

TCS NQT Paper 5

Numerical Ability

Question 1 : What is the value of the reciprocal of $(^{12}_3 + ^{13}_{10} / _6)^{1/6}$?

1. $1/3$
2. $3/2$
3. $2/3$
4. 3

Answer: $2/3$

Question 2 : An environmentalist began planting Khejri and Babul trees in the desert areas of Rajasthan. The HCF and LCM of the numbers of Khejri trees planted and the number of Babul Trees planted are 7 and 245, respectively. What is the difference between the number of Khejri and the number of Babul Trees if the number of Khejri trees planted is 49?

1. 14
2. 25
3. 18
4. 35

Answer: 14

Question 3 : If $x/y = (a^2 + b^2)/(a^2 - b^2)$, consider a is the first number and b is the second number, AM = Arithmetic Mean, GM = Geometric Mean, HM = Harmonic Mean, then $(x^2 + y^2)/(x^2 - y^2) = ?$

1. $1/HM$
2. $1/AM$
3. HM/GM
4. GM/AM

Answer: $1/HM$

Question 4 : Two successive discounts are given on an article. The marked price of an article is ₹550 which is available at ₹451 if the first discount is 10%. What is the second discount?

1. 9.09%
2. 8.09%
3. 10.1%
4. 11.09%

Answer: 8.09%

Question 5 : A person lent a personal loan at 8.5% per annum simple interest in 20 years, the interest amount to Rs. 6,300 more than the loan lent. What was the sum lent?

1. Rs 8,500
2. Rs 10,000
3. Rs 12,000
4. Rs 9,000

Answer: Rs 9000

Question 6 : There are three taps A, B and C in the tank. These taps can fill the tank in 10 hours, 20 hours and 25 hours respectively. At first, all three taps are opened simultaneously. After 2 hours, tap C is closed and A and B keep running. After 4 hours, tap B is also closed. The remaining tank is filled by Tap A alone. Find the percentage of the work done by Tap A itself.

1. 32%
2. 75%
3. 52%
4. 72%

Answer: 72%

Question 7 : The length of a rectangle is increased by $33\frac{1}{3}\%$. By what percent must the breadth be decreased so as to maintain its area the same?

1. 20%
2. 30%
3. 25%
4. 24%

Answer: 25%

Question 8 : If $x = 4$, $y = 3$ and it is given that x and y are more than their reciprocals by X and Y percent, respectively, then by how much percent (correct up to two decimal places) is X more or less than Y ?

1. More by 5.18%
2. Less by 5.47%
3. More by 5.47%
4. Less by 5.18%

Answer: More by 5.47%

Question 9 : Find the approximate value of the variance of the following frequency distribution:-

C.I.	2-4	4-6	6-8	8-10
Frequency	3	7	2	1

1. 2.78
2. 2.65
3. 2.83
4. 2.56

Answer: 2.83

Question 10 : In How many years will a sum of ₹1,600 amount to ₹2,116 at 15% compound interest?

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

Answer: 2 years

Question 11 : The ratio of milk and water in 60 litres of a mixture is 7:5. To increase the quality of milk, how much milk is to be added to make their ratio 7:2?

1. $52\frac{1}{2}$ litres
2. $52\frac{1}{3}$ litres
3. $50\frac{1}{2}$ liters
4. $50\frac{1}{3}$ liters

Answer: 52.5 liters

Question 12 : For a group of eight students, the average marks secured in Mathematics by seven of them was 82, while the eighth had scored 14 less than the overall average marks. What was the total marks scored by eight students?

1. 616
2. 600
3. 640
4. 656

Answer: 640

Question 13 : A and B run at a speed of 8km/h and 12km/h. If they run a circular track of length 6 km, determine the number of rounds after which B meets A.

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

Answer: 3

Question 14 : A boy walking at a rate of 9km/h crosses a bridge in 32 minutes. What is the length of bridge in meters?

1. 4160

2. 4800
3. 4000
4. 4480

Answer: 4800

Question 15 : The monthly income of Adit and Kavya is the same. Adit saved 66.23% of his monthly income and Kavya spends 37.5% of her monthly income. The expenditure of Adit is approximately how much percent less than the savings of Kavya?

Answer – 46.67%

Question 16 : The average physics marks of two sections I and II is 64. The average marks of section I is 61 and section II is _____. Find the ratio of the number of students in section II to section I.

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

Question 17 : Three containers have a capacity of ratio of 7:5:1. All three have a ratio of water and milk 5:3, 4:3 and 7:4 respectively. We take $\frac{1}{3}$ part of the first container, $\frac{1}{2}$ of the second and $\frac{1}{7}$ of the third container and mixed them into a new container. The percentage (approximately) of water in the new container is equal to:

1. 30%
2. 59%
3. 28%
4. 32%

Answer: 32%

Question 18 : Roohi sells her radio at Rs 1952 and bears a loss of 39%. She sold her phone for Rs 8,777 and gained a profit of 31%. She further sold her TV for Rs. 13,104 and bears a loss of 22%. Now she wanted to sell her LCD which has a cost price of Rs. 45,872 so that she could attain overall no profit and no loss situation, then what percentage of profit does she need to make by selling the LCD.

1. 5.25%
2. 4.25%
3. 3.25%
4. 6.25%

Answer: 6.25%

Question 19 : Study the following table and answer the questions.

The table gives the number of students who joined and left the school at the beginning of year for six years from 2016 to 2022.

Year	Number of Students Joined	Number of students left
2016	350	250
2017	400	200
2018	350	150
2019	350	250
2020	450	340
2021	300	400
2022	350	250

If the average students for the next academic year 2023 is 410 and the average students who left the school is 290. Find the number of newly joined students:-

Answer –

Verbal Ability

Question 1 : Each sentence contains four underlined phrases. Three of these phrases have been correctly used, and one has been incorrectly used, and one has

been incorrectly used. Choose the phrase (from options A-D) which best replaces the wrong phrase in the sentence.

Of all the members of the Elwel family, Aunt Mathilda was certainly the most insignificant, living like an old maid who was expected to taking up herself tedious and uninteresting household chores.

1. To take upon
2. Tedious but uninteresting
3. Among all the member
4. Much insignificant

Answer – to take upon

Question 2 : Four idioms are given below. Choose their sequence that would fill in the blanks and complete the text given here.

My sister was _____after work, she tried _____by going for a walk. After the walk, she felt fresh as a daisy. Once she was from her walk, she felt famished and started _____. She used to eat fast food for dinner, but then has been successful in _____ and preferred to fix something herself.

1. Eating like a horse
2. Taking a breather
3. Kicking that habit
4. Down for the count

1. 4213
2. 2134
3. 1243
4. 2143

Answer – 4213

Question 3 : Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.

1. It has begun moving below ground, by shifting its district cooling system, a water reclamation system, and ammunition for its armed forces.
2. Singapore has reformed its land laws so that homeowners own only the underground space up to their basement.
3. Singapore has long been reclaiming land from the sea but that's proving increasingly unsustainable with global climate change and sea level rise.
4. This allows the government to use the deeper land without facing private property issues.

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

Answer – 3214

Question 4 : Choose the correct meaning for the underlined idiom in the sentence.

Everyone appreciated the fact that the teacher cut the offending student some slack

1. Be sharp
2. Punish appropriately
3. Not judge too harshly
4. Not allow leniency

Answer – C

Question 5 : Sadhguru, the famous mystic, made several attempts to improve the nation's rivers a few years back. The government of India (1) _____ some of his ideas he had incorporated in the union budget. However, his solutions were not received well in (2) _____. After bearing these criticisms he decided not to provide any more solutions but to focus on the problem itself. His strongest message?. We cannot (3) _____ to the fact that soil is being rejected, whether it is concrete paving, denuding vegetation, use of chemicals etc. The soil is not being given the respect it deserves. He has now (4) _____ of the politicians, the

bureaucrats and the technocrats to find and execute solutions, if the mystics of their job and things may become **missing** . Of what good is the soul without the soul.

1. 1. Reflected upon 2. certain quarters 3. Turn a blind eye 4 put the ball in the court
2. 1. Reflected upon 2. A chunk of 3. Turned the other way 4. Gave up on
3. 1. Reflected upon 2. A cross section 3. Turned the other way 4. Given up
4. 1. Thought aloud 2. Certain section 3. Turn a deaf ear 4. Taken a back seat

Answer:- 1. Reflected upon 2. certain quarters 3. Turn a blind eye 4 put the ball in the court

Question 6 : Sentences of paragraph 1, 2, 3 and 4 are given below in jumbled order. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.

1. The different types of employees are unevenly distributed across different industries, but teams are likelier to perform well if they blend types of employees.
2. The idea of a purposeful employee conjures up images of someone who looks for a meaningful job but this is not the only way to think about purpose-driven employees.
3. Some are fired by the prospect of learning new skills or of deepening their expertise or working at jobs that with specific responsibilities, such as the well being of people.
4. Only 9% of employees claim that their purpose was fulfilled by their job.

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

Answer – 2431

Question 7 : Sentences of paragraph 1, 2, 3 and 4 are given below in jumbled order. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.

1. Folk etymology has nothing on folk entomology to the public, bug is synonymous with insect, to an entomologist, a bug is more specifically a member of the insect order Hemiptera (“half-winged”), which includes bed bugs
2. The Mark II “bug.” on the other wing, was a moth, part of the insect order Lepidoptera (“scale-winged”).

3. When a team of engineers working on Harvard University's Mark II computer found a bug gumming up the works, the word "bug" became a standard part of the programmer's lexicon – or, did it?
4. The bug is that "bug" in this sense goes back to the late nineteenth century, an expression for solving a difficulty, and implying that some imaginary insect had secreted itself inside and is causing all the trouble
5. Etymological folklore is remarkably persistent and fanciful word-stories can overcome lack of documentation, lack of plausibility, and even outright disproof, to become popular legend.

ANSWER – CDEAB

Question 8 : For the four-sentence (\$1 to \$4) paragraph below, sentences \$1 and \$4 are given. From the options P, Q, R, and S choose the appropriate sentences 2 and 3, respectively.

\$1. If you own a dog or have a friend who owns a dog-you probably know that dogs can be trained to do things like sit, beg, rollover, and play dead.

\$2.

\$3.

\$4. In general, learned behavior is one that an organism develops as a result of experience.

1. Specifically, a bell was rung at the same time the dog received food
2. In fact, the capability of dogs is much more and a lot of their behavior can be learned.
3. And, these are just some examples of learned behaviors, and dogs can be capable of significant learning.
4. However, habituation is a simple form of learning.

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

Answer – R and Q

Question 9 : Choose the appropriate idioms to complete the given sentences

Dew tried to _____Yesterday at a Japanese place but she was stopped by the waiters, guess she was _____yesterday.

1. Whet her appetite , up a creek without a paddle
2. whet her appetite , snowed under
3. dine and dash, snowed under
4. dine and dash , up a creek without a paddle

Answer – D

Question 10 : Parts of the given sentence have been given as options. One of them contains a grammatical error. Select the option has an error

Dear Richa Ma'am: I am still waiting for your reply to my mail.

1. I am still waiting
2. To my mail
3. For your reply
4. Dear Richa Ma'am:

Answer – D

Question 11 : Parts of the given sentence have been given as options. One of them contains a grammatical error. Select the option has an error

Some four million Ukrainians had fled the country since the Russia invasion began in February.

1. In February
2. Since the Russian invasion began
3. Had fled the country
4. Some four million Ukrainians

Answer – had fled the country

Question 12 : Read the following passage and fill in the blanks by selecting the most appropriate option.

In the 19 century, a country needed youth to operate its factories, consume (1)_____ they churned out and constitute a fighting (2)_____in times of war. That became less true over the 20th century, and in the 21st it bears very little (3)_____to reality. More and more of the jobs that require stamina and strength including fighting-are done by machines, while a nation's (4)_____are consumed globally.

Blank 1. (A) that (B) because (C) what (D) so that

Blank 2. (A) patrol (B) guard (C) power (D) force

Blank 3. (A) relation (B) connection (C) affinity (D) kinship

Blank 4. (A) stocks (B) products (C) outputs (D) commodities

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

Answer – (1)-C, (2)-D. (3)-A, (4)-B

Question 13 : Rakesh is a person who tries to do the impossible, usually to help others , while putting oneself in danger.

1. Plebeian
2. Quixotic
3. Pragmatist
4. Raconteur

Answer – none of the words match the meaning.

Reasoning Ability

Question 1. Identify the letter cluster that does not belong to the given series:-

DE19, FH30, IL45, MQ64, RX63, XD62

1. RX63
2. IL45
3. XD62
4. MQ64

Ans. RX63

Question 2. Identify the letter cluster that does not belong to the given series:-

PZLP, QWMN, RTNJ, SQOG, TNPD

Ans. QWMN

Enter the answer in the space provided on the screen. Answer should be in whole numbers without any symbol (XY, %, etc)

Question 3. Four letter – cluster pairs have been given, out of which there are alike in some manner and one is different. Select the one that is different.

1. SUYEMW : CAYWQI
2. QSWAGN : AWTXDH
3. CEIOWG : ASMKIG
4. DFJPXH : BTNLJH

Answer: QSWAGN : AWTXDH

Question 4. A statement is given followed by two courses of action numbered I and II. Assuming that everything in the statement is true, decide which of the logically follow(s).

Statement:

From last few years people are investing much in cryptocurrency and losing a lot of money. People invest after seeing advertisements of celebrities and in the hope of getting rich quickly.

Courses of Action:

1. The government should organise awareness campaign.

2. People should make themselves more aware by researching about the cryptocurrency and its fluctuation in market.
1. Only course of action follows
2. Only course of action follows
3. Both courses of action I and II follow
4. Neither course of action I nor II follows

Answer: C

Question 5. Study the given information carefully and answer the question that follows

In M.A. Social Work final year there are five papers of 100 marks each. Following are the passing criteria in each paper and the course.

A student must :-

1. a) secure at least 40 marks in each paper except paper V, where passing marks are 50
2. b) pass paper V and at least any 2 other papers to appear (re-appear) again in subsequent examination, else he/she will be declared fail
3. c) Up to 2 grace marks each may be given in any of the two papers or maximum 4 marks in any one paper for passing the course
4. d) Grace marks equivalent of 2% of the total final year course marks may be given to a student to enable him acquire 1st division(60%) or distinction (70%)

Based on the criteria given above and without assuming any additional information, take a decision about the result of the following candidates.

Geetansh appeared for the M.A. Social Work final year examination in June 2021 and obtained 56, 37.52, 43, and 46 marks in paper I, II, III, IV and V respectively.

1. He must be declared fail in the course
2. He must be declared pass in the course.
3. He must be asked to re-appear for paper I.
4. He must be asked to re-appear for paper II and V.

Answer : He must be declared fail in the course

Question 6.

- If $A + B$ means A is the father of B
 - If $A * B$ means A is the son-in-law of B
 - If A / B means B is the brother of A
 - If $A \$ B$ means B is the sister of A
 - If $A \# B$ means B is the mother of A
- Which two signs should replace the Question mark (?) in the following expression in proper sequence to establish that E is the brother-in-law of J?

$D * E + F ? G \ H ? J$

1. \$ and /
2. \$ and #
3. # and /
4. / and #

Answer – \$ and /

Question 7: Two cars started from the same point and at the same time. The first one is going in the east direction at 10 KMPH and the second one is going towards the north direction at a speed of 24 KMPH. How far will the two cars be from each other after 3 hrs

1. 68 kms
2. 72 kms
3. 78 kms
4. 98 km

Answer : 78 kms

Question 8:

Statement:

“We need to recruit more skilled and qualified math facilitators for grade XI and XII in our school”. The director inform the school staff during staff meeting

Assumptions:

1. Candidates are available for expected post.
2. The math facilitators who are teaching to grade XI and XII at present are not skilled.

Options

1. Both assumptions I and II are implicit.
2. Neither assumptions I nor II is implicit.
3. Only Assumption I is implicit
4. Only assumption II is implicit

5. Only assumption II is implicit

Answer : Only assumption II is implicit

Question 9:

1. If $A + B$ means A is the WIFE of B
2. If $A - B$ means A is the mother of B
3. If $A * B$ means A is the son of B
4. If A / B means A is the BROTHER of B

Based on the above how is N related to Q, if $M - Q - L / J * T * K + N$?

1. Brother
2. Father in law
3. Brother in law
4. Father

Answer : Father in law is the

Question 10 : Following are the criteria required to be fulfilled for getting admission to a college for MSc Bio Informatics.

1. The candidate must have scored more than 70% marks in the intermediate science stream
2. The candidate must possess a graduation degree in Zoology, Botany, Mathematics or Computer Science with minimum of 65% marks.
3. The candidate should have cleared the MSc entrance exam with at least 75% marks and interview with at least 65% marks.
4. The candidate should be at least 21 years and at most 28 years as of 1 July 2022. In case a candidate fulfills all criteria except the required percentage as mentioned in the criteria but has scored 75% and above marks in the personal interview then the case is to be referred to the Director of the college.

In case a candidate fulfils all criteria except the maximum age criteria as mentioned in IV but belongs to SC/ST community, the case is to be referred to the SC/ST cell for consideration. Refer to the details of a candidate provided below and the four options that follow. Select the appropriate option that applies to the person's candidature.

Romesh Kharwar passed his B.Sc. computer science on in 2018 when he was 19 years of age. At the age of 16 years, he topped his state board for the Intermediate science examination and secured more than 90% marks. He has obtained one-sixth

of the five hundred fifty marks, one-tenth of seven hundred sixty five and $\frac{5}{6}$ th of ninety-one in his B.Sc, entrance exam and interview respectively. He belongs to an ST community.

1. The case is to be referred to the Director of the college
2. The case is to be referred to the SC/ST cell for consideration
3. The candidate is to be selected
4. The candidate is to be rejected

Answer : The candidate is to be selected

Advanced Coding

Question 1

This vacation you went to visit the golden house. There are N rooms in this golden house and its owner needs someone to take care of the management of this house. As you have been unemployed for a long time, you are interested in this job. Owner of this house wanted an intelligent manager for this role, so he created one puzzle within that golden house. The person who will be able to solve that puzzle will be the manager of the golden house.

Owner of the house kept some numbers of golden coins in each room. You have to choose two rooms, one from where you will enter and other one from where you will exit. From any room either you can exit, or you can move to the next room. While visiting any room you will collect all the gold coins, and if you enter any room then you can't skip collecting gold coins from that room, you have to take those coins. Owner wants to have exactly K coins, when you exit the room, he guarantees that there will be at least one possible solution for this puzzle.

Given number of rooms (N), and number of gold coins in N rooms. You have to find room numbers from where you will start and from where you will exit. If there are more than one solution possible, then you have to provide a solution with a smaller starting room number.

You can assume that room numbers will start from 1 and end at N .

Hint: Find a continuous subsequence whose sum will be exactly equal to K.

Example 1:

- **Input:**
10 15 -> N = 10, K = 15
5 3 7 14 18 1 18 4 8 3 -> Number of gold coins in each room.
- **Output:**
1 3

Explanation: There are ten rooms in the house. You want to have the Total sum of gold coins in continuous sequence of room to be 15 There are two solutions from this i.e. [1, 3] and [8, 10] then the solution with a smaller starting room number will be printed hence [1, 3] is output.

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

Bob is going to bet today on horse riding. There are N horses listed in a sequence of 1 to N .

The probability of winning of each horse is different so the prices for making a bet on the horses are not the same. There is no limit on the number of horses on which he can bet, but he thinks that if he bets on a continuous sequence of horses then he has a better chance to win. Bob will get K units of money if any horse on which he bets will win. But as the award is only K units so he wants to put money less than K . Bob wants to bet on as many horses as he can. As you are his best friend, he reached out to you for help, can you please find the length of the maximum continuous sequence of horses on which Bob can make a bet, and remember he will invest money less than K units. If there are more than one possible combinations, Bob will bet randomly on any one of them.

Given the number of horses(N), reward money(K), and price of betting on N horses in order.

Hint: For each starting index of a horse, its end index in sequences will be equal to or greater than the end index of the previous starting index.

Example 1:

- **Input:**
90 100 -> $N = 10, K=100$
30 40 50 20 20 10 90 10 10 10 -> Price to make bet on each horse in order
- **Output:**
3
- **Explanation:**
There are 10 horses, and the reward money is 100. So, Bob will put money less than 100. There are two possible o sequences of length three whose total money for betting is less than 100, i.e. [50 20 20] (sum is 90) and [10 10 10] (sum is 30). Bob will choose randomly one sequence from these two. As none of the other sequences with length greater than 3 will have a price less than 100 so the answer will be 3.

Example 2:

- **Input:**
10 100 -> N = 10, K=100
10 90 80 20 90 60 40 60 70 75 -> Price to make bet on each horse in order
- **Output:**
1
- **Explanation:**
There are no two consecutive horses for which the sum of price is less than 100. So, Bob will choose randomly any one horse. And the max length of the sequence will be 1.

Constraints:

- $2 \leq N \leq 105$
- $1 \leq K \leq 109$
- $1 \leq A_1, A_3 \dots A_N \leq 109$

The Input format for testing:

The candidate has to write the code to accept 2 inputs.

- **First Input:** It will contain two integer N (number of horses) and K (reward money)
- **Second Input:** It will contain N integers, each separated

Python

```
def fun(n, k, arr):
    ans = 0
    if min(arr) < k:
        ans = 1
    for i in range(n - 1):
        for j in range(i + 1, n):
            if sum(arr[i:j]) < k:
                ans = max(ans, j - i)
            else:
                break
    return ans

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

Advanced Quantitative

Question 1: The sum of two numbers x and y is 30 and the sum of their reciprocals $1/x$ and $1/y$ is $10/63$. The numbers are:

1. 9, 21

2. 14, 16
3. 18, 12
4. 17, 13

Answer: 9, 21

Question 2. There are three violet, four yellow and five orange cards. In how many ways these cards can be arranged such that no two violet cards are adjacent to each other?

Answer: 1960; 132

Question 3: Let the expressions be $4 < h < 9$, $7 < g < 13$. If the possible values of g, h lies between a and b , then values a and b satisfies:

1. $a + b = 83$
2. $3a + b = 230$
3. $b - a = 89$
4. $5a + 4b = 327$

Answer: $a + b = 83$

Question 4 : Study the following table and answer the following questions:

Days	Distance Upstream	Speed of the boat	Speed of the stream	Total Time Taken
Sunday	480	—	6	—
Monday	—	—	—	60
Tuesday	500	—	—	—
Wednesday	—	—	5	—
Thursday	250	10	5	—
Friday	—	14	7	—
Saturday	100	—	—	50

The total time taken by boat on thursday to travel upstream and downstream is:

1. 51.45
2. 66.67
3. 49.85
4. 50.02

Answer: 66.67

Question 5: In reference to above table, on sunday if the difference between the time taken by the boat to go upstream and downstream is 12 hours, then the total time taken by the boat to go upstream and downstream together is: (round to one decimal)

1. 52.3
2. 50.3
3. 45.4
4. 52.5

Answer: 52.5

Question 6: In reference to above table , On saturday, if the ratio of the speed of the stream, to the speed of boat is 2:3 then the difference between the time taken by the boat to go upstream to that of downstream is: (round to one decimal)

1. 6.5 hrs
2. 7.5 hrs
3. 6 hrs
4. 4 hrs '

Answer: 6.5 hrs

Question 7: Suppose **A** and **B** are the roots of the polynomial $2x^2 + 21x - 3 = 0$. Find the value of $1/A + 1/B$

Answer: 7

Question 8: Find the ratio of the area of a rectangular hexagon (a 6-gon with equal sides and equal internal angles) and the area of the circle passing through the vertices of the hexagon.

1. $2\sqrt{3}/\pi$
2. $3\sqrt{3}/\pi$
3. $\sqrt{3}/\pi$
4. $3\sqrt{3}/2\pi$

Answer : $3\sqrt{3}/2\pi$

Question 9: If x, y and z are the roots of $3x^3 + 2x^2 - 4x - 1$, then find the value of $(1/x + 1/y + 1/z)(x + y + z)$ Answer : 8

Question 10. A pair of dice is rolled together till a sum of either 6 or 7 is obtained. If x denotes the probability that 7 comes before 6, then the value of x is (correct up to four decimal places)

1. 0.7692
2. 0.8571
3. 0.8333
4. 0.5454

Answer: 0.8333

Advanced Reasoning

Question 1. In a certain code language, 'BOARD' is written as '114263'. How will 'DARE' be written in that language?

Enter the answer in the space provided on the screen. Answer should be in whole numbers without any symbols (Eg, %, kms, ms etc)

Answer:

Question 2. Statement is given followed by two courses of action numbered I and II. Assuming that everything in the statement is true.....logically follows.

Statement: The standard of education at most of the government primary schools is pathetic.

Course of Action:

1. The Government should make it mandatory for political leaders to enroll their child in government primary school.
2. Government should improve the student-teacher ratio.

Options

1. Neither course of action I nor II follows
2. Only course of action I follows
3. Both courses of action I and II follow
4. Only course of action II follows

Answer : Only course of action II follows

Question 3. Statement is given followed by two course of action numbered I and II.
Assuming that everything in the statement is true.....logically follows.

Statement:- It is observed in some of the government primary schools that the teachers are not very well educated to teach the children.

Course of Action:-

1. The government should remove caste based reservation.
2. The government should conduct training program for the teachers at regular interval of time.

Options

1. Both courses of action I and II follow.
2. Only course of action I follows
3. Only course of action II follows
4. Neither course of action I nor II follows

Answer: Only course of action II follows

Question 4. A questions is given, followed by two statements labelled I and II.
Identify which of the statements is/are sufficient to answer the question.

Questions: In a tutorial, there are six students- Phani, Kiran, Jwalith, Ram, Shyam and Tony of different ages. Who is the oldest among them?

Statements:

1. Ram is older than Phani and Jwalith. Ram is younger than Kiran. Shyam is older than only Tony.
2. Shyam is older than Jwalith but younger than Phani. Tony is older than only Ram. Phani is not the oldest.

Options

1. Data either in statement I alone or in statement II alone is sufficient to answer the question.
2. Data in both statements I and II together are not sufficient to answer the question
3. Data in statement II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question
4. Data in statement I alone is sufficient to answer the question, while the data in statement II alone is not sufficient to answer the question.

Answer: Data either in statement I alone or in statement II alone is sufficient to answer the question.

Question 5. In a certain code language, "FONDLE" is coded as "122610303214". How will DERAIL be coded in this language?

1. 28225401210
2. 129118512
3. 141132075
4. 26204381210

Answer:

Question 6. There is an acute need of an architect for the firm of Teena, who is a successful architect practitioner and running a very big architect firm. The candidates should be well-qualified, skilled, highly experienced and reliable. A placement agency has recommended a candidate named Preeti who has recently graduated in architecture from one of the best schools of architecture as the topper of the institute. She is a gold medalist. She has successfully completed her internship for one year and registered with the government. Decide whether the candidate is suitable for teena or no.

Answer : No. (Not experienced)

Question 7. In a corona ration queue, 8 people are standing. Jaffar is standing to the left of Raquib but to the right of Pushpa. Omkar is standing to the right of Naresh and the left of Prithvi.. Sanju is standing to the right of Raquib and to the left of Tanu. Pushpa is first and Prithivi is last in the queue. Who is standing to the left of Naresh?

Answer : Raquib

Question 8. In a theatre, nine person – K, L, M, N, O , P, Q , R, S and T are sitting in a straight row facing the screen (north) but not necessarily in the same order . M is fourth to the left of Q. P is fourth to the right of K and second to the left of S, who is fifth to the right of N. L is not an immediate neighbor of either S or M. There are only three persons between O and N. Q is second to the right of K. Who among the following sits to the right of R?

Answer : K

