

TCS NQT Paper 4

Numerical Ability

Question 1 : Four runners begin a race on a rectangular track of 500m length and 400m breath. The speed of the four runners is respectively 9m/s, 6m/s, 5m/s and 4m/s. If they begin the race at the same time from the same point , then after how much time will they meet again at the starting point?

1. 1800s
2. 2800s
3. 2400s
4. 2000s

Answer: 1800

Question 2 : In a class, the average weight of urban students is 68 kg. Whereas the same for rural students is 54 kgs. The average weight of the entire class is 62.4 kg. What is the percentage of rural students in the class?

1. 40%
2. 36%
3. 35%
4. 32%

Answer: Option A – 40%

Question 3 : The first number is twice of the second number and one third of the third. If the average of all the numbers is 72, then find the average of the second and third number?

Options

1. 60
2. 84
3. 96
4. 72

Answer: 84

Question 4 : $116 \div 114 \text{ of } 252 + 312134234 \div 534 \text{ of } 112 - 134312 \text{ of } 243 \div 543 \text{ of } 121 - 321143161 \div 141$

$\text{of } 2^{25+143} 321$

1. $-411243375 - 337541124$

2. -68502115-21156850
3. -68542110-21106854

4. -411243375-337541124

Answer: -411243375-337541124

Question 9 : Study the given given table and answer the question that follow:

Note: The total strength of the college is the sum of teaching staff, non teaching staff and students.

If the strength of the colleges N and Q are the same, then find the number of non-teaching staff at college Q

Answer: Wrong Question

Question 10 : A sum of money invested at simple interest amounts to ₹1,770 in 3 years and to ₹2,130 in 7 years. How much is the sum invested?

- 1. ₹1,600
- 2. ₹1,480
- 3. ₹1,740
- 4. ₹1,500

Answer: 1500

Question 11 : The ages of a father and a daughter are in the ratio 5:2. After 8 years the ratio becomes 7:4. Find the age of the daughter after 8 years?

Options

- 5. 16 years
- 6. 18 years
- 7. 24 years
- 8. 20 years

Answer: 16 years

Question 12 : 12 women and 5 men together can complete a work in 9 days. It takes 81 days for 1 man alone to complete the same work. In how many days can 1 woman alone complete the same work?

- 9. 324 days
- 10. 243 days
- 11. 234 days
- 12. 223 days

Answer: 243

Question 13 : Ramesh took a loan at simple interest of 6% with an increase of 0.5% in each subsequent year. If he paid an interest of Rs 4375 after 5 years, how much loan did he take?

- 13. Rs 13500
- 14. Rs 13000
- 15. Rs 12000
- 16. Rs 12500

Answer: 12500

Question 14 : Akshay mixes three varieties of groundnuts with cost price at the rate of Rs. 55 per kg, Rs. 27 per kg, Rs. 34 per kg in the ratio of 2:4:3 by weight. Further in 27 kg of the above mixture, he mixes some kilograms of groundnuts with cost price at Rs. 39 per kg. If he sells the new mixture for a total of Rs 2,163 and earns 40% profit, then what is the amount of groundnut priced at Rs. 39 per kg in the new mixture?

Options

- 17. 10kg
- 18. 8kg
- 19. 6 kg
- 20. 15 kg

Answer: 10kg

Question 15 : Rohan started from home for his office 20 minutes late. But he maintains his speed at one and a half times more than usual and reaches his office on time. Determine his usual time (in minutes).

- 21. 50
- 22. 60
- 23. 40
- 24. 45

Answer: 50

Question 16 : Two metallic right circular cones with heights of 4.9 cm and 4.7 cm and radii of their bases 2.4 cm each, have been melted together and recast into a sphere. What is the diameter of the sphere?

- 25. 5.6 cm
- 26. 5.2 cm
- 27. 4.8 cm
- 28. 6.2 cm

Answer: Option C – 4.8 cm

Question 17 : The speed of the bus increases by 3 kmph every one hour. If the distance travelled in first one hour is 42 km, then what was the total distance travelled in 12 hours?

- 29. 684
- 30. 682
- 31. 736
- 32. 702

Answer – 702

Question 18 : Find the range of the set of the values 215, 312, 227, 206, 209, 318, 321, 408

Options

- 33. 202
- 34. 204
- 35. 205
- 36. 203

Answer – 202

Question 19 : The ratio of the number of girls to that of boys in the class is 9:11. If $11\frac{1}{9}\%$ of the girls and $9\frac{1}{11}\%$ of the boys do not like mathematics, then find the percentage of students who like mathematics.

Enter the answer in the space given below provided on the screen. The answer should be in whole numbers and does not include symbols.

Answer: 90%

Question 20 : An amount of Rs. 1,800 with a simple rate of interest becomes Rs. 2,340 in 6 years. If the rate of interest is increased by 2% then the amount becomes P then the value of P is?

Answer – 2556

Verbal Ability

Question 1 : Identify the error in the sentence.

I have known him for about three years but met his mother only since last night.

1. For about three years
2. Only since last night
3. I have known him
4. But met his mother

Answer: only since last night

Question 2 : In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank.

The Chipko movement started in the early 1970s in Garhwal with growing resentment towards rapid (A) _____. The landmark event in this struggle took place on 26th March 1974 when a group of peasant women in Reni village,

Uttarakhand, acted to prevent the cutting of trees and (B) _____ their traditional forest rights that were threatened by the contractor system of the state Forest Department. Their actions (C) _____ hundreds of such actions throughout the region. By the 1980s the movement led to the (D) _____ of people-sensitive forest policies, which put a stop to the cutting of trees in regions as far reaching as the Vindhyas and the Western Ghats.

1. (A)plantations (B)recovered (C)excited (D)production
2. (A)reforestation (B)demanded (C)threatened (D)imagination
3. (A)agriculture (B)affirmed (C)provoked (D)recognition
4. (A)deforestation (B)reclaimed (C)inspired (D)formulation

Answer: (A)deforestation (B)reclaimed (C)inspired (D)formulation

Question 3 :Each sentence in the given paragraph contains four underlined phrases. Three of these phrases have been correct phrases from among the following options that best replaces the INCORRECT phrase in the sentence

He made tall claims of his wrestling skills but as soon as he see his strong opponent than he ran away in fear

Options

1. By fear
2. No sooner did
3. High claiming
4. That he

Answer – No sooner did

Question 4 :Select the most appropriate idiom to fill in the blanks and complete the given passage:

1. _____ my father used to eat sweets every day and no one could believe that he would stop eating them! To everyone's surprise he went (2)_____ when the doctors told him that he has diabetes.

Options

1. (1) come rain or shine (2) down for the count
2. (1) come rain or shine (2) cold turkey

3. (1) As right as rain (2) down for the count
4. (1) As right as rain (2) cold turkey

Answer – (1) come rain or shine (2) cold turkey

Question 5 :In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank.

The idea of pluralism is entrenched in the Indian constitution. The value is (1) _____ in many of its provisions and parts. However, the changed, (2) _____ of political discourse and narrative has put it on the blackburner. A monolithic cultural account has been (3)_____ to catch people's immigration in order (4)_____ objections.

Blank (1) A. stated (B). expressed (C)uttered (D). Spoken

Blank (2) A. milieu (B). setting (C)surroundings (D). background

Blank (3) A. discovered (B). concocted (C)arranged (D). devised

Blank (4) A. win(B). won (C)winning (D). to win

Options

1. (1)-B, (2)-A, (3)-D, (4)-D
2. (1)-C, (2)-C, (3)-A, (4)-A
3. (1)-D, (2)-A, (3)-B, (4)-C
4. (1)-A, (2)-B, (3)-C, (4)-B

Answer – (1)-A, (2)-B, (3)-C, (4)-B

Question 6 :Select the most appropriate meaning of the underlined idiom in the following sentence:

Finding an amicable solution to the long-standing dispute was nothing but flogging a dead horse.

1. Waste energy on an impossible task
2. Work enthusiastically
3. Find a miraculous situation

4. Work perfunctorily

Answer – Waste energy on an impossible task

Question 7 :Four idioms are given below.choose their sequence that could fill in the blank and complete the text given here.

The Patels sat sipping tea quietly, no one wanting to bring up _____ about Jeenal's expulsion from the college. Jeena; himself had faint memories of the incident as he was _____at that time. To ease the tension, his mother started the topic of the Alibag mansion, which was now becoming a _____but Jeenal could not concentrate as he was already disconcerted yet _____.

1. the elephant's trunk
2. The elephant in the room
3. Seeing red
4. A white elephant

Option:

1. 1243
2. 3241
3. 2143
4. 4321

Answer – 2143

Question 8 :Select the option that can be used as a one word substitute for the underlined part of the sentence

Avneet is extremely passionate about the science of coins or metals

Options

1. Numismatics
2. Neologism
3. Misologyist
4. Mycology

Answer – numismatics

Question 9 :For the four sentences (S1 to S4) paragraph below, sentences S1 and S4 are given. From P, Q, R and S, select the appropriate sentences for S2 and S3 respectively.

S1. For decades, Western culture has been reluctant to assign an inherent value or a purpose to art— even as it continues to hold art in high esteem.

S2. _____

S3. _____

S4. In what way might art be good for us? The answer, I believe, is that art is a therapeutic instrument.

1. Though we no longer seem comfortable saying so, our reverence for art must be founded on a timeless premise; that art is good for us.
2. If we don't believe this, then our commitment—in money, time, and study—makes little sense.
3. Hence the irony (to put it gently) of scholarly resistance to the idea of art's therapeutic benefit.
4. When Sebastian Errazuriz created dollar signs out of ordinary street markings in Manhattan, his idea was to jolt passersby.

1. RP
2. QP
3. PQ
4. PS

Answer: PQ

Question 10 :Read the passage and answer the questions that follow:

The world was called Montefiore, as far as she knew, and from her aerie on every side all the world descended.

Like any child, she looked out and across rather than in. She was more familiar with the vistas, the promising valleys with their hidden hamlets, the scope of the future arranged in terms of hills and light.

Once a small dragon had become trapped in the bird-snaring nets slung in the “uccellare”. Bianca watched as the cook’s adolescent grandson tried to cut it down

and release it. Her eyes were fixed on the creature, the stray impossibility of it, not on the spinny in which it was caught. How it twitched, its webbed claws a pearly chalcedony, its eyes frantic and unblinking. Despite the boy's efforts, it died and his grandmother flayed it for skin with which to patch the kitchen bellows.

Bianca regarded visitors to Montefiore with fierce attention: emissaries of the world. But the bones of her home— the house itself— remain as familiar and unregarded as her own fingernails.

Montefiore was larger than a farmer's villa but not as imposing as a castle. Too far from anywhere important to serve as a castle— a country house— it crowned an upthrust shoulder of land so its fortifications were natural. On all sides the steepness of the slope was a deterrent to invaders, and anyway. Montefiore wasn't large enough to interest the condottieri who led their small armies along the riverbank on one campaign or another.

Had Bianca an adult eye, she might have guessed from its mismatched roof and inconsistent architectural details that many owners had lived here before her family arrived, shaping the space with disregard for symmetry or loveliness. When its masters had money, they'd made attempts to drill a little grandeur into the old stone hull, like crisp starched lace tied under wet chins of the drooling 'nonna'. A recently completed courtyard handsomely done with columns and vaults in their received archaic style, provided relief from the roaring breeze.

Which of the following options does not hold GOOD as per the passage?

Options

1. Bianca was more interested in the outside world rather than the interiors of her own home.
2. The cook's grandmother killed the dragon so that she could use its skin to patch the kitchen bellows
3. The most recent addition to Montefiore was the interior courtyard which was done the fashion of old days.
4. The cook's grandson tried to save the small dragon, which had been caught inside the bird-snarling net.

Answer – B

Question 11 :Read the passage and answer the questions that follow:

The world was called Montefiore, as far as she knew, and from her aerie on every side all the world descended.

Like any child, she looked out and across rather than in. She was more familiar with the vistas, the promising valleys with their hidden hamlets, the scope of the future arranged in terms of hills and light.

Once a small dragon had become trapped in the bird-snaring nets slung in the “uccellare”. Bianca watched as the cook’s adolescent grandson tried to cut it down and release it. Her eyes were fixed on the creature, the stray impossibility of it, not on the spinny in which it was caught. How it twitched, its webbed claws a pearly chalcedony, its eyes frantic and unblinking. Despite the boy’s efforts, it died and his grandmother flayed it for skin with which to patch the kitchen bellows.

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Montefiore was larger than a farmer’s villa but not as imposing as a castle. Too far from anywhere important to serve as a castle– a country house– it crowned an upthrust shoulder of land so its fortifications were natural. On all sides the steepness of the slope was a deterrent to invaders, and anyway. Montefiore wasn’t large enough to interest the condottieri who led their small armies along the riverbank on one campaign or another.

Had Bianca an adult eye, she might have guessed from its mismatched roof and inconsistent architectural details that many owners had lived here before her family arrived, shaping the space with disregard for symmetry or loveliness. When its masters had money, they’d made attempts to drill a little grandeur into the old stone hull, like crisp starched lace tied under wet chins of the drooling ‘nonna’. A recently

completed courtyard handsomely done with columns and vaults in their received archaic style, provided relief from the roaring breeze.

As per the information provided in the passage, what may be deduced as the most correct option with respect to Montefiore?

Options

1. Montefiore could not be easily invaded as it was situated on top of a hill and was secured by a defensive wall
2. Montefiore was owned by masters who were forever healthy and old not hesitate to live a lavish life
3. Montefiore was a small house which only looked big from a far away distance and therefore, no invaders approached it with their arrows
4. The owners of this mansion had been continuously making several architectural renovations to keep up the royal look at the palace.

Answer – C

Question 12 :Read the passage and answer the questions that follow:

The world was called Montefiore, as far as she knew, and from her aerie on every side all the world descended.

Like any child, she looked out and across rather than in. She was more familiar with the vistas, the promising valleys with their hidden hamlets, the scope of the future arranged in terms of hills and light.

Once a small dragon had become trapped in the bird-snaring nets slung in the “uccellare”. Bianca watched as the cook’s adolescent grandson tried to cut it down and release it. Her eyes were fixed on the creature, the stray impossibility of it, not on the spinny in which it was caught. How it twitched, its webbed claws a pearly chalcedony, its eyes frantic and unblinking. Despite the boy’s efforts, it died and his grandmother flayed it for skin with which to patch the kitchen bellows.

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Had Bianca an adult eye, she might have guessed from its mismatched roof and inconsistent architectural details that many owners had lived here before her family arrived, shaping the space with disregard for symmetry or loveliness. When its masters had money, they'd made attempts to drill a little grandeur into the old stone hull, like crisp starched lace tied under wet chins of the drooling 'nonna'. A recently completed courtyard handsomely done with columns and vaults in their received archaic style, provided relief from the roaring breeze.

"Like any child, she looked out and across rather than in". Which of the following options is the best proof of this statement?

Options

1. Bianca was familiar with the old chapel next to her house, and loved to watch its roof beam and struts, the old cladding and tiles
2. Bianca was familiar with the panoramic view outside her immediate environment and also the valleys with villages.
3. Bianca was more interested to see captivated dragons inside the house and how they were caught by the cook's grandson.
4. Bianca was familiar with the recently constructed interior courtyard handsomely done with columns and vaults.

Answer – B

Question 13 : Given below is a paragraph with five sentences, which are presented in a jumbled order. Write down the best order (e.g. ABCDE) which would form a meaningful, unified and coherent paragraph.

1. Whether the issue is religion, race, or region, both France and the US are trying to set the rules by which diverse groups exist and function within a unified whole – it is not an academic exercise.

2. In the United States, the concept of *E pluribus unum* – “Out of many, one” – is a foundational ideal and at least in theory, unity can accommodate difference; but in France, difference is seen as tantamount to fracture.
3. The first article of the French constitution explicitly states that the republic shall be “indivisible, laïque, democratic and social.”
4. Laïque refers to French creed of laïcité, a form of secularism that is central to country’s history and identity, but much misunderstood elsewhere.
5. Liberal democratic states will not survive if they cannot strike a balance between alternatives that are lying in wait; chaotic fragmentation in one direction, and “blood and soil” nationalism in the other.

Answer: EABCD

Question 14 :Select the most appropriate idioms to fill in the blanks and complete the passage:

The Hamdasti (Persian for partnership) group of art practitioners from Kolkata are _____ (1). How do you remind people of tradition and heritage when the practices they follow seem (2) _____ in comparison to the present day demands for the (3) _____? And how after having reminded people in one little locality through events, rejuvenation, unorthodox use of said practices (4) _____ to people living and working in a completely different environment and context? These artists are earnestly hoping to resolve these issues through a display of sorts which includes some of the lost arts and crafts traditions at the Mumbai.

1. 1. Faced with a dilemma 2. Out of place and clunky 3. Slick and quick 4. Reach out
2. 1. Facing knotty issue 2. Out of order 3. Slick and action packed 4. Far reaching
3. 1. Face the problem squarely in its face 2. Out of fashion 3. Slick and quick 4. Reached out
4. Faced the storm 2. Out of place and clunky 3. Slick and quick 4. To reach out

Answer – 1. Faced with a dilemma 2. Out of place and clunky 3. Slick and quick 4. Reach out

Reasoning Ability

Question 1: Identify the letter cluster that does not belong to the following series:

FSN, HOP, JLR, LGT, NCV

FUB(Fill up the blanks)

Answer: JLR

Question 2: A question is given, followed by two statements labelled I and II. Identify which of statements is/are sufficient to answer the question.

Question: what is code for 'pretty' in the code language

Statements:

- 'ma ka ki' means 'They are pretty'.
- 'ka ku pa pu' means 'We are not happy'.

1. Statement II alone is sufficient, while statement I alone is not sufficient.
2. Both statements I and II together are not sufficient to answer the question
3. Statement I alone is sufficient, while statement II alone is not sufficient
4. Either statement I alone or statement II alone is sufficient,

Answer:-Both statements I and II together are not sufficient to answer the question

Question 3 : Identify the letter cluster that does not belong to the following series:

BDF, HKN, QSU, WZC, FHJ, LOR, TVX

1. FHJ
2. LOR
3. WZC
4. TVX

Answer:- TVX

Question 4 : Identify the letter cluster that does not belong to the following series:

1. PFDNYXJMP: NDFPYXPMJ
2. BNGKSTEUS: KGNBSUTSE
3. YKDZPDXGN: ZDKYPXNDG
4. QONXIWPNM: XNQOIWPNM
5. MEIFUPTWE: FIEMUTWPE

1. b, d, and e
2. a, b, and d
3. b, c, and e
4. a, b, and c

Answer:- a,b and d

Question 5 : In a certain code language,

'A+ B' means 'A is the father of B',

'A* B' means 'B is the brother of A',

'A % B' means 'B is the mother of A',

'A \$ B' means 'B is the sister of A', 'A

B' means 'B is the husband of A'

Which of the signs would sequentially replace * in the following expression to establish that 'P' is the brother in law of S? P*Q*R*S

1. +,%,\$
2. *,\$,#
3. #,+,\$
4. +,\$,#

Answer: +, %, \$

Question 6 : A question is followed by 3 statements. Find how many statements is/are sufficient/necessary to answer the question.

Question: A businessman divided an amount of 229 among his three sons Anand, Barun, and Charan, What is the difference between the shares of Anand and Barun.

Statements

1. The share of Charan is 40% less than the sum of the shares of Anand and Barun
2. The difference between Barun's share and Charan's share is Rs 4.
3. The share of Charan is greater than the share of Barun
4. Either statements I and II together or statements II and III together are sufficient
5. Only statements I and II together are sufficient
6. Only statement I is sufficient.
7. All statements I, II and III together are necessary

Answer: All statements I, II and III together are necessary

Question 7 : Statement : 10 minutes of Surya Namaskar daily is highly beneficial for the body and mind.

Conclusions:

1. Moderate level of physical activity is recommended for leading a healthy life.
- ii. All persons involved in sedentary jobs shall definitely suffer from medical issues.
 1. Both conclusions I and II follow
 2. Only conclusion I follows
 3. Neither conclusion I nor II follows
 4. Only conclusion II follows

Answer: Only conclusion I follows

Question 8 : A medico-legal team consisting six members has to be formed by selecting expert members from among six law experts A, B, C, D, E, F and five medical experts G, H, J, K and L.

The team must meet the following criteria:-

1. There must be at least three medical experts in the team.
2. If B is selected, J must also be selected

III. If F and K are selected in the team. C or D cannot be selected and vice-versa.

1. E and L have to be selected together.
2. D and J cannot come together in the team,
3. A can be selected only if K is also selected and vice-versa.

Which of the following options can form the medico-legal team?

1. FGJBDH
2. LAJKBE
3. BEAKFJ
4. DOJEHL

Answer: LAJKBE

Advanced Coding

Question 1-

You are given an array A of size N. Your friend gave an amazing task for you.

Your friend likes one type of Sequence. So, he called that type of sequence a fair sequence.

You should select a fair sequence of maximum length from an array.

Here a fair sequence is nothing but you have to select elements in a pattern like positive element, negative element, positive element... (negative element, positive element, negative element, to form sequence

Your task is to print the maximum sum of elements possible by selecting a fair subsequence with maximum length.

Ex: If array A = [-1, 18, 13, 18, 2, 16-1, -213, 11]. Here your minimum length can be which subsequences -7 -2, 7,-1, 11. Sum is 27,-1, is the maximums Your friend also kept a timer of 15 min. If you solve

Your task is to print the maximum sum of elements possible by selecting a fair subsequence with maximum length.

Ex: If array A = [-1, 18, 13, 18, 2, 16-1, -213, 11]. Here your minimum length can be 6. The fair subsequence is -1, -18,-7, -2, 7,-1, 11. The Sum is 32 which is the maximum possible.

Your friend also kept a timer of 15 min. You will win, will you be able to do it?

NOTE: You should select the elements in a fair sequence only.

Example – 1:

- Input:
5 – N (Number of elements in an array)
21 12 13 -21 -2 – Array A consists of N elements
- Output:
19
- Explanation:
Here you can select 21, -2 subsequences of maximum length 2. The sum is 19 which is the maximum possible for a fair subsequence of length 2.

Example – 2:

- Input:
-153 -689
- Output:
-153

Explanation:

Here you can select 21, -2 subsequences of maximum length 2. The sum is 19 which is the maximum possible for a fair subsequence of length 2.

Python

```
def fun(arr, n):  
    ans = []  
    t = 1  
    if arr[0] > 0:  
        t = 0  
    i = 0  
    while i < n:  
        if t == 0:  
            j = i  
            while j < n:  
                if arr[j] > 0:  
                    j += 1  
                else:  
                    break  
            ans.append(max(arr[i:j]))  
            i = j  
            t = 1  
        else:  
            j = i  
            while j < n:  
                if arr[j] < 0:  
                    j += 1  
                else:  
                    break  
            ans.append(max(arr[i:j]))  
            i = j  
            t = 0  
    return sum(ans)
```

```
n = int(input())  
ar = list(map(int, input().split()))  
print(fun(ar, n))
```

Question 2

Vijay, an industrialist, recently opened a fuel industry. There are N numbers of different categories of fuel and each fuel is stored in a fixed site of container. Size of

the container can vary from fuel to fuel. Hari, a fuel merchant, visited Vijay's aldustry and he wanted to purchase fuels for his shop. Hari has a limited amount of money (K) and wants to buy fuel. Hari will not buy more than one container of any fuel category. Hari wants to maximize the overall volume i.e., sum of volume of fuels he buys. Your task is to get the maximum overall volume of fuels which Hari can purchase.

Given the number of categories of fuels (N), money units (K) price of container of each category of fuel and volume contained in container for each category.

NOTE: Quantity (volume) of container will be given in the same order as volume of price.

Hint: Break problems into parts and get the overall volume for smaller N and smaller K.

Example 1:

- **Input:**
5, 105 -> N = 5, K=105
10 10 40 50 90 -> price of container of each fuel category.
10 20 20 50 150 -> volume of container of each fuel Category.
- **Output:**
170
- **Explanation:**
There are 5 fuel categories and Hari has 105 units of \$ money. To have maximum fuel volume Hari can buy oil at 2nd and 5th position. Total cost= 10 + 90 = 100 and it is less than 105(money which Hari has). Total volume = 20 + 150 = 170. It's the max volume Hari can get; no other combination can get more volume than this.

Example 2:

- **Input:**
5 100 -> N = 5, K=100
10 20 30 40 100 -> price of container of each fuel category.
10 20 30 40 100 -> volume of container of each fuel
- **Output:**
100

Explanation:

Hari can buy either 1st four categories or only 5th category of fuel. In either case the

total amount will be 100 and volume will be 100 (which is the maximum volume possible).

Python

```
def getMaxVol(money, price, volume, n):
    K = []
    for i in range(n + 1):
        temp = []
        for j in range(money + 1):
            temp.append(0)
        K.append(temp)
    for i in range(n + 1):
        for m in range(money + 1):
            if i == 0 or m == 0:
                K[i][m] = 0
            elif price[i - 1] <= m:
                K[i][m] = max(volume[i - 1] + K[i - 1][m - price[i - 1]], K[i - 1][m])
            else:
                K[i][m] = K[i - 1][m]
    return K[n][money]

N, money = map(int, input().split())
price = list(map(int, input().split()))
volume = list(map(int, input().split()))
print(getMaxVol(money, price, volume, len(volume)))
```

Advanced Quantitative

Question 1: Three persons Pardhu, Qureshi and Rajesh independently try to hit a target. If the probabilities of them hitting the target are $1/4$, $2/3$ and $5/12$, respectively, then the probability that the target is hit by Qureshi or Rajesh but Not by Pardhu is:

1. $7/48$
2. $29/48$
3. $5/48$
4. $5/24$

Answer: $29/48$

Question 2: Three plane mirrors of size 10cm x 3cm are used to construct a kaleidoscope by attaching each pair of mirrors along their lengths. What is the total volume occupied by the kaleidoscope?

1. $45\sqrt{2}/_3\text{cm}^3$
2. $45\sqrt{3}/_2\text{cm}^3$
3. $45/_2\text{cm}^3$
4. $45\sqrt{3}\text{cm}^3$

Answer: $45\sqrt{3}/_2$

Question 3: If α and β are the roots of the quadratic equation $x^2+x+2=0$, and if $\alpha + \beta = 1$, then which of the following pairs represents the roots (α, β)?

- $\pm 1, \pm 1$
- $\pm 3, \pm 3$
- $\pm 4, \pm 2$
- $\pm 2, \pm 2$

Answer: $\pm 3, \pm 3$

Question 4: There are 10 men and 11 women in an office. In how many ways can a team of 5 men and 5 women be selected?

Answer: 1,16,424

Question 5: The sum of two numbers is 27 and the product is 182. The large number is

Answer: 14

Question 6: Number of employees working in various departments of ABC company limited over 6 years?

Departments (Number of employees)

Years	Production	Marketing	Corporate	Accounts	Research
2011	180	35	45	40	80
2012	215	36	40	60	71
2013	420	62	25	85	70
2014	460	70	35	95	75
2015	525	75	36	125	78
2016	510	70	38	120	80

In which department did the number of employees (approximately) remain the same?

Options

1. Production
2. Accounts
3. Research
4. Marketing

Answer – Research

Question 7: Number of employees working in various departments of ABC company limited over 6 years?

Departments (Number of employees)

Years	Production	Marketing	Corporate	Accounts	Research
2011	180	35	45	40	80
2012	215	36	40	60	71
2013	420	62	25	85	70
2014	460	70	35	95	75
2015	525	75	36	125	78
2016	510	70	38	120	80

In which year the total number of employees reached approximately twice the total number of employees than the company had in the year 2011?

Options

1. 2014
2. 2012
3. 2016
4. 2013

Answer: 2014

Question 8: If the inequality $|x-3|-2|x-3|-3 \leq 0$, then the range of x is

1. $(0,1] \cup [5,6)$
2. $(0,1] \cup [4,5)$
3. $(-1,1) \cup (2,3)$

4. $[0,1] \cup [5,6]$

Answer: $[0,1] \cup [5,6]$

Question 9: If the α and β are the roots of a monic quadratic polynomial such that $\alpha\beta + \beta\alpha = 2$ and $\alpha^3 + \alpha^2\beta + \alpha\beta^2 - \beta^3 = 54$, then what is the constant term of the equation?

Then what is the constant term of the equation

Answer: $\alpha = \beta = 3$

Question 10: Number of employees working in various departments of ABC company limited over 6 years?

Departments (Number of employees)

Years	Production	Marketing	Corporate	Accounts	Research
2011	180	35	45	40	80
2012	215	36	40	60	71
2013	420	62	25	85	70
2014	460	70	35	95	75
2015	525	75	36	125	78
2016	510	70	38	120	80

Which department has less than 9% employees through all the 6 years?

Options

1. Production
2. Marketing
3. Research
4. Accounts

Answer: Marketing

Advanced Reasoning

Question 1 :Mohan and three of his friends were talking with their teacher on an audio conference phone call. During the conversation the Teacher shared a phone number but none of the friends could note it down. On completion of the call all the four friends tried to recall the mobile number. All the friends agree that the first four digits are 9951. Three of them agree that the fifth and sixth digits are 92, and three agree that the seventh and eighth digits are 27, whereas the last set of the digits are 72 the mobile number 9951922727 correct? (Answer in YES NO)

Answer – NO

Question 2 :A question is given, followed by two statements labelled I and II. Identify which of the statements is/are sufficient necessary to answer the question.

Question:

In a food court, a certain number of persons were sitting in a row facing north, to have their lunch. How many persons are there in the row?

Statements:

1. Manini is 11th from the left end of the row and 7th to the left of Divya.
 2. Prerana is 15th from the right end of the row and 9th to the right of Divya.
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1. Neither data in statement I nor II is sufficient
 2. Data in statement II alone is sufficient
 3. Data in statement I alone is sufficient
 4. Data in both statements I and II together are necessary

Answer – *Data in both statements I and II together are necessary*

Question 3 :In a certain code language, MEHAK is written as 45812 How ARTIT be written in that lang rage?

Enter the answer in the space provided on the screen. Ansiver should be in whole numbers without any symbols (E g. %, kms, etc).

Answer – 19292.

Question 4 :Study the given information and answer the question that follows

1. Kavish, Raman and Harsh are creative.
2. ii Kavish, Preet and Joy are humble
3. iii. Preet, Harsh and Joy are independent
4. Kavish, Raman and Joy are courageous.

Which of the following persons is neither humble nor courageous?

1. Raman
2. Harsh
3. Kavish
4. Preet

Answer – Harsh is neither humble nor courageous.

Question 5 :Eight friends namely-H, I, J, K, L, M, N and O-are sitting in a straight line equidistant from each other (but not necessarily in the same order) Some of them are facing north, while some are facing south. M sits third to the right of H. M sits at one of the extreme ends. L sits third to the left of H. Both the immediate neighbours of J face north. N is not an immediate neighbour of H. The persons sitting at the extreme ends face the same direction. Both the immediate neighbours of H face the direction opposite to that of M. Both the immediate neighbours of O face opposite directions. K is one of the immediate neighbors of L and is facing north, I sits exactly between J and M. Not more than four persons are facing north L sits to the immediate right of K. How many persons are sitting between I and O?

Answer

Question 6 :Animals are sitting in a row for food, Ship is sitting next to the puma but not the tiger,Kishu is sitting next to rabbit, who is sitting to the extreme left and the tiger is not sitting next to kishu.

Who is sitting next to tiger?

Answer: Puma is sitting next to tiger.

Question 7 :Select the option that is true regarding the following two statements labeled Assertion (A) and Reason (R)

Assertion(A): It has been observed that teachers in government primary school teach very carefully.

Reason (R): The government provides good salary to the government primary school teachers.

1. Both (A) and (R) are true and (R) is the correct explanation of (A).
2. A is true but R is false.
3. A is false but R is true.
4. Both (A) and (R) are true but (R) is not the correct explanation of (A).

Answer – Both (A) and (R) are true and (R) is the correct explanation of (A).

Question 8 :In a certain code language, REFULGENT is coded as GFSHMVUOF and STORMY is coded as PUTZNS. What will PATRIOTIC will be coded as?

1. UBPJDJQU
2. BQUSJPDUJ
3. DJUPJSUBQ
4. UBQPJSdjU

Answer: UBQPJSdjU