatma Gandhi return to India from South Africa?

1. 1905

2. 1920

3. 1915

4. 1910

Ans. Correct Option - 3

The correct answer is 1915.

Mahatma Gandhi returns to India from South Africa on 9 January 1915.

After arriving in India, Mahatma Gandhi successfully organized Satyagraha Movements in various places. Gandhi returned to India from South Africa in 1915 at the request of Gopal Krishna Gokhale. Gandhi Ji returns from South Africa can be seen as perfect timing for the future development of the Indian national movement. Gokhale helped Gandhiji at the time of hardships in raising funds when Gandhiji was in South Africa. Gokhale insisted to Gandhiji that he has been far away from his nation. He wanted Gandhiji to come to India and know the situation of India under British Rule.

Que. 11 A, B and C invested in a firm. Out of the total profit of Rs. 15,000, A and B got Rs. 4500 and Rs. 5500 respectively. If the total investment was Rs. 24,000, then find the investment done byC.

1. Rs. 7500

2. Rs. 8000

3. Rs. 8500

4. Rs. 9500

Ans. Given Correct Option - 2

Total investment = Rs.24,000

Total profit = Rs.15,000

A and B got Rs.4500 and Rs.5500

Concept used

The ratio of profit share is same as the ratio of the investment.

Calculation

Profit of A = Rs.4500

Profit of B = Rs.5500

Total Profit = Rs.15000

Profit of C =Total Profit - Profit of A and B

$\Rightarrow$ 15000 - 10000

$\Rightarrow$ Rs.5000

$\Rightarrow$ Ratio of Profit by A, B and C = 4500 : 5500 : 5000

$\Rightarrow$ 9 : 11 : 10

$\Rightarrow$ Ratio of investment is same as the ratio of profit

$\Rightarrow$ 9 : 11 : 10

$\Rightarrow$ Total investment = Rs.24000

$\Rightarrow$ 9x + 11x + 10x = 24000

$\Rightarrow$ 30x = 24000

$\Rightarrow$ x = Rs.800

$\Rightarrow$ C's investment = 800 × 10

$\Rightarrow$ Rs.8000

Total profit = Rs.15,000

Profit of C = Total profit - profit of A and B

$\Rightarrow$ 15000 - 10000

$\Rightarrow$ Rs.5000

$\Rightarrow$ Profit ratio of A, B and C = 9 : 11 : 10

$\Rightarrow$ Ratio of investment is same as the ratio of profit

$\Rightarrow$ 9 : 11 : 10

$\Rightarrow$ (9 + 11 + 10) part = 24000

$\Rightarrow$ 1 part = Rs.800

$\Rightarrow$ 10 part = Rs.8000, It is investment of C

Que. 12 In the group of 85 people speak three languages English, French and Japanese. 15 people speak only the French Language, 10 people speak only the English language. 10 people speak both French and English language, 20 people speak bothJapaneseand French language and 15 people speak both English and Japanese language. 10 people speak all three kinds of language. Find How Many people speak only Japanese language?
1. 15
2. 10

3. 5
4. 12

Ans. Correct Option - 3
people speak only the French language = 15
people only the English language = 10
people speak both French and English language = 10
people speak both Japanese and French language = 20
people speak both English and Japanese language = 15
people speak all three kinds of language = 10
Total Number of people in the group is = 85
The people speak only Japanese is = 85 - (15 +10 + 10 + 20 + 15 + 10)
The people speak only Japanese is = 5
Hence, '5' is the correct answer.

Que. 13
Who was the first President of the Indian National Congress?
1. Womesh Chunder Bonnerjee
2. Bal Gangadhar Tilak
3. Allan Octavian Hume
4. Dadabhai Naoroji

Ans. Correct Option - 1
Womesh Chunder Bannerjee was an Indian barrister and was the first president of Indian National Congress. He was the first Indian Contest the election for the British House of Commons although he lost the election

Que. 14 The present ratio of age of two brothers is 5 : 4. If the ratio of their age become 11 : 9 after 3 years then what is the percentage of the younger brother?
1. 25
2. 30
3. 18
4. 24

Ans. Given Correct Option - 4

The present ratio of age of two brothers is 5 : 4

Ratio of their age become 11 : 9 after 3 years

Concept used

Ratio method

Calculation

Let present age of younger brother be (x years)

Present age of elder brother be (y years)

⇒ The ratio of the present ages of two brother is 5 : 4

⇒ x : y = 5 : 4

⇒ 4x = 5y (i)

⇒ After 3 years , x : y = 11 : 9

⇒ (x + 3)/(y + 3) = 11 : 9

⇒ 9x + 27 = 11y + 33

⇒ 9x = 11y + 6

⇒ From equation (i) 9 × 5/4y = 11y + 6

⇒ (45/4)y - 11y = 6

⇒ y = 24

⇒ From equation (i), 4x = 5 × 24

⇒ x = 30

→ age of younger brother will be 24 years

Ratio of brother's age = 5 : 4

After 3 years = 11 : 9

Multiply first ratio by 2 to make equal difference on both ratio

⇒ 10 : 8

⇒ 11 : 9

⇒ According to question, 1p = 3

∴ 8p = 8 × 3

⇒ 24 years

Que. 15

**Pointing to Rahul, Sohan Said "He is the husband of my wife's only daughter" how did Rahul relate to Sohan ?**

1. Son
2. Brother
3. Brother- in l-aw
4. Son - in - law

Ans. Correct Option - 4

Preparing the family tree using the following symbols,

According to the question:

Sohan said Rahul is the husband of my wife's daughter, which means Rahul is the son in law of Sohan. The least possible Venn diagram for the above statement is:
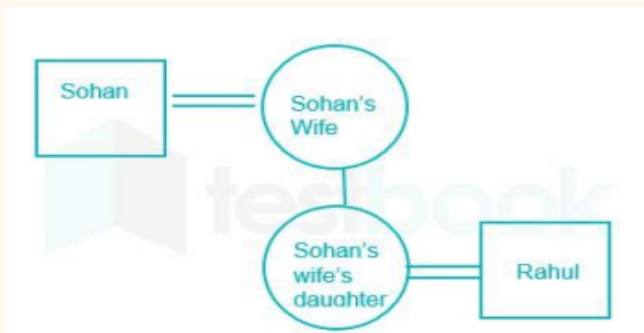
Hence, 'Son in law' is the correct answer.

Que. 16

What does the word 'F' stand for in the term "NEFT"?
1. Futures
2. Fasts
3. Funds
4. None of the above

Ans. Correct Option - 3

The correct answer is option 3) i.e. Funds.

"NEFT" stands for National Electronic Funds Transfer.

It is an online payment system that can be used by individuals and organizations to transfer funds. Individuals who do not have bank accounts can deposit the money at NEFT enabled branches to avail this facility by providing their basic details.

Que. 17 Find the average of the numbers 5, 8, 0, 12 and 15
1. 8
2.10
3. 12.6
4. 9.6

Ans. Given Correct Option - 1

numbers are 5, 8, 0, 12 and 15

Formula used

Average = total sum of all observations / total number of observations

Calculation

⇒ sum of all observations = 5 + 8 + 0 + 12 + 15

⇒ 40

⇒ number of observations = 5

⇒ Average = 40 / 5

⇒ 8

Que. 18 Select the missing number from the given series.

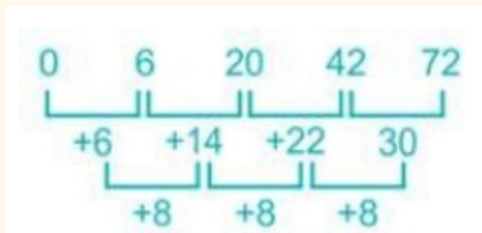**0, 6, 20, 42, ?**

1. 72

2. 65

3. 62

4. 75

Ans.

Correct Option - 1

Here the logic is:

Hence, '72' is the correct answer.

Que. 19

Which of the following states has the lowest population density, according to Census 2011?

1. Sikkim

2. Arunachal Pradesh

3. Nagaland

4. Goa

Ans. Correct Option - 2

The correct answer is Arunachal Pradesh.

The state with the lowest population density is Arunachal Pradesh is 17 per sq. km. Hence Option 2 is correct.

Que. 20

Find how many odd factors are there in the number 1240.

1. 2

2. 4

3. 5

4. 16

Ans. Given

Correct Option - 2

number 1240

Formula used

Factorization method

odd factors of $p^a \times q^b = (a+1)(b+1)$

Calculation

Factor of $1240 = 2^3 \times 5^1 \times (31)^1$

$\Rightarrow$ odd number are $5^1 \times (31)^1$

$\Rightarrow$ odd factors of $p^a \times q^b$

$\Rightarrow (a+1)(b+1)$

$\Rightarrow (1+1)(1+1)$

$\Rightarrow 4$

Que. 21 In a certain code language 'PASSPORT' is coded as 'RCUUNMPR' .How is 'PANDEMIC' written in the same code language?

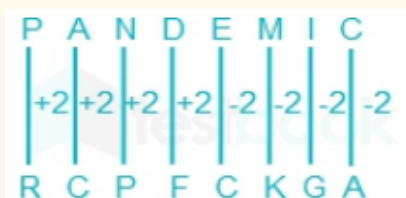1. RCPFCHGB

2. QCPFDIGA

3. RCPFCKGA

4. SCPFDHGB

Ans. Correct Option - 3

The positions of the letters According to the English alphabet series is:

The pattern followed here is :

Similarly,

Hence, 'RCPFCKGA' is the correct answer.

Que. 22
Which Indian actress was honored with the UNICEF Humanitarian Award?
1. Deepika Padukone
2. Aishwarya Rai
3. Sonam Kapoor
4. Priyanka Chopra

Ans. Correct Option - 4
Priyanka Chopra was awarded the UNICEF Humanitarian Award in December 2019 at the snowflake Ball. She is a UNICEF Goodwill Ambassador and visited Ethiopia in May 2019
At the event, She spoke on the topic of children's education and she has also contributed to improving girl safety in India. Ethiopia's capital is Addis Ababa and its currency is Birr.

Que. 23 A shopkeeper sells his articles in such a way that the selling price of 5 articles is equals to the cost price of 3 articles. Findhis profit or loss percentage in that transaction.
1. 40% profit
2. 40% loss
3. 33.33 profit
4. 33.33 loss

Ans. Given Correct Option - 2
selling price of 5 articles is equals to the cost price of 3 articles
Formula used
Calculation
SP of 5 article = CP of 3 article
$\Rightarrow$ 5 SP = 3 CP
$\frac{cp}{sp} = \frac{5}{3}$
$\Rightarrow$loss = 5-3
$\Rightarrow$ loss = 2
$\Rightarrow$ loss% = 2/5 × 100
$\Rightarrow$ 40%

Que. 24 In the question, a statement is given, followed by two arguments, I and II. You have to consider the statement to be true even if it seems to be at variance from commonly known facts. You have to decide which of the given arguments, if any, is a strong argument.
Statement : Should there be a plastic ban in India ?

Argument :
I. Yes, because of plastic uses pollution increases.
II. No, colorful things can be made from plastic.
1. Both follows.
2. Only I follows
3. Only II follows
4. None follows

Ans.
Correct Option - 2
Given data :
Statement : Should there be a plastic ban in India ?
I. Yes, because of plastic uses pollution increases → True
II. No, colorful things can be made from plastic → False (Colorful things can also be made from the different materials) Hence, 'Only I follows' is the correct answer.

Que. 25
Which city was the capital of India from 1772 to 1912?
1. Calcutta
2. Daulatabad
3. Delhi
4. Bombay

Ans. Correct Option - 1
The correct answer is Calcutta.
From 1772 to 1911, Calcutta was the capital of British India.
1772 Calcutta became the capital of British India when the first governor-general, Warren Hastings, transferred all important offices to the city from Murshidabad.
From 1912 to India's Independence in 1947, Calcutta was the capital of all of Bengal.

Que. 25 If sinA + cosecA = 2 then what will be the value of $\sin^8 A + \csc^8 A$?
1. 1
2. 2
3. 1/2
4. 3/4

Ans. Correct Option - 2 Given
sinA + cosecA = 2
Concept used
If $x + \frac{1}{x} = 2$ then x = 1
SinA = 1/CosecA

Calculation

SinA + CosecA= 2

$\Rightarrow$ SinA + $\frac{1}{SinA}$ = 2

$\Rightarrow$ SinA = 1

$\Rightarrow$ A = 90°

$\Rightarrow$ $\sin^8 A + \csc^8 A$

$\Rightarrow$ $Sin^8 90 + Cosec^8 90$

$\Rightarrow$ 1 + 1

$\Rightarrow$ 2

$\therefore$ $Sin^8 A + \csc^8 A = 2$

OR

$\Rightarrow$ $\sin A + \csc A = 2$

$\Rightarrow$ A = 90°

$\Rightarrow$ $\Rightarrow$ $Sin^8 90 + Cosec^8 90$

$\Rightarrow$ 2

Que. 27 Select the related word from the given alternatives.
Court : Justice :: University : ?
1. Degree
2. Teachers
3. School
4. College

Ans.
Correct Option - 1
Here the logic is:
Court: Justice → Justice is related to court.
Similarly,
The degree is related to University.
Hence, 'Degree' is the correct answer.

Que. 28
Which among these ports is also known as the New Mangalore Port?
1. Mormugao Port
2. Panambur Port
3. Kandla Port
4. Tuticorin Port

Ans. Correct Option - 2

The correct answer is option 2 i.e Panambur Port

Panambur Port is also known as the New Mangalore Port.

It is located in Dakshina Kannada district of Karnataka.

Kandla Port is located at the eastern end of the Gulf of Kutch.

Mormugao is an important Port of Goa located at the entrance of Zuvari estuary.

Tuticorin Port is a port located in Tamil Nadu.

Que. 29 A and B invested Rs. 7000 and Rs. 8000 in a firm. If the total profit after 2 years is Rs. 56,000 then, find the profit of B(approx).

1. Rs. 28,545

2. Rs. 27,396

3. Rs. 29,866

4. Rs. 28, 934

Ans. Given

Correct Option - 3

A invested Rs.7.000

B invested Rs.8,000

Total profit after 2 Years = Rs.56,000

Concept used

The ratio of profit share is same as the ratio of the investment

Calculation

Ratio of invested by A and B

$\Rightarrow$ A : B = 7000 : 8000

$\Rightarrow$ A : B = 7 : 8

$\Rightarrow$ profit also share in same ratio as the investment

$\Rightarrow$ A : B = 7 : 8

$\Rightarrow$ 7x + 8x = 56000

$\Rightarrow$ 15x = 56000

$\Rightarrow$ x = 3733

$\Rightarrow$ Profit of B = 8 × 3733

$\Rightarrow$ Rs. 29,866

Que. 30

Find the odd one out?

1. 21 - 11

2. 33 -15

3. 31- 16

4. 33 -17

Ans. Correct Option - 2

The pattern followed here is,

1) 11 × 2 - 1 = 21
2) 15 × 2 - 1 = 29 ≠ 33
3) 16 × 2 - 1 = 31
4) 17 × 2 - 1 = 33

Hence, '33 - 15' is odd among all.

Que. 31

Which among the following monuments was not built by Shah Jahan? 1.
Taj Mahal
2. Red Fort
3. Jama Masjid
4. Buland Darwaza

Ans. Correct Option - 4

Buland Darwaza was built by Akbar.

It was built to mark Akbar's victory over Gujarat.

It is located at Fatehpur Sikri.

Taj Mahal at Agra, Red fort and Jama Masjid at delhi were built by Shah jahan of Mughal Dynasty.

Que. 32

If 3x/2y = 48/36, find the value of x : y.

1. 7 : 8
2. 7 : 9
3. 8 : 9
4. 9 : 7

Ans. Given :

Correct Option - 3

$3x/2y = 48/36$

Calculation:

⇒ $3x/2y = 48/36$

⇒ $x/y = 48× 2/3× 36 = 16/18$

∴ $x/y = 8/9$

Que. 33

In a certain code "G" is written as "21" and "GAME" is written as "86". How is "BASIC" written in that code?

1. 98

2. 108

3. 106

4. 110

Ans. Correct Option - 3

The positions of the letters according to the English alphabet series.

The pattern followed here is:

G = 21

So the reverse position of G = 20 and 20 + 1 = 21

GAME = 21 + 27 + 15 + 23 = 86

Similarly,

BASIC = 26 + 27 + 9 +19 + 25 = 106

Hence, '106' is the correct answer.

Que. 34 The headquarters of the ASEAN is located in which of the following country?

1. Indonesia

2. Vietnam

3. Thailand

4. Singapore

Ans. Correct Option - 1

The Association of Southeast Asian Nations, or ASEAN, was established on 8 August 1967 in Bangkok, Thailand. Currently, there are 10 permanent members of this association. Its headquarter is in Jakarta(Indonesia).

1. The creation of ASEAN was motivated by a common fear of communism.

2. The Association of Southeast Asian Nations is a regional intergovernmental organization comprising ten countries inSoutheast Asia, which promotes intergovernmental cooperation and facilitates economic, political, security, military, educational, and sociocultural integration among its members and other countries inAsia.

3. Members are Indonesia, Philippines, Vietnam, Thailand, Myanmar, Malaysia, Cambodia, Laos, Singapore, and Brunei. Observers are East Timor and Papua New Guinea.

4. India could not become a member of this association due to its geographical location. India is a part of South-Asia whileASEAN is an organization of South-East Asian Nations. On July 23, 1996; ASEAN gave advisory status to India.

Thus, option 1 is the correct answer.

Que. 35 The present age of Ram is 25 years and Mohan is 10 years younger than Ram. Find after how many years the ratio between their ages will become 16 : 11.
1. 5 years
2. 8 years
3. 7 years
4. 6 years

Ans. Given: Correct Option - 3
The present age of Ram is = 25 years and Mohan is 10 years younger than Ram, i.e = 25 – 10 = 15 years. Let us assume after x years their age will be
In the ratio of = 16 : 11
Calculation:
$\Rightarrow$ After x years the age of Ram = 25 + x years
$\Rightarrow$ After x years the age of Mohan = 15 + x years
$\Rightarrow$ As given there age Ratio will be = 16 : 11
$\Rightarrow$ (25 + x)/(15 + x) = 16/11
$\Rightarrow$ (25 + x)× 11 = (15 + x)× 16
$\Rightarrow$ 25× 11 + 11x = 15× 16 + 16x
$\Rightarrow$ 275 – 240 = 16x – 11x
$\Rightarrow$ 35 = 5x

$\therefore$ x = 7

Que. 36 A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.
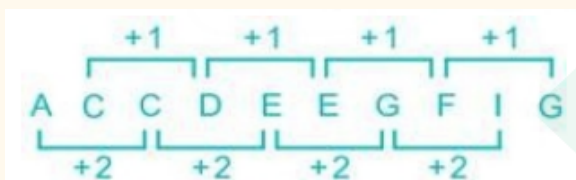**AC, CD, EE, GF, ?**
1. IG
2. CX
3. ZD
4. DF

Ans.
Correct Option - 1
Here the logic is:

Hence, 'IG' is the correct answer.

Que. 37 Which of the following city with population more than 10 lakh as the cleanest city of India in the list of 'SwachhSurvekshan 2020'?
1. Surat
2. Indore
3. Patna
4. Ahmadabad

Ans. Correct Option - 2
The correct answer is Indore.
Madhya Pradesh's Indore has been declared the cleanest city with a population more than 10 lakh in India in 'SwachhSurvekshan 2020' ranking list followed by Surat, Navi Mumbai andVijayawada. Patna is the dirtiest city in the same category.
The Union Ministry of Housing and Urban Affairs announce Swachh Survekshan awards every year. Swachh Survekshan monitors Swachh Bharat Abhiyan which was launched by Prime Minister Narendra Modi in2014. Swachh Survekshan 2020 has been conducted in 4,242 cities, 62 cantonment boards and 92 Ganga towns in the country. Swachh Survekshan awards 2020 conducted in an event - Swachh Mahotsav in which a total of 129 awards are given different categories.

Que. 38 Find the value of sin 15°.
1. (√3 + 1)/2√2
2. (√3 + 1)/2
3. (√3 − 1)/2√2
4. (√3 − 1)/2

Ans. Given: Correct Option - 3
Find the value of sin15°.
Formula Used:
$\sin(A - B) = \sin A \times \cos B - \sin B \times \cos A$
Calculation:
Now, form the above used formula
$\Rightarrow \sin 15° = \sin(45° - 30°)$
$\Rightarrow \sin 45° \times \cos 30° - \sin 30° \times \cos 45°$
$\Rightarrow (1/\sqrt{2}) \times (\sqrt{3}/2) - (1/\sqrt{2}) \times (1/2)$
$\Rightarrow (\sqrt{3} - 1)/(2 \times \sqrt{2})$
$\therefore (\sqrt{3} - 1)/2\sqrt{2}$

Que. 39 In the question, a statement is given, followed by two arguments, I and II. You have to consider the statement to be true even if it seems to be at variance from commonly known facts. You have to decide which of the given arguments, if any, is a strong argument.
Statement : Should vegetarian food be banned in India ?
Argument:
I. No, everybody can buy vegetarian food as it is affordable
II. Yes, Protein is found in small amounts in vegetarian food.
1. Only I follows
2. Only II follows
3. Both follows
4. None follows
Ans.
Correct Option - 1
Given data :
Statement: Should vegetarian food be banned in India ?
Inference :
I. No, everybody can buy vegetarian food as it is affordable → True (Most of the people can afford vegetarian food as compared to non-vegetarian food)
II. Yes, Protein is found in small amounts in vegetarian food.→ False (It is not mentioned in the statement) Hence, 'Only I follows' is the correct answer.

Que. 40
Which of the following states of India is the folk dance Oyilattam associated with?
1. Tamil Nadu
2. Kerela
3. Karnataka
4. Andhra Pradesh

Ans. Correct Option - 1
Oyilattam folk dance belongs to Madurai region of Tamil Nadu.
This dance is mainly performed at village festivals.
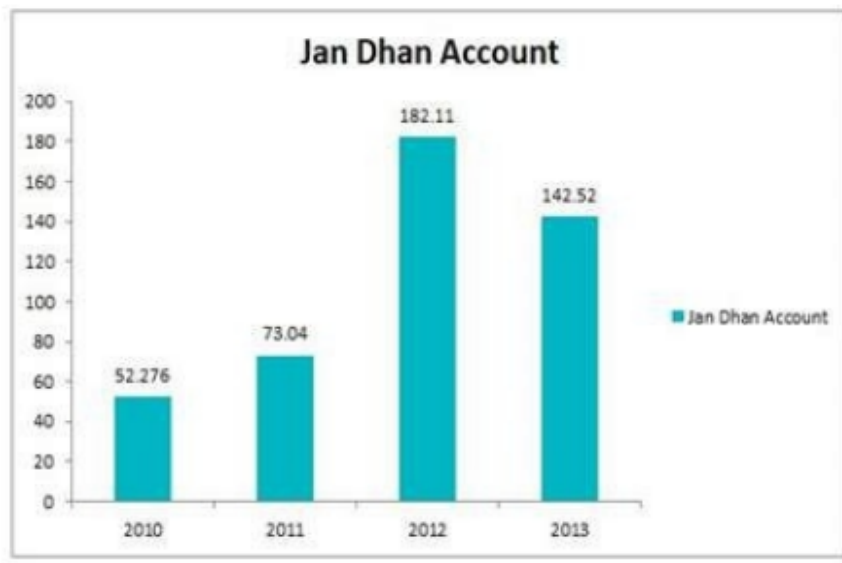This dance highlights the epics of Ramayana and Mahabaratha.
State Folk Dance
Kerala Kanniyar Kali
Karnataka Yakshagana
Andhra Pradesh Lambadi

Que. 41 Directions: The following questions are based on the bar graph given below which represents the Jan Dhan accounts opened in different years 2010, 2011, 2012, 2013. (All the accounts opened data are in thousands)

The total accounts opened in 2013 decreased by how much percent to the total accounts opened in 2012.

1. 19.5%
2. 25%
3. 23.7%
4. 21.73%

Ans. Given: Correct Option - 4

Number of Jan Dhan accounts opened in years 2010 = 52.276, in 2011 = 73.04, in 2012 = 182.11, in 2013 = 142.52 All are in (thousand = 1000)

Calculation:

⇒ The difference between the accounts from 2012 to 2013

⇒ 182110 – 142520 = 39590

Now, the percentage of the difference between 2012 and 2013 to 2012 will be

⇒ Percentage% = (39590/182110)× 100 = 21.73%

Que. 42 Find the number related to the given number :

61, 19, 31

1. 27
2. 79
3. 16
4. 33

Ans. Correct Option - 2

The numbers given in the question are all prime number.

So, '79' is the number related to the given numbers

Hence, '79' is the correct answer.

Que. 43 Which of the following article states about "the Power of the Parliament to amend the constitution and procedure, therefore"?

1. Article 368

2. Article 369

3. Article 371

4. Article 371A

Ans. Correct Option - 1

Article 368 states about the "Power of the Parliament to amend the constitution and procedure, therefor". According to Article 368, Parliament may amend the constitution by way of addition, variation or repeal any provision of thisConstitution in accordance with the procedure laid down in this article.

Que. 44

Find the difference between accounts opened in 2010 and 2011 to the total accounts opened in 2013.

1.17204

2. 15000

3. 16000

4. 19200

Ans. Given: Correct Option - 1

Number of Jan Dhan accounts opened in years 2010 = 52.276, in 2011 = 73.04, in 2012 = 182.11, in 2013 = 142.52 all are in (thousand = 1000)

Calculation:

⇒ Total Account opened in 2010 and 2011

⇒ 73040 + 52276 = 125316

Also Account opened in 2013 = 142520

⇒ Difference of accounts opened in 2010, 2011 to 2013

⇒ 142520 − 125316 = 17204

Que. 45 Select the missing number from the given series.

1, 8, 27, 64, ?

1. 126

2. 125

3. 141

4. 81

Ans. Correct Option - 2
Here the logic is:
1³ = 1
2³ = 8
3³ = 27
4³ = 64
Similarly,
5³ = 125
Hence, '125' is the correct answer.

Que. 46 Who among the following is the first Indian Prime Minister to resign from office?
1. Morarji Desai
2. VP Singh
3. Atal Bihari Vajpayee
4. IK Gujral

Ans. Correct Option - 1
The correct answer is Morarji Desai.
Morarji Desai was the first Indian Prime Minister to resign from office.
Morarji Desai was an Indian independence activist and served between 1977 and 1979 as the 4th
Prime Minister of India.He was appointed as Deputy Prime Minister and Minister of Finance in Indira
Gandhi's cabinet, until 1969. He became the first non-Congress Prime Minister of India.

Que. 47
The difference between accounts opened in 2010 and 2011 is what percent of the total
account opened in these 4 years?
1. 5%
2. 4.6%
3. 3.6%
4. 5.4%

Ans. Given: Correct Option - 2
Number of Jan Dhan accounts opened in years 2010 = 52.276, in 2011 = 73.04, in 2012 = 182.11,
in 2013 = 142.52 all are in (thousand = 1000)
Calculation:
The difference of accounts opened in 2010 and 2011 =
⇒ (73.04 − 52.276)× 1000 = 20764
Also, the total number of accounts is = 449946
⇒ The percentage of difference of accounts opened to total accounts
⇒ (20764/449946)× 100 = 4.6 (approx.)

Que. 48 Six friends A, B, C, D, E and F are sitting around a circular table facing towards the center. C is not adjacent to Aor B. Eisin the middle of A and B. F is not an immediate neighbor ofB.

Other than F, who is adjacent to C?

1. D
2. E
3. B
4. A

Ans. Correct Option - 1

1. Six friends A, B, C, D, E and F are sitting around a circular table facing towards the centre.
2. E is in the middle of A and B.
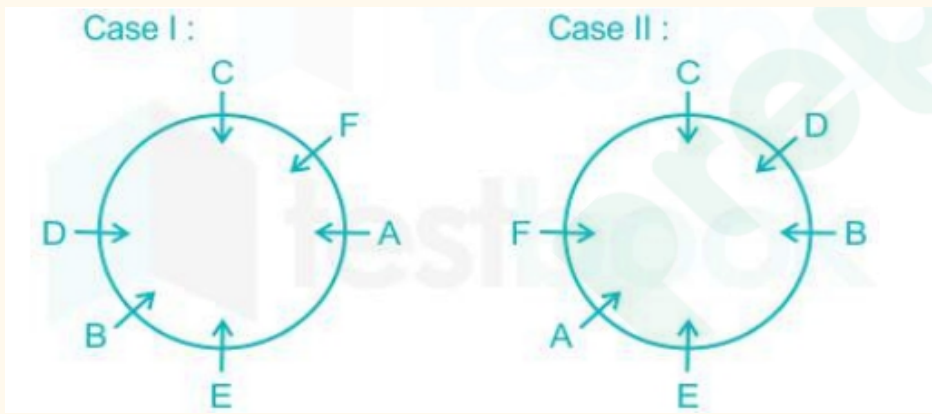3. C is not adjacent to A or B.
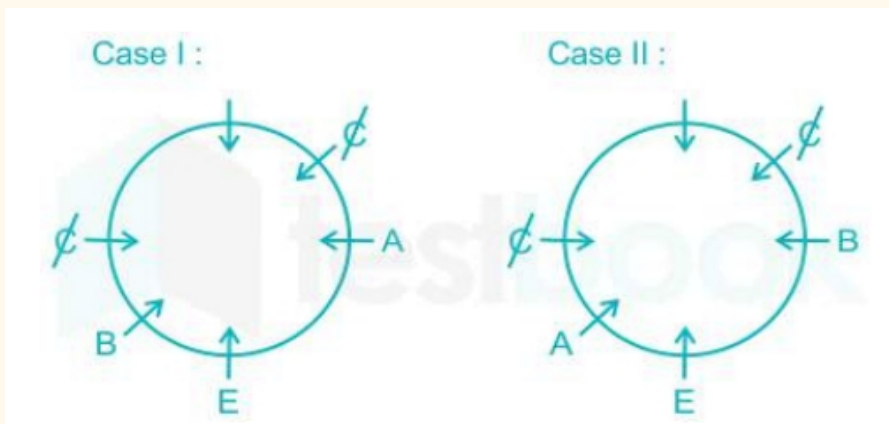
In the arrangement shown above, only one position is left for C to occupy. So, C is sitting opposite to E as shown below. 4. F is not an immediate neighbor of B.

So, the only position left for F is between C and A.
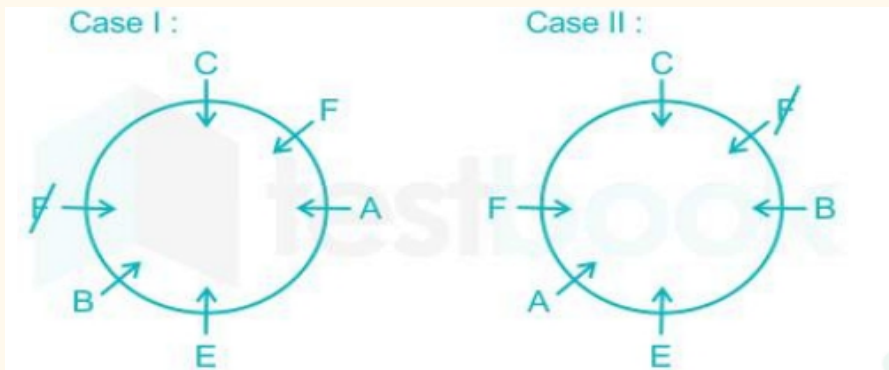
Only one person D is left who will occupy the vacant position.

The final arrangement is shown below:

Other than F, D is adjacent to C. Hence,
Other than F, D is adjacent toC.

Que. 49
Who was the founder of the Indian Reform Association' in 1870?
1. Raja Rammohan Roy
2. Kesava Chandra Sen
3. Devendranath Tagore
4. Eswarachandra Vijay Sagar

Ans. Correct Option - 2
The correct option is 2 i.e., Kesava Chandra Sen.
Kesava Chandra Sen was the founder of the Indian Reform Association' in 1870.
Kesava Chandra Sen became a member of the Brahmo Samaj in 1856.
In 1854, Keshub Chunder Sen became the secretary of the Asiatic Society.
Kesava Chandra Sen established the British India Society in 1855.
Indian Reform Association:
The Indian Reform Association was formed on 29 October 1870.
Indian Reform Association represented the secular side of the Brahmo Samaj and included many who did not belongtotheBrahmo Samaj.

Que. 50
Find the average of the Jan Dhan accounts opened in 4 years.
1. 112586.5
2. 112386.5
3. 112486.5
4. 112286.5

Ans. Correct Option - 3

Que. 51 In a code language, if 'fast and furious' is written as 'co mo jo', 'do it fast' is written as 'cha mo ga', and 'she did it' is written as 'ga la nop', then what will be the code for the word 'do' in this language?
1. nop
2. ga
3. mo
4. cha

Ans. Correct Option - 4
According to the given information,

Code for 'it' is 'ga'.
Code for 'fast' is'mo'
So, the remaining word is 'do' and remaining code is 'cha'
Code for 'do' is 'cha'.
Hence, the correct answer is cha.

Que. 52
What does TCP stand for with respect to computer networks?
1. Transmission Control Protocol
2. Transfer Call Plan
3. Transfer Control Process
4. Transmission Call Protocol

Ans. Correct Option - 1
The Transmission Control Protocol (TCP) is one of the main protocols of the Internet protocol suite. It originated in the initial network implementation in which it complemented the Internet Protocol (IP). Therefore, the entire suite is commonly referred to as TCP/IP

Que. 53 If A can complete a work in 80 min and B can complete the same work in 40 min. Then in how much time A and B together can complete the work.

1. 26 min 20 seconds

2. 26 min 40 seconds

3. 25 min 40 seconds

4. 28 min 40 seconds

Ans. Correct Option - 2 Given:

A can complete a work in 80 min and B can complete the same work in 40 min.

Calculation:

⇒ The efficiency of A = 1/80 per minute

⇒ The efficiency of B = 1/40 per minute

⇒ Time taken by both A, B to complete the work = (1/A + 1/B)

⇒ (1/80 + 1/40) = (1 + 2)/80 = 3/80

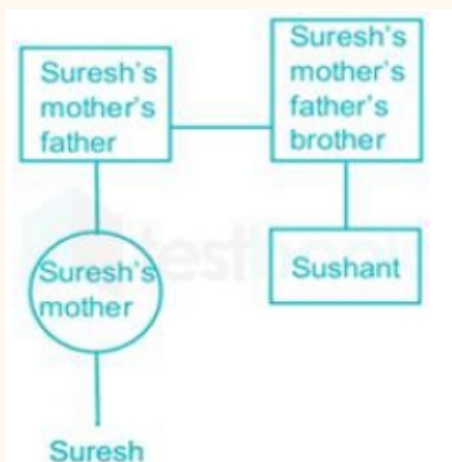⇒ Time Taken = 80/3 = 26 minutes 40 seconds

Que. 54

Suresh said to Sushant, "He is the one and only son of my mother's father's brother". How is Sushant related to Suresh?

1. Uncle

2. Cousin

3. Brother-in-law

4. Brother

Ans. Correct Option - 1

From the given information,

Based on the given data, we can draw the following family tree

Hence, Sushant is an uncle of Suresh.

Que. 55

Chandrayan-1 was launched in which year?

1. 2008

2. 2004

3. 1969

4. 2020

Ans. Correct Option - 1

The correct answer is 2008.

It was the first lunar space probe of the Indian Space Research Organisation (ISRO) and found water on the Moon. It lifted off on 22 October 2008.

It was under the control of the Indian Space Research Organisation (ISRO).

Que. 56 If A can complete work in 6 days, B can complete the work in 8 days and C can complete the same work in 12 days. In how much time A, B, and C can complete the work.

1. 3/4 days

2. 8/3 days

3. 5/2 days

4. 3/8 days

Ans. Given: Correct Option - 2

A can do a work in 6 days, B can do the same work in 8 days

And C can do the same work in 12 days

Calculation:

⇒ The efficiency of A = 1/6 per day

⇒ The efficiency of B = 1/8 per day

⇒ The efficiency of C = 1/12 per day

⇒ A, B, C can do the same work in = (1/6 + 1/8 + 1/12)

⇒ (4 + 3 + 2)/24 = 9/24

∴ Time taken to complete work is 8/3 days.

Que. 57 Study the given pattern carefully and select the number that can replace the question mark (?) in it.

36	55	49
64	47	39
49	?	61

1. 68

2. 88

3. 72

4. 120

Ans. Correct Option - 1

The pattern follows here is:

36, 55, 49

$6^2 = 36$

$49 + 6 = 55$

64, 47, 39

$8^2 = 64$

$39 + 8 = 47$

So,

49, 68, 61

$7^2 = 49$

$61 + 7 = 68$

Hence, the correct answer is 68.

Que. 58

Who among the following is known as the father of Indian Railways?

M.Visweswariah

1. M.Visweswariah

2. Lord Ripon

3. Mahatma Gandhi

4. Lord Dalhousie

Ans. Correct Option - 4

Lord Dalhousie is known was the father of Indian Railways.

Lord Dalhousie was a British officer and "Governor-General of India.

Lord Dalhousie introduced the railway and telegraph services in India during the British rule. Trains in India were started in 1853 by the British for their administrative convenience.

The first passenger rail in India was run between Bombay and Thane on 16th April 1853.

Que. 59

In two isosceles ΔABC and ΔPQR, the ratio of sides AB : PQ is 1 : 3. Find the ratio of area of ΔABC and area of ΔPQR.

1. 1 : 3

2. 1 : 9

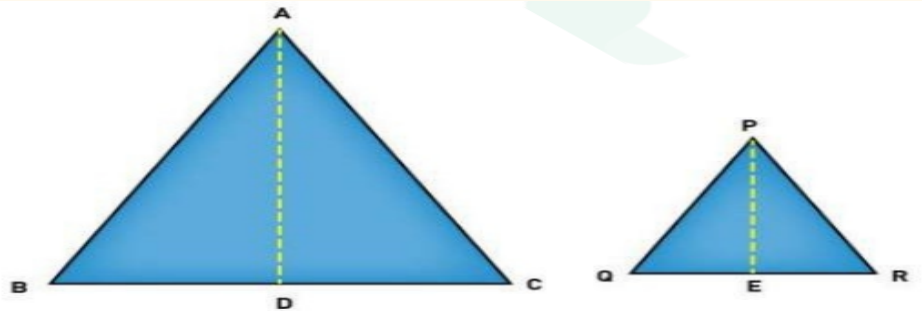**3. 9 : 1**

4. 3 : 1

Ans. Given: Correct Option - 2

If two triangles are similar, then the ratio of the area of both triangles is proportional to the square of the ratio of their corresponding sides.

Theorem Used:

Consider two similar triangles ΔABC and ΔPQR;

According to the stated theorem,

(area of ΔABC)/(area of ΔPQR) = $(AB/PQ)^2$ = $(BC/QR)^2$ = $(CA/RP)^2$

Calculation:

(area of ΔABC)/(area of ΔPQR) = $(AB/PQ)^2$

⇒ $(AB/PQ)^2$

⇒ $(1/3)^2$

⇒ 1/9

∴ Area of Δ ABC / area of Δ QPR is 1/9.

Que. 60

Read the statement and choose one conclusion from the given alternatives.:

Statement:

All rats are books

All rats are mice

Conclusions:

1. Some books are mice

2. All books are mice

3. Some mice are not rats

A. Only 1 follow

B. Only 1 and 3 follow

C. Only 1 and 2 or 3 follows

D. Both 2 and 3 follow

1. B

2. A

3. C

4. D

Ans.
Correct Option - 2
Given,
Statement:
All rats are books
All rats are mice
Conclusions:
1. Some books are mice
2. All books are mice
3. Some mice are not rats
The least possible Venn diagram for the given statements is as follows,
Conclusions:
1. Some books are mice → True (From Venn diagram we see it is possible)
2. All books are mice → False (It is possible but not definite)
3. Some mice are not rats → False (It is possible but not definite)
Hence, the correct answer is A. Only 1 follow.

Que. 61 The procedure to remove waste products and excess fluid from the blood when the kidneys stop working properly is called_____.
1. circulation
2. filtration
3. purification
4. dialysis

Ans. Correct Option - 4
The correct answer is Dialysis.
The procedure to remove waste products and excess fluid from the blood when the kidneys stop working properly is called dialysis.
The dialysis method is useful for the person whose kidneys can no longer perform these functions naturally. The first successful dialysis was performed in 1943.

Que. 62 What will come in the place of the question mark '?' in the following question?
1224 + 122.4 + 12.24 + 1.224 = ?
1. 1359.864
2. 1358.854
3. 1284.424
4. 1366.394

Ans.
Correct Option - 1
Calculation:
⇒ 1224 + 122.4 + 12.24 + 1.224

Que. 63 In the question, two statements are given, followed by two conclusions, I and II. You have to consider the statements to be true even if it seems to be at variance from commonly known facts. You have to decide which of the given conclusions, if any, follows from the given statements.
Statement: Rajan bought a pencil yesterday.
Conclusions:
I: Rajan did not have any pencil.
II: Rajan's sister asked her to get a pencil.
1. Only conclusion I Follows
2. Only conclusion II follows
3. Neither I or II follows
4. Both I and II follow
Ans. Correct Option - 3
From the information above, we cannot conclude that earlier Rajan did not have any pencil.
Therefore, conclusion I does not follow.
Similarly, the information above is not sufficient for us to conclude the reason behind Rajan buying a pencil. Therefore, conclusion II does not follow.
Hence, Neither I or II follows.

Que. 64
The electron was discovered by_____ .
1. J. J. Thomson
2. John Dalton
3. James Chadwick
4. Rutherford

Ans. Correct Option - 1
The Correct answer is J. J. Thomson.
Thomson discovered 'Electrons' for which he got the Nobel prize in 1906 A.D.

Que. 64
IfA/3 = B/4 = C/5 , then A : B : C is: 3 4 5
1. 3 : 5 : 6
2. 3 : 4 : 6
3. 3 : 4 : 5
4. 2 : 3 : 5

Ans. Ans: 3
Correct Option - 3
Given:
A/3 = B/4 = C/5
Calculation:
Let A/3 = B/4 = C/5= K [Where K is a constant]
⇒ A = 3K, B = 4K, C = 5K
⇒ A : B : C = 3K : 4K : 5K
⇒ A : B : C = 3 : 4 : 5
∴ A : B : C is 3 : 4 : 5.

Que. 66 In the family, Ranbir is elder than Mahesh but younger than Guru. Aryan is elder than Shiv but younger than Mahesh. Who is the second eldest person in the family?
1. Aryan
2. Shiv
3. Ranbir
4. Guru

Ans. Correct Option - 3
1) There are five people in the family.
2) Ranbir is elder than Mahesh but younger than Guru.
Guru > Ranbir > Mahesh
3) Aryan is elder than Shiv but younger than Mahesh.
Mahesh > Aryan > Shiv
Combining (2) and (3), we get:
Guru > Ranbir > Mahesh > Aryan > Shiv
Therefore, Ranbir is the second eldest person in the family.
Hence, "Ranbir" is the correct answer.

Que. 67 Which gland in the human body is called the master gland?
1. Pancreas
2. Thyroid
3. Pituitary
4. Spleen

Ans. Correct Option - 3
The pituitary gland is called the "master gland" of the endocrine system, because it controls the functions of the other endocrine glands.
The pituitary gland is about the size of a pea and is located at the base of the brain.

It is called the master gland because its secretion regulates and controls the secretion of the other endocrine glands such as thyroid gland, adrenal gland, pancreas etc. The hormones of this gland are also required for the different activities in the body.

Que. 68 In a triangle ΔABC, ∠B = 90° and tanA = √3 then what is the value of sinA.cosC + cosA.sinC?

1. 1

2. 2

3. $\frac{\sqrt{3}+1}{2}$

4. $\frac{\sqrt{3}-1}{2}$

Ans. Given: Correct Option - 1

In a triangle ΔABC, ∠B = 90° and tanA = √3

Formula used:

Sum of angles of a triangle = 180°

Calculation:

⇒ tanA = √3

⇒ tanA = tan 60°

⇒ ∠A = 60°, ∠B = 90°

⇒ ∠A+ ∠B + ∠C = 180°

⇒ 60° + 90° + ∠C = 180°

⇒ ∠C = 30°

⇒ sin60°cos30° + cos60°sin30°

⇒ √3/2 × √3/2 + 1/2 × 1/2

⇒ 3/4 + 1/4

⇒ 1

∴ The value of sinA cosC + cosA sinC is 1.

OR

We have to find the value of sinA cosC + cosA sinC

sinA cosC + cosA sinC

⇒ sin(A + C)

Given that ∠B = 90°, and A, B, C are three angles of the triangle ΔABC

⇒ A + B + C = 180°

⇒ A + C = 180° - B

⇒ A + C = 180° - 90°

⇒ A + C = 90°

sin(A + C) = sin 90° = 1

∴ sinA.cosC + cosA.sinC is 1.

Que. 69 Four letter clusters have been given, out of which three are alike in some manner, while one is different. Select the odd letter cluster.
1. SVY
2. WZC
3. ILO
4. MPR

Ans. Correct Option - 4
The pattern followed here is:
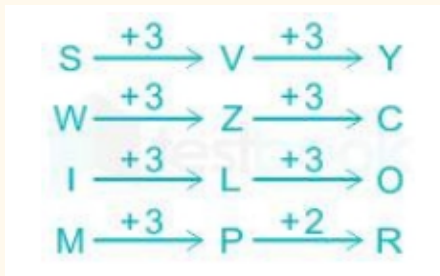
Therefore, "MPR" is odd among them.
Hence, "MPR" is the correct answer.

Que. 70 The major ingredient of sweetened soft drink is?
1. **Carbonated water**
2. **Hydrochloric acid**
3. **Phosphoric acid**
4. **Caffeine**

Ans. Correct Option - 1
The correct answer is Carbonated water.
The main ingredient in sweetened soft drinks is water; they are about 90 percent carbonated water.
Carbonated water is water that has been infused with carbon dioxide gas under pressure.
This produces a bubbly drink that's also known as sparkling water, club soda, soda water, seltzer water, and fizzy water.

Que. 71 The circumference of a circle is 8.8 cm. What is the length of the diameter of the circle?
1. **1.4 cm**
2. **3.5 cm**
3. **2.8 cm**
4. **2.1 cm**

Ans. Ans: 3
Correct Option - 3

Given:

The circumference of a circle is 8.8 cm.

Formula used:

Circumference of a circle = 2πr

Diameter of a circle = 2r

Calculation:

⇒ 2πr = 8.8

⇒ 2 × 22/7 × r = 8.8

⇒ r = 1.4

⇒ 2r = 2.8 cm

∴ The length of the diameter of the circle is 2.8cm.

Que. 72 In a certain code language, '-' represents '+', '+' represents '×', '×' represents '÷' and '÷' represents '-'. Find out the answer to the following question.

27 - 9 + 3 - 3 ÷ 3

1. 15

2. 12

3. 54

4. 50

Ans. Correct Option - 3

As per the given information,

Symbols - + × ÷

Codes + × ÷ -

Given: 27 - 9 + 3 - 3 ÷ 3

Changing symbols as per the given information

We get, 27 + 9 × 3 + 3 - 3

Using BODMAS we get

= 27 + 27

= 54

Hence, the correct answer is 54

Que. 73 'Borlaug Award' is given in which of the following field?

1. Literature

2. Music

3. Science

4. Agriculture

Ans. Correct Option - 4

The Correct Answer is Option (4) i.e Agriculture -

Borlaug Award is conferred by a fertilizer company, Coromandel International.

This award is conferred to the Indian scientists for their research and contribution to the field of agriculture and the environment.

Que. 74 Find the value of cosec(75° + x) – sec(15° - x) + tan(55° + x) – cot(35° -x)

1. 1

2. 0

3. 2

4. 1/2

Ans. Correct Option - 2 Ans: 2

Concept used:

$\csc(90° - x) = \sec x$

$\tan(90° - x) = \cot x$

Calculation:

$\Rightarrow \csc(75° + x) – \sec(15° - x) + \tan(55° + x) – \cot(35° - x)$

$\Rightarrow \csc[90° - (15° - x)] – \sec(15° - x) + \tan[90° - (35° - x)] – \cot(35° - x)$

$\Rightarrow \sec(15° - x) – \sec(15° - x) + \cot(35° - x) – \cot(35° - x)$

$\Rightarrow 0 + 0 = 0$

∴ The value of $\csc(75° + x) – \sec(15° - x) + \tan(55° + x) – \cot(35° - x)$ is 0.

Que. 75 In the question, two statements are given, followed by two conclusions, I and II. You have to consider the statements to be true even if it seems to be at variance from commonly known facts. You have to decide which of the given conclusions, ifany, follows from the given statements.

Statement: The Government has started a new campaign called "Know your Constitution" in all Indian schools. Conclusions:

I: Government wants the kids to be aware of the Indian Constitution.

II: It will enhance the conditions of the schools in India.

1. Only conclusion I follows

2. Only conclusion II follows

3. Neither I or II follows

4. Both I and II follow

Ans. Correct Option - 1

From the information above, we can easily conclude that the intention behind the Government to

launch a campaign named"Know Your Constitution" in schools is to focus on increasing the awareness among the kids about their Constitution. Therefore, conclusion I follows.

But the information above is not sufficient for us to conclude the consequence of this campaign, especially regarding the improvement in the conditions of school.

Therefore, conclusion II does not follow.

Hence, Only conclusion I follows.

Que. 76 Chlorine gas is a major component of which of the following?

1. Water

2. Tear gas

3. Liquefied Petroleum Gas

4. Gobar gas

Ans. Correct Option - 2

Chlorine gas is a major component of tear gas.

Tear gas comprises substances that irritate the eyes and its mucous membranes and cause tears and stinging sensation. The major components of tear gas are o-chlorobenzylidene malononitrile, or CS and ω-chloroacetophenone, or CN. Liquefied Petroleum Gas or LPG consists of butane or propane.

Gobar gas is also known as biogas. It is produced by breaking down organic matter in the absence of oxygen.

Que. 77 If a 3 – b 3 = 158 and a 3 + b 3 = 185. Find the value of a/b.

1. 3/7

2. 7/3

3. 7/√2

4. 3/√2

Ans. Ans: 2

Correct Option - 2

Given:

$a^3 - b^3 = 158$

$a^3 + b^3 = 185$

Calculation:

$a^3 - b^3 = 158$........1

$a^3 + b^3 = 185$........2

By adding equation 1 and equation 2

⇒ $2a^3 = 343$

⇒ $a = 7/\sqrt{2}$

By subtracting equation 1 from equation 2

⇒ $2b^3 = 27$

⇒ $b = 3/\sqrt{2}$

⇒ $a/b = (7/\sqrt{2})/(3/\sqrt{2})$

⇒ $a/b = 7/3$

∴ The value of a/b is 7/3.

Que. 78 Consider the following information and answer the questions based on it.
Out of the 75 birders, 15 wanted to see only sunbird, 10 wanted to see only flycatcher, 12 wanted to see both sunbird and nuthatch, 15 wanted to see only bee-eater, 13 wanted to see both sunbird and bee-eater, 5 wanted to see both flycatcher and nuthatch and the remaining wanted to see only nuthatch.
The difference between the birders who want to see sunbird and those who want to see flycatcher is A. 12
B. 25
C. 30
D. 15
1. B
2. C
3. A
4. D

Ans. Correct Option - 1
The venn diagram for the problem is shown below:
The birders who want to see sunbird = (13 + 15 + 12) = 40
Those who want to see flycatcher = (10 + 5) = 15
Difference = (40 – 15) = 25
Hence, '25' is the correct answer.

Que. 79 Lightning rod conductor was invented by .
1. Benjamin Franklin
2. Ernest Rutherford
3. Chadwick
4. J.J Thomson

Ans. Correct Option - 1

The correct answer is Benjamin Franklin.

In June 1752, the American inventor and statesman Benjamin Franklin, with the aid of his son, lofted a flat kite fitted with pointed wire and silk sail during a thunderstorm.

Somehow both father and son avoided electrocution as a metal key attached to the flying line became electrified. Franklin proved that lightning was the natural phenomenon called electricity, not the wrath of the gods. One immediate and practical outcome of the experiment was Franklin's invention of the lightning rod.

Que. 80

Find the area of an equilateral triangle if the side of the triangle is $(2 \times 3^{1/4})$cm

1. 3 cm²

2. 4 cm²

3. 9 cm²

4. 16 cm²

Ans. Ans: 1

Correct Option - 1

Given:

The side of the triangle is $(2 \times 3^{1/4})$ cm.

Formula used:

Area of equilateral triangle = $\frac{\sqrt{3}}{4} \times$ side²

Calculation:

$\Rightarrow \frac{\sqrt{3}}{4} \times (2 \times 3^{1/4})^2$

$\Rightarrow \frac{\sqrt{3}}{4} \times 4 \times 3^{1/2}$

$\Rightarrow \sqrt{3} \times 3^{1/2}$
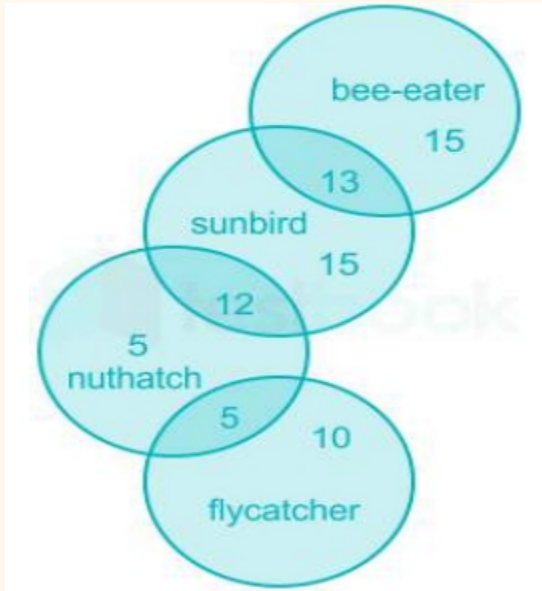
$\Rightarrow \sqrt{3} \times \sqrt{3}$

$\Rightarrow 3$ cm².

∴ The area of an equilateral triangle if the side of the triangle is 3 cm

Que. 81 How many birders wanted to see only one bird?

A. 30

B. 40

C. 45

D. 50

1. A

2. D

3. B

4. C

Ans. Correct Option - 4

Birders who wanted to see only one bird = (15 + 15 + 5 + 10) = 45

Hence, '45' is the correct answer.

Que. 82 What is the SI unit of electric resistance?

1. Volt

2. Ampere

3. Ohm

4. Joules

Ans.

Correct Option - 3

CONCEPT:

Resistance: The property of any conductor that opposes the flow of electric current through it is called resistance. It is denoted by R and the SI unit is the ohm (Ω).

Explanation:

As explained above, Ohm is the unit of resistance. Named after German physicist Georg Simon Ohm.

Volt is the unit for electric potential.

Ampere is the unit for electric current and Joules is the unit for energy.

Hence option 3 is correct among all

Que. 82 The length of a rectangle is 10% more than its breadth. Find the breadth if the area of the rectangle is 110 cm². 1. 11 cm

2. 12 cm

3. 9 cm

4. 10 cm

Ans.

Correct Option - 4

Given:

The length of a rectangle is 10% more than its breadth.

the area of the rectangle is 110 cm².

Formula used:

Area of rectangle = Length × breadth

Calculation:

Let the breadth of the rectangle be 100y.

Length of the rectangle = 100y × 110/100 = 110y

Area of the rectangle = 100y × 110y = 110 cm²

⇒ 100y² = 1

⇒ y² = 1/100

⇒ y = 1/10

Breadth of the rectangle = 100y = 100 × 1/10 = 10 cm
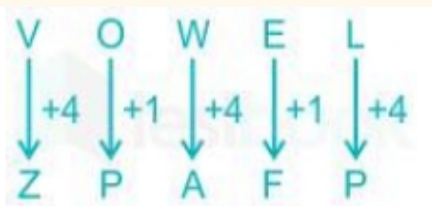
∴ The breadth of the rectangle is 10 cm.

Que. 84 Select the option that is related to the third letter-cluster in the same way as the second letter-cluster is related to the first letter-cluster.
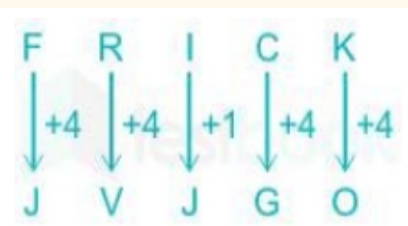**VOWEL : ZPAFP :: FRICK : ?**
1. JVGOK
2. JVMGO
3. JVJGO
4. OGMVH

Ans. Correct Option - 3

The pattern follows here is: Every vowel is added by 1 and Every consonant is added by 4.

Similarly,

Hence, the correct answer is JVJGO.

Que. 85 Which among the following gases is also known as 'Laughing Gas'?
1. Sulphur dioxide
2. Nitrous oxide
3. Carbon dioxide
4. Carbon monoxide

Ans. Correct Option - 2
Nitrous oxide is also known as "Laughing Gas".
The chemical formula of Nitrous oxide is N_2O.
It is a colorless, non-flammable gas at room temperature, with a faint metallic smell and taste. It is a potent oxidizer similar to molecular oxygen at elevated temperatures.
It has important medical uses for its anesthetic and pain-reducing effects, especially in surgery and dentistry. The name "Laughing Gas" was coined by Humphry Davy.

Que. 86 Find the value of x if 12 : 51 :: x : 17.
1. 3
2. 4
3. 5
4. 6

Ans. Ans: 2
Correct Option - 2
Formula used:
⇒ a : b :: c : d
⇒ a/b = c/d
Calculation:
⇒ 12/51 = x/17
⇒ 12 × 17 = 51x
⇒ 12 = 3x
⇒ 4 = x
∴ value of x is 4.

Que. 87 Which assumptions are implied from the below statement?
Statement: Jadeja took 3 wickets and scored 55 not out in today's match.
Assumptions:
I: Jadeja was the man of the match.
II: Jadeja was injured.
1. Only I is implicit.
2. Only II is implicit.
3. Both I and II are implicit.
4. Neither I nor II is implicit.

Ans. Correct Option - 4

From the information above we cannot assume that Jadeja was the man of the match as there can be other players as well who performed better than him.

Therefore, assumption I is not implicit.

Similarly, the information available in the statement above is completely contradicting the fact mentioned in the statement. If he was injured he can't play and score.

Therefore, assumption II is also not implicit.

Hence, Neither I nor II is implicit.

Que. 88 Which is NOT an example of one-sided symbiotic relationship?
1. Cattle egrets and cattle
2. A hermit crab and an empty seashells
3. A spider on a tree
4. Tapeworm in host's stomach

Ans. Correct Option - 4

The correct answer is Tapeworm in the host's stomach.

Tapeworm in the host's stomach is NOT an example of a one-sided symbiotic relationship (Commensalism). Tapeworm in the host's stomach is an example of Parasitism.

Symbiosis is a close relationship between two species in which at least one species benefits. For the other species, the relationship may be positive, negative, or neutral.

Que. 88 If two quadratic equations $x^2 + ax + b = 0$ and $x^2 + bx + a = 0$ ($a \neq 0$) have a common root. Find the value of a +b.
1. 1
2. -1
3. 2
4. 0

Ans. Given: Correct Option - 2

$^2 + ax + b = 0$ and x

$^2 + bx + a = 0$ ($a \neq 0$) have a common root.

Two quadratic equations x

Calculation:

Let common root in both equations be α.

α satisfies both equation, so we put x = α in both equations

$\Rightarrow \alpha^2 + a\alpha + b = 0$------- 1

$\Rightarrow \alpha^2 + b\alpha + a = 0$------- 2

By equating both equations

$\Rightarrow \alpha^2 + a\alpha + b = \alpha^2 + b\alpha + a$

⇒ aα + b = bα + a

⇒ α(a - b) = a - b

⇒ α = 1

Put α = 1 in equation 1

⇒ 1 + a + b = 0

⇒ a + b = -1

∴ The value of a + b is -1.

Que. 90 If in a certain language, HUSTLE is coded as SUHELT, how is TEXTER coded in thatcode?

1. RETXET

2. XETRET

3. XETETR

4. TRETXE

Ans.

Correct Option - 2

The logic here is:

Hence, 'XETRET' is the correct answer.

Que. 91 ECG records

1. Rate of heartbeats

2. Shape of Heart

3. Ventricular concentration

4. Volume of blood pumped

Ans. Correct Option - 1

The correct answer is Rate of heartbeats.

ECG records rate of heartbeats.

ECG stands for Electrocardiogram.

Que. 92 Which of the following carries blood from the heart to the kidneys?

1. Renal artery

2. Coronary artery

3. Vena cava

4. Renal vein

Ans. Correct Option - 1

The correct answer is Renal artery.

Renal Arteries carry unfiltered blood from the aorta to the kidneys.

The arteries are obscured by the renal veins; they are dorsal to the renal veins.

Que. 93 Which instrument is used for viewing the sun?
1. **Stroboscope**
2. **Telescope**
3. **Helioscope**
4. **Sun meter**

Ans. Concept: Correct Option - 3
Helioscope was first used by Benedetto Castelli in 1578
Since observing sun directly can damage eyesight and its difficult to observe anything directly in Helioscope sunlight is projected on white sheet of paper with a help of telescope-like equipment and then any changes like eclipse can be observed easily by observing the sheet
Explanation:
A helioscope is an instrument used for observing the sun and sunspots.
The helioscope was first used by Benedetto Castelli and refined by Galileo Galilei.

Que. 94 Which Vitamin is used by the body to help blood clot?
1. **Vitamin A**
2. **VitaminD**
3. **VitaminC**
4. **VitaminK**

Ans. Correct Option - 4
The correct answer is Vitamin K.
Vitamin K is used by the body to help blood clot. Warfarin is used to slow blood clotting.

Que. 95 Which blood group is universal acceptor?
1. **O+**
2. **O–**
3. **AB–**
4. **AB+**

Ans. Correct Option - 4
AB+ is the blood group which is a universal acceptor since it has both kinds of antigens, which are Antigen A and AntigenB. People Having a blood group of AB+ can accept blood from any person of any blood group.

Que. 96 Which of the following bacteria causes Cholera?
1. **Coccus**
2. **Spirillum**
3. **Vibrio**
4. **Bacillus**

Ans. Correct Option - 3
Cholera is an infectious disease that causes severe watery diarrhea which can lead to dehydration and even death if untreated. It is caused by eating food or drinking water contaminated with a bacterium called Vibrio cholerae.

Que. 97 A person is said to be anemic if his body has deficiency of-
1. Calcium and phosphorous
2. Red Blood Corpuscles
3. White Blood Corpuscles
4. Vitamins

Ans. Correct Option - 2
Option 2 is correct, i.e. Red Blood Corpuscles.
Red Blood Corpuscles:
The main function of RBC is to carry oxygen from the lungs to all the other parts of the body and bring back the carbon-di- oxide from all such parts.
Deficiency of RBC causes Anemia.
RBC is formed in the bone marrow and its destruction takes place in the liver and the spleen.
White Blood Corpuscles:
Monocytes are the largest white blood corpuscles. Their count is used to diagnose various kinds of diseases. Monocytes serve as a part of the defense against infection by "eating" up foreign particles. When a monocyte is found in a tissue, it is called a macrophage.
They are irregular in shape and larger in size than lymphocytes.
They are present in very small quantities(1-6%).

Que. 98 Which gas is filled in the balloon?
1. Hydrogen
2. Carbon dioxide
3. Helium
4. Oxygen

Ans. Correct Option - 3
A gas balloon is a balloon that flies in the air because it is filled with a gas less dense than air or lighter than air such as helium.

Que. 99 Which pigment gives red color to blood?
1. Serum globulin
2. Serum albumin
3. Haemoglobin
4. Plasma protein

Ans. Correct Option - 3

The Correct Answer is Haemoglobin.

Blood has four main components: plasma, red blood cells, white blood cells, and platelets.

Red Blood cells contain a special protein called hemoglobin.

Blood appears red because of the large number of red blood cells, which get their color from the hemoglobin. Hemoglobin helps to carry oxygen from the lungs to the rest of the body and then returns carbon dioxide from the body to the lungs.

Que. 100 Which enzyme is present in gastric juice?
1. Pepsin
2. Renin
3. Trypsin
4. Amylase

Ans. Correct Option - 1

The correct answer is Option 1 i.e. Pepsin.

Pepsin:

Pepsin is the digestive enzyme that breaks down proteins.

The Gastric Glands secrete the enzyme Pepsin.

Gastric glands are found in the stomach.

They secrete enzymes like Pepsin, Rennin which act upon the Proteins.

Glands in the mucous-membrane which line the stomach make and store an inactive protein known as pepsinogen. When pepsinogen is released into the stomach and mixed with gastric juice, it is converted into pepsin. Pepsin partially degrades proteins into smaller units called peptides.