RBI Grade B Mock Test 4

Q 1. Which of the following is greater?

1. 200^{300}
2. 400^{200}
3. 500^{150}
4. 5^{150}

Q 2. What is the total number of divisors of the number $14^{44} \times 35^{20} \times 2^{50}$?

1. 4560
2. 12490
3. 453490
4. 129675

Q 3. The sum of two numbers is 20 and their Geometric Mean is 20% lower than their Arithmetic Mean. Find the ratio of their numbers.

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

Q 4. Find the smallest natural number 'n' such that 'n!' is divisible by 770.

1. 9
2. 11
3. 12
4. 13

Directions (5 - 6): Answer these questions based on the information given below.

A boy is asked to put in a basket one grape when ordered 'One', one watermelon when ordered 'two', one pineapple when ordered 'three' and is asked to take out from the basket one grape and one watermelon when ordered 'four'. A sequence of orders is given below

32112322331411323442314

Q 5. How many total watermelons were in the basket at the end of the above sequence?

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

Q 6. How many fruits will be in the basket at the end of the above order sequence?

1. 9
2. 10
3. 11
4. 8

Q 7. If 3 positive real numbers x, y, z satisfy y-x = z-y and XYZ = 4, then what is the minimum possible value of y?

1. $2^{1/3}$
2. $2^{2/3}$
3. $2^{4/3}$
4. 2

Q 8. Rishab can type a sheet in 5 minutes, Rohit in 15 minutes and Virat in 20 minutes. The average number of sheets typed per hour per typist for all three typists.

1. 20
2. 14/3
3. 19/3
4. 17/3

Q 9. $(6.005)^2 \div (3.05)^2 + 765.250$

1. 769.13
2. 770
3. 756.41
4. 865.55

Directions (10-11): In each of the following questions, a group of three/four inter-related words is given. Choose a word from the given alternatives that is similar to the given words and hence belongs to the same group.

Q 10. Gorges: Canyons:: Deltas:

1. Plains
2. Rock
3. Ravines
4. Forest

Q 11. Jiquan: Baikonur:: Kouru:

1. Sriharikota
2. Delhi
3. Hyderabad
4. Washington

Direction (12 - 14): In the following questions, a number series is given with one term missing. Choose the correct alternative that will continue with the same pattern and replace the question mark in the given series.

Q 12. 155, 110, 75, 50,?

1. 35
2. 25
3. 30
4. 45

Q 13. 3, 8, 28, 108, 428,?

1. 1708
2. 568
3. 956
4. 1484

Q 14. 7, 33, 60, 88,?

1. 118
2. 121
3. 103
4. 117

Directions (15-18): Read the following information carefully and answer the questions.

(i) A, B, C, D, E and F are six members of a group of which three are males and three are females.
(ii) There are two civil engineers, two mechanical engineers, one software engineer, and one electrical engineer in the group.
(iii) B, E, A and C are two married couples and no two persons in this group have the same profession
(iv) E, a teacher with the yellow dress, married a male mechanical engineer with a grey dress.
(v) Colour of the dresses of both the husbands and that of both the wives is the same.
(vi) Two persons have a Yellow dress, two have grey and the remaining one each has violet and orange.
(vii) A is a male civil engineer whose sister D is also a civil Engineer.
(viii) B is an electrical engineer.

Q 15. Who is the wife of A?

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

Q 16. Which of the following is a group of female members?

1. BDC
2. BDE
3. BDF
4. BEF

Q 17. Which of the following is a pair of married ladies?

1. AC
2. ED
3. BE
4. Data inadequate

Q 18. What is the colour of F's dress?

1. Violet
2. Orange
3. Violet or Orange
4. Data inadequate

Directions (19 - 23): Rearrange the given 5 sentences A, B, C, D and E in a proper sequence so as to form a meaningful paragraph.

1. Five decades of journey comprising lending moral and physical support, building bridges and creating a regional gateway has been no mean achievement.
2. This has been the bane of the bilateral relations right from the outset.
3. Outstanding issues between the two neighbours is possible and resolvable too but the growing cooperation is not being translated into filling the trust deficit.
4. The fear of India taking advantage of Bangladesh and Bangladesh moving closer to China are two distinct strands of fear undermining the bilateral cooperation.
5. The two neighbours have walked a long path since the 1970s.

Q 19. Which is the third sentence after the rearrangement?

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

Q 20. Which is the first sentence after the rearrangement?

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

Q 21. Which is the fifth sentence after rearrangement?

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

Q 22. Which is the fourth sentence after rearrangement?

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

Q 23. Which is the second sentence after rearrangement?

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

Directions (24 - 25): In the given passage, there are blanks, each of which has been numbered. These numbers are printed below the passage and against each, five words are suggested, one of which fits the blank appropriately. Find the appropriate word in each case.

Fortunately, there is already a growing private-sector ----- (24) ----- dedicated to combating climate change, through the work of the Climate Finance Leadership Initiative (CFLI). Led by Michael Bloomberg, the UN's special envoy for Climate Action, the CFLI was created to mobilize private capital at the global level in response to this critical issue. This month, the CFLI released a new report, Financing the low carbon future, which outlines ways green finance can be scaled up to support an orderly ----- transition----- to a low-carbon economy and identifies opportunities for public-private partnerships to meet the objectives of the 2015 Paris Climate agreement.

Q 24.

1. Stirring
2. Severance
3. Disassociation
4. Coalition

Q 25.

1. Transition
2. Presumption
3. Shocked
4. Pilfering

Answer Keys

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

Solution 1:

We can easily rule out 5^{150}

Now we need to compare 200^{300}, 400^{200}, 500^{150}.

We need to find the HCF of 300, 200, and 150.

$300 = 5^2 \times 2^2 \times 3$

$200 = 5^2 \times 2^3$

$150 = 5^3 \times 3 \times 2$

For the above 3, common factors are 5 and 2

Least power of $5 = 5^2$

Least power of $2 = 2^1$

Now multiply, $5^2 \times 2 = 50$

Hence,

$(200)^{300} = (200^6)^{50}$

$(400)^{200} = (400^4)^{50}$

$(500)^{150} = (500^3)^{50}$

Now compare,

200^6, 400^4, 500^3

$200^6 = (2 \times 100)^6 = 2^6 \times 100^6$

$400^4 = (4 \times 100)^4 = 4^4 \times 100^4$

$500^3 = (5 \times 100)^3 = 5^3 \times 100^3$

Thus, we can easily conclude that $(200^6)^{50}$ is greater in other words 200^{300} among all the options.

Solution 2:

$14^{44} = (7 \times 2)^{44} = 7^{44} \times 2^{44}$

$35^{20} = (7 \times 5)^{20} = 7^{20} \times 5^{20}$

Hence we can write it as,

$7^{44} \times 2^{44} \times 7^{20} \times 5^{20} \times 2^{50}$

$7^{64} \times 5^{20} \times 2^{94}$

Thus the total number of divisors of $14^{44} \times 35^{20} \times 2^{50}$

$= (64+1) \times (20+1) \times (94+1)$

$= 65 \times 21 \times 95$

$= 1,29,675$

Solution 3:

The best way to solve the problem is to go through the options.

Option 4 says the ratio is 4:1

Suppose the numbers are 16 and 4,

Arithmetic Mean = (a+b) / 2 = (16 + 4) / 2 = 20/2 = 10

Geometric Mean = $\sqrt{ab} = \sqrt{(16*4)} = 8$

With numbers 10 and 8, we can easily deduce that GM is 20% lower than AM.

Solution 4:

$770 = 11 \times 7 \times 5 \times 2$

If n! should be divisible by 770, then the value of n! Should have an 11 in it.

Hence the value of n should be at least 11.

Solution 5:

Let us put pineapple as ‘p’, watermelon as ‘w’, grape as ‘g’

This is easy but confusing and lengthy, hence split the sequence for easier calculation.

321 = p + w + g

123 = g + w + p

22331 = w + w + p + p + g

4 = -g - w

1132 = g + g + p + w

34 = p - g - w

4 = -g - w

231 = w + p + g

4 = -g - w

From the above solution, we can easily find that the answer is 2.

Solution 6:

From the above solution, we can find that at the end of the sequence, there are

7 pineapples, 2 watermelons, 2 grapes. Hence there are a total of 11 fruits

Solution 7:

The expression y-x = z-y means that x,y, and z are in Arithmetic Progression. Y is the arithmetic mean between x and z.

If y needs to have the minimum value given that XYZ = 4, then x,y,z should be equal.

Thus the minimum value of y is $4^{1/3} = 2^{2/3}$

Solution 8:

The number of sheets typed by Rishab in 60 minutes = 60/5 = 12 sheets.

The number of sheets typed by Rohit in 60 minutes = 60/15 = 4 sheets.

The number of sheets typed by Virat in 60 minutes = 60/20 = 3 sheets.

Total number of sheets typed by all 3 typists in 1 hour = 19

The average number of sheets typed per hour per typist = 19/3

Solution 9:

$(6.005)^2 = 36.06$

$(3.05)^2 = 9.30$

Use Bodmas rule while solving,

$(6.005)^2 \div (3.05)^2 = 3.88$

3.88 + 765.250 = 769.13

Solution 10:

All of them are natural landscapes formed due to the flow of rivers for millions of years.

Solution 11:

All of them are space launch centres.

Solution 12:

155 - 45 = 110

110 - 35 = 75

75 - 25 = 50

50 - 15 = 35

Solution 13:

$8 = 3 + 5 \times 1^2$

$28 = 8 + 5 \times 2^2$
$= 8 + 20$

$108 = 28 + 5 \times 4^2$
$= 28 + 80$
$= 108$

$428 = 108 + 5 \times 8^2$
$= 108 + 320 = 428$

Therefore,

$428 + 5 \times 16^2$

$= 428 + 1280$

$= 1708$

Solution 14:

$33 = 7 + (5^2 + 1)$

$60 = 33 + (5^2 + 2)$

$88 = 60 + (5^2 + 3)$

$117 = 88 + (5^2 + 4)$

Solution 15:

Person	A	B	C	D	E	F
Profession	Engineer	Doctor	Lawyer	Engineer	Teacher	Lawyer
Colour of dress	Grey	Yellow	Grey	Violet or Orange	Yellow	Violet or Orange
Gender	Male	Female	Male	Female	Female	Male

From the above table, we can find that B is the wife of A

Solution 16:

From the above table, we can find that B, D and E are female members.

Solution 17:

From the above table, we can find that B and E are married ladies.

Solution 18:

F's dress is Violet or Orange in colour.