RBI Assistant Mock Test 5

Q 1. The ratio of water and milk in a 60-litre mixture is 6:4. Find the quantity of water to be added to the mixture in order to make this ratio 4:1.

1. 15
2. 30
3. 25
4. 28

Q 2. If the ratio of ages of P and Q is 2:5 at present, and twenty years from now, the ratio will get changed to 8:15, then find the P's present age.

1. 20
2. 28
3. 32
4. 16

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Q 3. Thirty workers can finish a piece of work in 40 days. After how many days should 5 workers leave the job so that the work can be completed in 45 days?

1. 10
2. 20
3. 15
4. 25

Q 4. Suresh can copy 100 pages in 15 hours; Suresh and Pradyum together can copy 700 pages in 60 hours. In how much time can Pradyum copy 40 pages?

1. 12
2. 6
3. 8
4. 10

Q 5. A race track is in the form of a ring whose outer and inner circumferences are 448 metres and 360 metres respectively. Find the width of the track.

1. 14
2. 7
3. 21
4. 6

Q 6. $\log_a 4 + \log_a 16 + \log_a 64 + \log_a 256 = 10$. Then find a.

1. 6
2. 10
3. 8
4. 4

Q 7. If a clock strikes once at 12 A.M., twice at 1 A.M., thrice at 2 A.M., and so on, how many times will the clock be struck in the course of 3 days? (Assume a 24 hours clock)

1. 728
2. 640
3. 828
4. 900

Q 8. In how many ways can the letters of the words VALEDICTORY be arranged, so that all the vowels are adjacent to each other?

1. 40320 × 24
2. 5040 × 12
3. 40320 × 12
4. 720 × 24

Q 9. How many numbers greater than a million can be formed from the digits 7, 5, 3, 0, 4, 8, 9?

1. 4320
2. 40320
3. 5040
4. 3140

Directions (10 - 11): The letters in a word are replaced by certain other letters according to a specific rule to form its code. The candidate is required to detect the coding pattern/rule and answer the questions accordingly.

Q 10. In a certain code, SHARK is written as UEELQ. What is the code for OCEAN?

1. ASJHB
2. HGTDS
3. LKJBG
4. QZIUT

Q 11. 'ZIRCONIUM' is coded as 'RIZDPOMUI'. How is Titanium coded?

1. YUIOKJHD

2. QYESTYJH
3. ANHURKTY
4. TITBOIUM

Directions (12 - 13): In this type of questions, a round-about description is given in the form of certain small relationships and you are required to analyse the whole chain of reactions and decipher the direct relationship between the persons concerned.

Q 12. If Abhishek says, “Deepak’s mother is the only daughter of my mother”, how is Abhishek related to Deepak?

1. Paternal uncle
2. Maternal uncle
3. Brother
4. Father

Q 13. Looking at the portrait of a man, Pirlo said, “His mother is the wife of my father's son. Brothers and sister, I have none.” At what portrait Pirlo was looking at?

1. Brother
2. Grandfather
3. Father
4. Son

Directions (14-17). Read the information carefully and answer the questions given below

(i) There is a group of 5 persons - P, Q, R, S and T.
(ii) One of them is a Chemist, one is a scientist, one is a mathematician, one is a statistician, one is a Doctor.
(iii) Three of them - P, R and doctor prefer Red wine to White wine and two of them - Q and the mathematician - prefer White wine to Red wine.
(iv) The statistician and S and P are friends to one another but two of them prefer White wine to Red wine.
(v) The Chemist is R’s brother.

Q 14. Who is the Chemist?

1. P
2. Q
3. R
4. S

Q 15. Who is the statistician?

1. T
2. R

3. Q
4. P

Q 16. Who is the Doctor?

1. R
2. P
3. T
4. S

Q 17. Who is a scientist?

1. P
2. T
3. S
4. R

Directions (18-22): Rearrange the given 5 sentences in a proper sequence so as to form a meaningful paragraph.

1. However, they are considered ‘rare’ as they usually exist as compounds fused with other metals, and they also oxidise quickly, making the process of refining and extracting them in commercially viable quantities very expensive, especially in countries with strict environmental and effluent standards.
2. However, of the 17 minerals, neodymium and praseodymium form a majority of minerals used in permanent magnets, while dysprosium is used in neodymium - iron - boron (NdFeB) permanent magnets to improve their high-temperature performance.
3. REE’s are also used in electronic items like television sets and cell phones and renewable energy equipment like wind turbines, and solar panels.
4. The REE (Rare Earth Elements) are a set of 17 minerals used to make, among other things, permanent magnets which are used in defence equipment, including actuators, to control guidance systems for airborne smart missiles, as well as in aerospace applications for aircraft components and airstrip maintenance equipment.
5. Ironically rare earth minerals are not rare at all. In fact, they are found in several countries including, China, US, Australia, Brazil, Burundi, India, Malaysia, Myanmar, Russia, Thailand, and Vietnam -with global reserves estimated at 120 million tonnes.

Q 18. Which of the following is the second sentence?

1. 3
2. 2
3. 4
4. 1

Q 19. Which of the following is the third sentence?

1. 4
2. 2
3. 1
4. 3

Q 20. Which of the following is the fifth sentence?

1. 2
2. 4
3. 5
4. 1

Q 21. Which of the following is the fourth sentence?

1. 5
2. 3
3. 2
4. 1

Q 22. Which of the following is the first sentence?

1. 3
2. 4
3. 5
4. 2

Directions (23-25): Fill in the blank with the appropriate word.

The ongoing protests have also laid bare the stark reality of a deeply fractured Hong Kong society with the city administration and political leadership towing the Chinese Communist Party line and condemning the protesters as separatists and extremists. The anger of the protesters is more than ---- (23)---- as they decry police excesses, feel betrayed by the Government, and let down by the social institutions. While the root cause of the protests is political, Chief Executive Lam instead of offering a solution has attributed the crisis to the economic factors.

Violent protests against the city administration began towards mid-June this year, largely arising from fear of ----- (24) ---- freedom. The tinder was Hong Kong Governments move to pass the “fugitive offenders and mutual legal assistance in criminal matters legislation bill.” (Or the extradition bill) which

would allow Hong Kong citizens and foreigners accused of crimes to be ---- (25) ---- to Mainland China. This was seen as a deliberate attempt by the Government to undermine the independence of Hong Kong's legal system. Two days after the record protests, Lam stated that the Government won't proceed with the bill until public anxieties and fears were properly addressed.

Q 23.

1. Intangible
2. Imperceptible
3. Palpable
4. Uncomprehending

Q 24.

1. Rejuvenate
2. Eroding
3. Freshen
4. Regenerate

Q 25.

1. Decree
2. Acquitted
3. Extradited
4. Warrant

Answer Keys

Q 1. 2	**Q 2.** 2	**Q 3.** 3	**Q 4.** 3	**Q 5.** 1
Q 6. 4	**Q 7.** 3	**Q 8.** 1	**Q 9.** 1	**Q 10.** 4
Q 11. 4	**Q 12.** 2	**Q 13.** 4	**Q 14.** 1	**Q 15.** 3
Q 16. 3	**Q 17.** 4	**Q 18.** 1	**Q 19.** 2	**Q 20.** 4
Q 21. 1	**Q 22.** 2	**Q 23.** 3	**Q 24.** 2	**Q 25.** 3

Solution 1:

Quantity of milk = 4/10 * 60 = 24 litres

Quantity of water = 6/10 * 60 = 36 litres.

In the new ratio, we keep the quantity of milk the same at 24 litres, which is equivalent to 1.

Hence 4 represents 96 litres.

Therefore the quantity of water to be added is 30 litres.

Solution 2:

2x + 20: 5x + 20 = 8:15

30x + 300 = 40x + 160

10x = 140

X = 14

P's present age = 2x = 28 years

Solution 3:

Total man-days = 30 × 40 = 1200 man-days.

Let N = number of days

If 5 workers leave the job after ‘N’ days, the total work would be done in 45 days. We have to find the value of ‘N’

$30 \times N + (45 - N) \times 25 = 1200$

$30N - 25N + 25 \times 45 = 1200$

$5N = 1200 - 1125$
$5N = 75$

$N = 15$ days

Solution 4:

The first sentence says Suresh can copy 100 pages in 15 hours, hence he can we conclude that,

Suresh can copy 400 pages in 60 hours.

Hence Pradyum can copy 300 pages in 60 hours.

Therefore, Pradyum can copy 40 pages in 8 hours.

Solution 5:

Let the outer radius = R

Let the inner radius = r

Width = $R - r = (448 / 2\pi) - (360 / 2\pi)$

Solving the above equation we get,

$R - r = 88 / 2\pi$

$= 88 \times 7 / 2 \times 22$

Therefore R - r = Width = 14 metres.

Solution 6:

The above equation can be simplified as follows

$\log_a 4 + \log_a 4^2 + \log_a 4^3 + \log_a 4^4 = 10$

We use the formula $\log_a x + \log_a y + \log_a z = \log_a (x * y * z)$

$\text{Log}_a (4 \times 4^2 \times 4^3 \times 4^4) = 10$

$\text{Log}_a 4^{(1+2+3+4)} = 10$

$a^{10} = 4^{10}$

$a=4$

Solution 7:

At 12 AM clock strikes 1 time.

At 1 AM clock strikes 2 times

At 2 AM clock strikes 3 times

At 3 AM clock strikes 4 times

So in a period of 24 hours or 1 day, the number of strikes can be given by the following expression which is in Arithmetic Progression. (AP)

$1 + 2 + 3 + ….. + 23$

As it is in A.P. Sum of the expression is given by

$S_n = n/2 [2a + (n-1) d]$

Where n is the number of terms.

a= first term of the series.

d=common difference in the term.

$S_n = 23/2 [2\times1 + (23-1) \times 1]$

$S_n = 23/2 [2 + 22]$

$= (23/2) \times [24]$

$= 23 \times 12$

= 276 times.

Hence the clock strikes 276 times in a single day.

Hence in 3 days, the clock strikes 276 × 3 = 828 times.

Solution 8:

There are 4 vowels in the word - A, E, I, O

There are 7 consonants in the word - V, L, D, C, T, R, Y

As per the question, since it is a requirement to keep all the vowels together; A, E, I, O will be considered as 1 single letter.

Hence instead of arranging 11 letters, we end up arranging 8 letters.

8 letter can be rearranged in 8! Ways.

Now coming to the vowels, though they are considered as 1 letter, within that group they can be arranged in different ways. As there are 4 letters within the vowel group, they can be rearranged in 4! Ways.

Hence the total number of ways of arranging the word VALEDICTORY with all the vowels together

= 8! × 4!

8! = 8 × 7 × 6 × 5 × 4 × 3 × 2 × 1 = 40320

4! = 4 × 3 × 2 × 1 = 24

Hence final answer

= 40320 × 24

Solution 9:

If the number has to be greater than a million, then the first position should not be occupied by 0.

Hence, though there are 7 numbers, 1st position can be filled only in 6 ways.

Now, the second position can be filled in 6 ways, including 0.

The third position can be filled in 5 ways since 1st and 2nd position are occupied by a digit each.

Hence, barring the 1st position remaining positions can be filled in 6! Ways.

Hence, the total number of numbers greater than a million that can be formed from the given digits is given by,

6 × 6! = 4320

Solution 10:

S → U = +2
H → E = -3
A → E = +4
R → L = -6
K → Q = +6

1st, 3rd and 5th position changes by +2, +4, +6

2nd and 4th position changes by -3, -6

OCEAN

O → Q = +2
C → Z = -3
E → I = +4
A → U = -6
N → T = +6

Hence the answer is QZIUT

Solution 11:

Z I R has been reversed as R I Z

I U M has been reversed as M U I

C → D = +1

O → P = +1

N → O = +1

With similar logic, TITANIUM can be rearranged as

T I T is reversed as T I T

I U M is reversed as M U I

A → B = +1

N → O = +1

Hence the answer is TITBOIUM.

Solution 12:

(Only daughter)

Mother ← Mother

⇩ ⇩ (Son)

Deepak (son) Kamal

Abhishek's mother has 1 son and 1 daughter, hence daughter is the sister of Abhishek. So naturally, Abhishek is the maternal uncle of Deepak.

Solution 13:

Father

⇩

(wife)

Pirlo → Mother

(Only son) ⇩

Portrait (Son)

From the above diagram, we can deduce Pirlo is the father of the person in the portrait.

Solution 14:

	Profession	Preference
P	Chemist	Red wine
Q	Statistician	White wine
R	Scientist	Red wine
S	Mathematician	White wine

T	Doctor	Red wine

From the above table, we can find that P is the Chemist.

Solution 15:

From the above table, we can find that Q is the statistician.

Solution 16:

From the above table, we can conclude that T is the doctor.

Solution 17:

From the above table, we can find that R is a scientist.