

# IRDA Mock Test 3

**Q 1.** A question paper had 10 questions. Each question has 4 options. Each candidate answered all the questions. Yet, no two candidates wrote the answers in an identical sequence. How many different sequences of answers are possible?

1.  $10!$
2.  $10! \times 4!$
3.  $10! / 4!$
4.  $4^{10}$

**Q 2.** Find the number of ways in which a student can choose 6 courses out of 10 courses if 2 courses are compulsory.

1. 70
2. 50
3. 40
4. 20

**Q 3.** The length, breadth and height of a hall are in the ratio of 3:2:1. If the volume is  $1296 \text{ m}^3$  find its height.

1. 12
2. 18
3. 24
4. 6

**Q 4.** Three cubes each of volume  $216 \text{ m}^3$  are joined end to end. Find the surface area of the resulting figure.

1. 504
2. 120
3. 360
4. 490

**Q 5.** Find the units digit of the expression  $7^{40} \times 6^{52}$

1. 9
2. 6
3. 1
4. 4

**Q 6.** Two places A and B are 80 km apart from each other on a highway. A car starts from A and another from B at the same time. If they move in the same direction they meet each other in 8 hours. If they move in opposite directions towards each other, they meet in 1 hour 20 min. Determine the speeds of the cars.

1. 20, 30
2. 35, 25
3. 10, 20
4. 29, 49

**Q 7.** A man can row upstream at 10 kmph and downstream at 18 kmph. Find the man's rate in still water?

1. 16
2. 20
3. 10
4. 14

**Q 8.** A can do a piece of work in 10 days and B in 20 days. They work together but 2 days before completion of the work, A leaves. In how many days was the work completed.

1. 10
2. 8
3. 14
4. 18

**Q 9.** Find the missing number in the series.

1. 89
2. 59
3. 70
4. 60

**Directions (10 - 14):** Rearrange the given 5 sentences in a proper sequence so as to form a meaningful paragraph.

1. Trump tends to believe any fantasy he is told, in particular, conspiracy theories about the 2016 election - in this case, the real culprit wasn't Russia, which has proven to have helped Trump, but Ukraine. Trump wanted Ukraine's new President, Volodymyr Zelensky, to investigate a myth put in Trump's head by his personal attorney, Rudolph Giuliani: that Ukraine helped his rival, Hillary Clinton.

2. For the first time, reasonable people in the United States have begun to speculate that US President Donald Trump could be convicted by the Senate and thus removed from Office. The likelihood may still seem low, but Trump's position is weakening and Opinion Polls are steadily moving against him.
3. It is widely assumed that House of Representatives will vote to impeach him, sending his question of Presidency to the Senate, where a two-thirds vote is needed and Republicans hold a majority.
4. Trump has been behaving nearly hysterically in Public, his language increasingly reckless and vulgar. And he has made major foreign policy errors that have enraged members of his own party. Trump's agreement, in a late night call with Turkey's President Recep Tayyip Erdogan to remove US troops in northeastern Syria incited a calamity there (not for the first time, America betrayed its Kurdish allies.)
5. Turkish troops have now entered northeastern Syria and Syrian forces are advancing there as well. ISIS prisoners have escaped from some prisons once guarded by Kurds. Russia, no surprise, is once more at the heart of Trump's foreign policy and is benefitting both from Trump agreeing to Erdogan's request and his allies' pressure on Ukraine.

**Q 10.** Which of the following is the 3rd sentence?

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

**Q 11.** Which of the following is the 2nd sentence?

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

**Q 12.** Which of the following is the 1st sentence?

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

**Q 13.** Which of the following is the 4th sentence?

1. 5
2. 1

3. 2
4. 4

**Q 14.** Which of the following is the 5th sentence?

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

**Directions (15 - 19): Fill in the blanks with the appropriate word.**

The IMF on Tuesday followed the World Bank in reducing its forecast for India's economic growth in the current financial year. While the IMF cut its July projection for real GDP growth by a substantial 0.9 percentage point to 6 %. These magnitudes of reduction underscore the severity of the ongoing slowdown and affirm the ----(15)---of grim data and predictions from other forecasters, both global and domestic. Interestingly, by the Banks own admission, its forecast is more optimistic than the average estimate of 32 million respondents who were polled as part of its South Asian Economic Policy Network Survey: these economists expect growth to be 5.7% this fiscal. The only significant issue of debate is over the cause of the -----(16)-----with the World Bank largely echoing what the Centres economic ----(17)-----have been saying that this is a cyclical slowdown ----(18)----by global influences. A view, that however, that neither the Indian experts surveyed, nor Moody's investors service, broadly ----(19)----with.

**Q 15.**

1. Tranquillity
2. Calmness
3. Orderliness
4. Welter

**Q 16.**

1. Weal
2. Robust
3. Malaise
4. Haleness

**Q 17.**

1. Novice

2. Mandarins
3. Probationers
4. Plebe

**Q 18.**

1. Attenuated
2. Moderated
3. Exacerbated
4. Degraded

**Q 19.**

1. Concur
2. Disallow
3. Conflict
4. Discord

**Q 20.** In a certain code language, 1 2 3 4 5 6 is written as A Z C Y E X. In the same code language, 9 10 11 12 13 14 is written as

1. IQKPMO
2. BNDJCK
3. SWIUBN
4. ANLOIU

**Q 21.** In a certain code PORSCHE is coded as QCHEORS, what is the code for FERRARI?

1. GARIERR
2. HNUDERI
3. KNILASD
4. POILKJS

**Q (22-25):** Study the following information carefully and answer the questions given below it.

There are six-persons P, Q, R, S, T and U. R is the sister of U. Q is the brother of T's husband S is the father of P and grandfather of U. There are two fathers, three brothers and a mother in the group.

**Q 22.** Who is the mother?

1. T
2. P

3. Q
4. R

**Q 23.** Who is T's husband?

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

**Q 24.** How many male members are there in the group?

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

**Q 25.** How is U related to T?

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

## Answer Keys

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

### Solution 1:

Every question can be answered in 4 ways.

1st question can be answered in 4 ways.

2nd Question can be answered in 4 ways.

3rd question can be answered in 4 ways.

Similarly, the 10th question can be answered in 4 ways.

Hence we can find the answer by multiplying 4, 10 times.

$4 \times 4 \times 4 \times \dots 10 \text{ times}$

Hence, the answer is  $4^{10}$ .

### Solution 2:

If 2 courses are compulsory then they can be chosen in  ${}^2C_2$  ways.

Now out of 6 courses that needs to be chosen, 2 are already chosen, hence we need to choose 4 more courses.

4 more courses can be chosen out of the remaining 8 courses because out of 10 courses 2 were compulsory and they were already chosen.

We can represent it as

${}^8C_4$  ways

Since both the events are mutually exclusive, i.e.  ${}^2C_2$  ways and  ${}^8C_4$  ways are mutually inclusive we multiply to get the final answer.

$${}^2C_2 \times {}^8C_4 = 1 \times [(8 \times 7 \times 6 \times 5) / (4 \times 3 \times 2 \times 1)]$$

= 70 ways

### Solution 3:

The Volume of the room is given by

$$L \times B \times H = 1296$$

Since the ratio is 3:2:1

$$\text{Length} = 3x$$

$$\text{Breadth} = 2x$$

$$\text{Height} = x$$

As per the formula, we get

$$3x \times 2x \times x = 1296$$

$$6x^3 = 1296$$

$$X^3 = 216$$

$$X = 6 \text{ m.}$$

Therefore Height = 6 metres.

### Solution 4:

Let one side of the cube = a

$$\text{Then } a^3 = 216$$

Hence, one side a = 6 m



Area of the figure required

= Area of all 3 cubes - Area of the covered figure.

Area of all 3 cubes is already given as  $216 \text{ m}^3$

Imagine all cubes are placed horizontally next to each other.

Area of the covered figures are - when 1st cube and 2nd cube is joined; there will be two  $a^2$  that needs to be removed from the final answer.

When 2nd cube and 3rd cube is joined; the right side of 2nd cube and left side of 3rd cube is joined, hence we need to remove two more  $a^2$  from the final answer.

Hence finally we will be removing  $4a^2$  from the final answer

Hence,

$$(216 \times 3) - (4 \times a^2)$$

$$= 648 - 144 = 504 \text{ m}^2$$

#### **Solution 5:**

$7^1$  - unit digit is 7.

$7^2$  - unit digit is 9

$7^3$  - unit digit is 3

$7^4$  - unit digit is 1

$7^{40}$  can be written as  $7^{4(10)}$

Unit digit of  $7^{4(10)}$  is 1.

If we raise 6 to any power the unit digit is always 6.

Hence unit digit of  $7^{40} \times 6^{52}$

$$= 1 \times 6 = 6$$

**Solution 6:**

Let their speeds be 'a' kmph and 'b' kmph. Respectively.

Then,

$$80 = 8 * (a - b)$$

$$\text{Hence, } a - b = 10$$

$$80 = \frac{4}{3} * (a+b)$$

$$60 = a + b$$

Adding both the equations we get  $2a = 70$

Speed of car starting from point A,  $a = 35$  kmph.

Speed of car starting from point B,  $b = 25$  kmph.

**Solution 7:**

$$\begin{aligned} \text{Speed of boatman in still water} &= \frac{1}{2} [\text{Rate downstream} + \text{Rate upstream}] \\ &= \frac{1}{2} [18 + 10] = 14 \text{ kmph} \end{aligned}$$

**Solution 8:**

The best way to solve this is through fraction to percentage conversion method.

When A can complete a piece of work in 10 days, his job done in 1 day is 10%

When B can complete a piece of work in 20 days, his job done in 1 day is 5%.

The question says B worked on the last 2 days.

$$\text{Hence the work done by B in last 2 days} = 5 \% * 2 = 10 \%$$

Hence the work done by A and B, before A left = 90%.

$$\text{Combined work done by A and B in 1 day} = 10 \% + 5 \% = 15\%$$

$$\text{Number of days taken by A and B to complete} = 90 / 15 = 6 \text{ days.}$$

Hence the total number of days taken to complete the work

= 6 days of combined work by A and B + Last 2 days work done by B

= 8 days

**Solution 9:**

5, 13, 15, 31, 41, 49, ?

$$5 + (3^2 - 1) = 5 + 8 = 13$$

$$13 + (3^2 + 1) = 13 + 10 = 23$$

$$23 + (3^2 - 1) = 23 + 8 = 31$$

$$31 + (3^2 + 1) = 31 + 10 = 41$$

$$41 + (3^2 - 1) = 41 + 8 = 49$$

$$49 + (3^2 + 1) = 49 + 10 = 59$$

**Solution 20:**

1 - is coded as 1st alphabet - A  
2 - is coded as 26th alphabet - Z  
3 - is coded as 3rd alphabet - C  
4 - is coded as 25th alphabet - Y  
5 - is coded as 5th alphabet - E  
6 - is coded as 24th alphabet - X

9 - is coded as 9th alphabet - I  
10 - is coded as 10th alphabet but from the reverse of alphabetical order starting from Z - Q  
11 - is coded as 11th alphabet - K  
12 - is coded as 11th alphabet but from the reverse of alphabetical order starting from Z - P  
13 - is coded as 13th alphabet - M  
14 - is coded as 14th alphabet but from the reverse of alphabetical order starting from Z - O

**Solution 21:**

P is coded as P+ 1 (as per English alphabetical order) = Q  
O is coded as O+3 letters in the given word = C  
R is coded as R+3 letters in the given word = H  
S is coded as S+3 letters in the given word = E  
C is coded as C - 3 letters in the given word = O  
H is coded as H - 3 letters in the given word = R  
E is coded as E-3 letters in the given word = S

F is coded as F+ 1 (as per English alphabetical order) = G

E is coded as E+3 letters in the given word = A

R is coded as R+3 letters in the given word = R

R is coded as R+3 letters in the given word = I

A is coded as A - 3 letters in the given word = E

R is coded as R - 3 letters in the given word = R

I is coded as I-3 letters in the given word = R

#### **Solution 22:**

From the table, we can find that T is the mother.

Name	Gender	Relationship
P	Male	Father
Q	Male	Brother
R	Female	Sister
S	Male	Grandfather
T	Female	Mother
U	Male	Brother

#### **Solution 23:**

From the table, we can find that P is the husband.

#### **Solution 24:**

From the table, we can find that there are 4 male members.

#### **Solution 25:**

From the table, we can find that U is the son of T.