TCS Ninja Numerical Ability Questions

Q1. What is the value of $(a + b + c)^2 : (a^3 + b^3 + c^3)$ if $(ab + bc + ca) = 131$, $(a^2 + b^2 + c^2) = 138$ and $abc = 280$?
A. 15 : 43
B. 18 : 41
C. 20 : 49
D. 17 : 434
Answer: C

Q2. By which of the following is 19541742 divisible?
I. 11
II. 9
III. 12

A. Both I and III
B. Only III
C. Both II and III
D. Only I
Answer: D

Q3. Simplify
0.7 x 0.7 x 0.7 + 0.3 x 0.3 x 0.3 + 0.3 x 0.7 x 3

0.7 x 0.7 + 0.3 x 0.3 + 0.42
A. 1
B. 1/3
C. -⅓
D. 3
Answer: A

Q4. In an examination, 62% candidates passed in physics and 60% candidates passed in Mathematics. If 37% candidates passed in both these subjects, what percent of the candidates failed in both the subjects?
A. 5%
B. 20%
C. 25%
D. 15%
Answer: D

Q5. If price of petrol increases by 35% and Rajesh intends to spend only an additional 25% on petrol, by how much % will he reduce the quantity of petrol purchased?(Approx)
A. 14%
B. 9%
C. 11%

D. 13%
Answer: C

Q6. If 20% apples from a cart are rotten and the remaining apples are sold at 20% discount, the seller gets 92% profit on the cost price of the whole cart. By what percent above the cost price has the seller marked up the apples?
A. 180%
B. 250%
C. 200%
D. 280%
Answer: C

Q7. Selling an item at 5/6th of its marked price results in a loss of 10%. What is the % of profit/loss, if a discount of 5% is offered on the marked price?
A. 2.6% loss
B. 2.6% profit
C. 3% profit
D. 3% loss
Answer: B

Q8. The simple interest earned on a sum of Rs. 3650 at some rate after 4 years is Rs. 584. Find the rate of interest (in p.a.)
A. 3.5%
B. 4.5%
C. 3%
D. 4%
Answer: D

Q9. If a : b = 3 : 4, b : c = 2 : 3, c : d = 1 : 2, find the value of $((a+b+c+d)/(b+d))^{1/2}$
A. 5 : 4
B. 4 : 5
C. 1 : 1
D. 2 : 3
Answer: A

Q10. Which of the following statements is true?
I)27840 is divisible by 12
II) 7329753 is divisible by 9

A. Statement I is true, but II is not
B. Statement I is not true, but II is true
C. Both the statements are true
D. Both the statements are not true
Answer: C

Q11. What is the value of the following expression?

$$\left(3\frac{3}{4} \text{ of } 5\frac{1}{7} \div \frac{9}{7}\right) \times 3\frac{1}{3} \div \left(1\frac{3}{4} \times 2\frac{2}{3} \text{ of} \frac{6}{7} \div \frac{4}{5}\right)$$

A. 10
B. 12
C. 8
D. 9
Answer: A

Q12. A sum amounts to Rs. 16,000 at the end of three years and to Rs. 25,600 at the end of six years under compound interest (interest being compounded annually). Find the simple interest earned if the same sum is invested at 15% p.a. for two years.
A. Rs. 3,000
B. Rs. 4,000
C. Rs. 3,500
D. Rs. 4,500
Answer: A

Q13. A flask is filled with 20% acid. 49 ml of that solution is taken out and is replaced with 40% acid to make it a solution of 27% acid. Find the initial volume of the solution in the flask.
A. 140 ml
B. 175 ml
C. 70 ml
D. 105 ml
Answer: A

Q14. Disha and Patni entered into a partnership. Disha invested as much money as was earned by Patni a share from the profit. If the profit was Rs. 18,000 and the money invested by Disha was Rs. 3,000 more than Patni, What is the investment made by Disha if it is less than Rs. 5,000?
A. Rs. 4,500
B. Rs. 7,500
C. Rs. 6,000
D. Rs. 5,500
Answer: A

Q15. If the 9-digit number 807x6y9z8 is divisible by 99, then the value of $(x + y + z)^{1/2}$ is _____
A. 4
B. $3\sqrt{3}$
C. 6
D. $\sqrt{5}$
Answer: A

Q16. Rahul and Sachin can complete a work in 60 days and 45 days respectively. Rahul starts working with 120% of his capacity and Sachin with 80% of his capacity. In how many days will they complete 75% of the work if they work together?

A. 25.71

B. 19.85

C. 17.64

D. 16.24

Answer: B

Q17. The ratio of the speed of a bus and a car is 2:5. The car covers a distance of 280 km in some time and the bus covers a distance of d km less in the same time. What is the distance covered by the bus?

A. 132 km

B. 168 km

C. 112 km

D. 144 km

Answer: C

Q18. A boat travels 12 km downstream and 6 km upstream in 3 hours. The same boat takes fifty percent extra time to cover 10 km downstream and 16 upstream. If the same boat travels 20 km downstream and z km upstream in 4 hours, find z.

A. 8 km

B. 4.5 km

C. 7.5 km

D. 9 km

Answer: B

Q19. Ranjeet's present age is half of his brother Manjeet's age after 10 years. After 5 years, the ratio of ages of Manjeet and Ranjeet will be 7 : 5. Find Ranjeet's age 2 years ago.

A. 25 yrs

B. 20 yrs

C. 15 yrs

D. 18 yrs

Answer: D

Q20. A plane is cutting a cone parallel to the base in such a way that the radius of the new cone is half of the radius of the original cone. Find the ratio of the volume of the original cone to that of the volume of the portion of the cone left after being cut by the plane (the part other than the new cone).
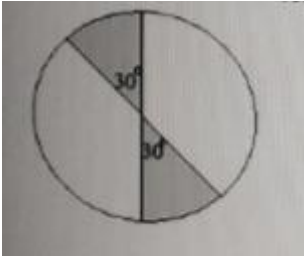
A. 8 : 7

B. 9 : 7

C. 7 : 6

D. 8 : 5

Answer: A

Q21. Find the geometric mean of the data 5, 75 and 9.

A. 15
B. 5
C. 45
D. 3
Answer: A

Q22. In a circular ground of radius 28m, the shaded portion area in the circle represents forest area while the remaining part of the circle is available for construction purposes. Find the area reserved for construction purpose(approx).

A. 1764 m²
B. 3120 m²
C. 1850 m²
D. 2053 m²
Answer: D

Q23. Find the difference between arithmetic mean and median of the first seven consecutive natural numbers.
A. 1
B. 3.5
C. 2
D. 0
Answer: D

Q24. Find the quartile deviation of the observations 16, 2, 8, 24, 4, 32, 18.
A. 8
B. 12
C. 6
D. 10
Answer: D

Q25. The standard deviation of a series of 'n' observations is σ. If each observation is multiplied by 12, the respective ratio of the standard deviation and the variance is:
A. 1 : 9σ
B. 1 : 12σ
C. 3σ : 1
D. σ : 1
Answer: B

Q26. If the arithmetic mean of 23, 15, 19, p, 12, 7, is 16 while the arithmetic mean of 37, 28, 53, q, 42 is 41, then find (p+q)/(q-p)

A. 2.6

B. 2.2

C. 3.5

D. 3.2

Answer: A

TCS Ninja Verbal Ability Questions

Q1. One part of the sentence below may contain an error. Identify the part. If there is no error, please choose 'No error'.

Riya finally declined the proposal which she were eagerly waiting for.

A. She were eagerly waiting for.
B. No error.
C. Riya finally declined
D. the proposal which

Answer: A

Q2. Read the following passage and fill in the blanks by selecting the most appropriate option.

Experts warn that tourists should stay as far away as possible from wild elephants. They do not look violent or ____ 1 _____when compared to the big cats. But, a five ton _____2_____ elephant can do serious damage.

Blank 1: a. provoking   b. angry   c. powerful   d. threatening
Blank 2: a. excited   b. enraged   c. pacific   d. roaring

A. 1-c, 2-b
B. 1-b, 2-a
C. 1-a, 2-b
D. 1-d, 2-b

Answer: A

Q3. One part of the sentence below may contain an error. Identify the part. If there is no error, please choose 'No error'.

As little pieces of debris and space-dust burn up in Earth's atmosphere, it causes spectacular shooting stars.

A. No error
B. It causes spectacular shooting stars
C. As little pieces of debris and space-dust
D. burn up in Earth's atmosphere

Answer: B

Q4. Read the following passage and fill in the blanks by selecting the most appropriate option.

Sailing is fun. But it takes work and muscles to keep the sailboat moving. One will have to constantly ___1___ the weather and adjust the sails to turn the boat in the required direction. It also takes a lot of ___2___ to raise the mast and sails before you start enjoying the freedom of exploring new places in your sailboat.

Blank 1: a. search   b. scrutinise   c. check   d. scan
Blank 2: a. attempt   b. effort   c. strive   d. endeavour

A. 1-c, 2-b
B. 1-b, 2-a
C. 1-c, 2-d
D. 1-a, 2-a

Answer: B

Q5. Abdul is confident ____ the scholarship.
A. of winning
B. to win
C. in winning
D. for winning

Answer: A

Q6. The train arrived ____ time.
A. After
B. by
C. at
D. on

Answer: D

Q7. One part of the sentence below may contain an error. Identify the part. If there is no error, please choose 'No error'.

All the students of the class decided to head to the Principal's office to complain for the new teacher's misconduct.

A. to head to the Principal's office
B. All the students of the class decided
C. to complain for the new teacher's misconduct
D. No error

Answer: C

Q8. For the four sentence (S1 to S4) paragraph, sentences S1 and S3 are given. From the options P, Q and R, choose the appropriate sentences for S2 and S3 respectively.

S1. The colour of the ocean is due to the absorption and scattering of the sunlight.
S2.
S3.
S4. This water now scatters both blue and yellow light, producing the characteristic green colour of the Atlantic Ocean.

P. When sunlight strikes the water, the red wavelength is absorbed and blue wavelength is scattered, making the ocean appear blue.
Q. However, in the case of the Atlantic Ocean, the decaying plants on the ocean bed release yellow pigments that dissolve in the water.
R. The colour of the water depends on the light scattered and substances dissolved in it.

A. PQ
B. QR
C. RQ
D. QP

Answer: A

Q9. One part of the sentence below may contain an error. Identify the part. If there is no error, please choose 'No error'.

The soldiers, in an attempt of showing their loyalty towards their king, fought ruthlessly until the end of war.
A. No error
B. fought ruthlessly until the end of war.
C. The soldiers, in an attempt of showing
D. their loyalty towards their king,

Answer: C

Q10. Select the most appropriate option to fill in the blank.
The world _____ for the vaccines eagerly before they were launched last month.
A. have been waiting
B. was waiting
C. has been waiting
D. had been waiting

Answer: D

Q11. Read the following passage and fill in the blanks by selecting the most appropriate option.

Did you know that most of the mothers in the animal kingdom feed on their new borns? It comes as a __1__ for many humans who have always overly __2__ the role of a mother. The animal kingdom, especially the species of the lower strata like reptiles and insects , lack emotions like mammals.

Blank 1: a. shock   b. revelation   c. miracle   d. marvle
Blank 2: a. glorified   b. amplified   c. personified d. characterised

A. 1-a, 2-b
B. 1-d, 2-a
C. 1-b, 2-a
D. 1-c, 2-b

Answer: B

Q12. Select the appropriate option to fill in the blank.
Kamlesh wanted to argue and _____ to rebel, but the fear of Mr. Rattan, his teacher, always stopped him.
A. longed
B. is longing
C. has longed
D. longs

Answer: C

Q13. Rathan than _____ stones on the mad man, people should be ____ with him and providing him with the appropriate treatment.
 A. pelting, sympathized
B. pelting, sympathizing
C. pelted, sympathizing
D. pelt, sympathize

Answer: B

Q14. For the four sentence (S1 to S4) paragraph, sentences S1 and S3 are given. From the options P, Q and R, choose the appropriate sentences for S2 and S3 respectively.

S1. In the early years when long trade voyages were undertaken that would take months or maybe even a year to reach the destination, coconuts were granted a special place.
S2.
S3.

S4. Its popularity has recently increased although they were grown in tropical regions for more than 4,500 yrs.

P. By and large, the coconut water was drunk and the pulp eaten.
Q. The best part of this fruit was that there were no chances of it going bad.
R. The voyages were rife with difficulties and hardships

A. RQ
B. PQ
C. QP
D. RP

Answer: B

Q15. For the four sentence (S1 to S4) paragraph, sentences S1 and S3 are given. From the options P, Q and R, choose the appropriate sentences for S2 and S3 respectively.
S1. Probably dating back to the early Neolithic and even the Palaeolithic age, the mythology of Greek goddesses is considered to be the oldest mythologies of the world, even a precursor to Indo-European mythologies.
S2.
S3.
S4. She was a symbol of regenerative powers of nature such as fertility, birth, rebirth and death.

P. The Biblical snake is one of the many remaining symbols that demonise the old female snake death.
Q. It is largely been censored by the scientific community and yet there is extensive reliable research on the subject.
R. A 20th century archaeologist, Marija Gimbutas developed a theory on an evolved and pastrola Old European civilisation that worshipped Goddesses in the form of a bird, feline or a snake
A. RQ
B. QP
C. RP
D. PQ

Answer: A

Q16. For the four sentence (S1 to S4) paragraph, sentences S1 and S3 are given. From the options P, Q and R, choose the appropriate sentences for S2 and S3 respectively.

S1. Using data analytics has helped companies identify trends and purchase patterns at various levels and helped customise various styles.
S2.
S3.
S4. It is correct to say that many business owners will have a lot on their minds post lockdown and till the pandemic dies down.

P. Data analytics utilizes powerful algorithms to analyse current and past customer data to come up with solutions

Q. They have adapted to digitalization and have customized their products in line with current trends

R. Low cost of implementing data analytics driven software is an added advantage

A. QP
B. RQ
C. QR
D. PR

Answer: A

Q17. You are going to read a text about the history of working women. Some sentences are missing from the text. Choose from the list (A-C) the most appropriate sentence for each gap (1-2) in the text. There is one extra sentence that you do not need to use.

Women started working in the time of the war during the period of 1914-1918 and 1939-1945, when the need of the hour was manpower at the factories and other industries. ___1___ While their husbands and brothers were away at war, women fulfilled their new roles, ___2___. Many other women were inspired by those women who were able to perform both the roles adeptly. A much greater increase in the percentile of working women was seen after the industrial revolution, when the industrial society was doing extremely well.

A. Back at home, they were still performing their own roles which were looking after kids, running the house, etc.
B. Women came out of their houses and picked up shovels
C. Industrial revolution empowered women and gave them more freedom of thought

A. 1-A, 2-A
B. 1-B, 2-A
C. 1-C, 2-A
D. 1-B, 2-C

Answer: B

Q18. Which one of the following sentences uses the formal language?
A. I am shocked at your rowdy behaviour.
B. Hey! Let's grab a cup of joe.
C. Heck! I lost all my data.
D. I am greatly devastated to learn about the demise of your mother.

Answer: D

Q19. The Following sentence pair can be combined into one better sentence. Choose the option that combines the two sentences best without changing the meaning.

Aniruddh has been playing the tabla throughout the day. This explains the pain in his fingers.

A. The pain in his fingers explains that he has been playing the tabla throughout the day.

B. Aniruddh was playing the tabla all day long so he can get pain in his fingers.

C. Aniruddh has been playing the tabla all day long, which explains the pain in his fingers.

D. Aniruddh has been playing the tabla throughout the day so he can't explain the pain in his fingers.

Answer: C

Q20. You are going to read a text about transformation of self. Some sentences are missing from the text. Choose from the list (A-C) the most appropriate sentence for each gap (1-2) in the text. There is one extra sentence that you do not need to use.

Transformation is usually painful because it involves a process, a means to find an end. 1 _____ In pain is our true enlightenment as our crucial lessons are learnt here. 2 _____ For humans, evolution is painfully slow as we take the longest to learn.

A. Attainment, on the other hand, is happiness because you gained what you wanted.

B. Without process, however, there is no achievement, so there is no gain without pain.

C. How long the process continues will depend on how fast we learn our lessons.

A. (1)-A, (2)-B

B. (1)-A, (2)-C

C. (1)-C, (2)-B

D. (1)-B, (2)-C

Answer: D

Read the passage and answer the following questions.

Mental health can affect daily living, relationships and physical health. Factors in people's lives, interpersonal connections and biological factors can all contribute to mental health disruptions. Looking after mental health can preserve a person's ability to enjoy life. Doing this involves reaching a balance between life activities, responsibilities and efforts to achieve psychological resilience. Conditions such as stress, depression and anxiety can all affect mental health and disrupt a person's routine. Although mental health is in everyday use, many conditions that doctors recognize as psychological disorders have physical roots.

Mental health is about not only avoiding active conditions but also looking after ongoing wellness and happiness. Preserving and restoring mental health is crucial on an individual basis and throughout different communities and societies the world over. In the United States, the National Alliance on Mental Illnesses estimates that almost 1 in 5 adults experience mental health problems each year.

According to the National Institute of Mental Health (NIMH), in 2017, an estimated 11.2 million adults in the US or about 4.5 % of adults, had a severe psychological condition. Everyone has some risk of developing a mental health disorder, no matter their age, sex, income or ethnicity. In the US and much of the developed world, mental health disorders are one of the leading causes of disability. Social and financial circumstances, biological factors, and lifestyle choices can all shape a person's mental well-being. A large proportion of people with a mental health disorder have more than one condition at a time. It is important to note that

good mental health depends on a delicate balance of factors and that several elements of life and the world at large can work together to contribute to disorders.

Q21. What is understood by 'mental health disruptions'?
A. Abnormal functioning of the mind
B. Extreme illness of the mind and the body
C. Disorientation of the rain
D. Lack of coordination between the brain and other parts of the body

Answer: A

Q22. Which is not true according to the passage?
A. Social and financial circumstances, biological factors, and lifestyle choices cannot shape a person's mental health.
B. Mental health involves reaching a balance between life activities, responsibilities and efforts to achieve psychological resilience.
C. Preserving and restoring mental health is crucial on an individual basis, as well as throughout different communities and societies the world over.
D. Mental health is about not only avoiding active conditions, but also looking after ongoing wellness and happiness.

Answer: A

Q23. What is the tone of the passage?
A. Prescribing
B. Incendiary
C. Laudatory
D. Analytical
Answer: D

Q24. What do you mean by "Mental health is about not only avoiding active conditions but also looking after ongoing wellness and happiness"?

A. Mental health care is about looking after ongoing wellness and happiness on a day-to-day basis.
B. Mental health care is about treatment of active mental health disruptions as well as general mental well-being.
C. Mental health care is not about taking care of mental disruptions but bodily diseases.
D. Mental health care is about avoiding active mental disruptions only.

Answer: B

TCS Ninja Reasoning Ability Questions

Q1. Which is the WRONG term in the following series?

LAT, OES, QIR, SOQ, UUP

A. QIR

B. LAT

C. UUP

D. SOQ

Answer: A

Q2. The table shows the total number of 10th class students in 5 different schools [P, Q, R, S and T] and the ratio of the number of students in Art, Commerce and Science respectively.

The students study only the above subjects in the class of each school.

School	Total Students	Arts : Commerce : Science
P	240	1 : 2 : 3
Q	450	7 : 1 : 1
R	360	5 : 4 : 3
S	180	2 : 5 : 3
T	330	6 : 4 : 1

What is the total number of Science students in school P, Q and R together?

A. 290

B. 220

C. 260

D. 240

Answer: C

Q3. In each of the five pairs of letter-clusters, the letters in the second term are a rearranged/transformed form of the letters in the first term in a particular pattern. In which two pairs, has the transformation been done in the same way?

A. PLANT : PLZMG

B. MANGO : MAMTL

C. BLACK : BLBDP

D. TABLE : ATLBE

E. CHEER : HCREE

A. A and B

B. D and A

C. B and C

D. C and D

Answer: A

Q4. Given below is a question followed by two statements, I and II each containing some information. Decide which of the statement(s) is/are sufficient to answer the question.

Five persons - A, B, C, D and E - sit around a circular table, facing the centre not necessarily in that order. Who sits second to the right of D?

I. A sits to the immediate right of E, who is not a neighbour of D.

II. B is to the immediate left of D.

A. If only statement II is sufficient to answer the question

B. If the data in both the statements I and II together are necessary to answer the question.

C. If only statement I is sufficient to answer the question.

D. If the data either in statement I alone or in statement II alone is sufficient to answer the question.

Answer: B

Q5. Given below is a question followed by two statements, I and II each containing some information. Decide which of the statement(s) is/are sufficient to answer the question.

Six persons P, Q, R, S, T and U have different scores in a classroom test, who scored the 2nd highest marks?

I. P scores better than T and Q, who scores better than S. S scores better than U. R scores better than P.

II. S scores better than at least one person, P scores better than S and T.

A. The data is statement I alone is sufficient to answer the question, while the data in statement II alone is not sufficient to answer the question

B. The data given in both statements I and II together is not sufficient to answer the question

C. The data either in statement I alone or in statement II alone is sufficient to answer the question

Q. The data is statement II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question.

Answer: A

Q6. In a certain code, if:

I. J @ K means J is K's daughter.

II. J % K means J is K's wife.

III. J + K means K is J's father.

IV. J ÷ K means K is J's mother.

F @ R % I ÷ E % N

How is R related to N in the given expression?

A. Daughter-in-law

B. Mother-in-law

C. Son-in-law

D. Mother

Answer: A

Q7. The annual salary of a person consists of two parts - basic salary and allowance. The allowance is always calculated as a fraction of the basic salary. Every year, his basic salary increases by Rs.5000 and his

allowance, as a percentage of his basic salary, increases by 5 percentage points. The present basic salary of the person is Rs. 30,000 and his present allowance is 20% of his present basic salary. After how many months from now will the Annual salary of the person be Rs. 60,750?

A. 33
B. 30
C. 36
D. 24

Answer: C

Q8. In a certain code, if:
K @ L means K is L's father.
K # L means K is daughter of L.
K % L means L is mother of K.
K + L means K is grandson of L.
K × L means L only child of K.
K © L means K is L's sister.

R + A × E @ F # G © T
Which of the following is a CORRECT conclusion drawn from the expression?
A. F is daughter of A
B. R is father of T.
C. E is mother of T.
D. R is son of G.

Answer: D

Q9. The given question consists of six statements followed by 4 options consisting of three statements put together in a specific order. Choose the option, which indicates a valid argument that is, when the third statement is a conclusion drawn from the preceding two statements.

a. Magazines are published weekly.
b. Some magazines are not newspapers.
c. Newspapers are published daily.
d. Magazine is not published daily.
e. Magazines are not newspapers.
f. Some newspapers are not published weekly.

A. b f e
B. a f c
C. d c f
D. a c e

Answer: D

Q10. Three statements are given followed by two conclusions numbered I and II. You have to consider these statements to be TRUE, even if they seem to be at variance with commonly known facts. Decide which of the given conclusions logically follows from the given statement.

Statements:
Some books are cars.
No bus is a car.
Some cars are motors.

Conclusions:
I. Some motors are not buses.
II. Some books are buses.

A. If either I or II follows
B. If neither I or II follows
C. If only II follows
D. If only I follows

Answer: B

Q11. A statement is followed by two assumptions numbered I and II. Consider the statement and decide which of the given assumptions is/ are implicit in the statement.

Statement:
Country X will talk on every issue and try to resolve every conflict with its neighbouring country.

Assumptions:
I. Country X wants a peaceful relation with its neighbouring country.
II. Country X will appear weaker than the neighbouring country if it tries to solve the matter by talking.

A. Neither I nor II is implicit.
B. Only II is implicit.
C. Only I is implicit.
D. Both I and II are implicit.

Answer: C

Q12. A statement is followed by two arguments numbered I and II. Decide which of the argument(s) is/ are strong (important and directed related to the question) and which is/ are weak (not important and not related to the central message of the question).

Statement:
Should young children be exposed to virtual gaming?

Arguments:
I. Yes. It will prepare them for leadership.
II. No. Young minds cannot take violence.

A. Both I and II are strong.
B. Only II is strong.
C. Only I is strong.
D. Neither I nor II is strong.

Answer: A

Q13. Two statements are given followed by two conclusions numbered I and II. You have to consider these statements to be TRUE even if they seem at variance with commonly known facts. Decide which of the conclusions logically follows from the given statement.

Statements:
All runs are overs.
Some overs are bats.

Conclusions:
I. All bats are runs.
II. No bat is a run.

A. If either I or II follows.
B. If neither I nor II follows.
C. If only I follows.
D. If only II follows.

Answer: B

Q14. Following are the selection criteria for any student to get admission in "Central University of India" for any undergraduate program.

a. Must have completed high school with at least 8.0 CGPA.
b. Must have been at least 17 years 8 months old on Jan 1st 2021.
c. Must have scored more than 80 percentage in university entrance test.
d. If students fulfill all the criteria except a, but have more than 6.5 CGPA in high school, his case will be sent to the Sr. Admission Officer.
e. If students fulfill all the criteria except b, but have more than 90 percentage in the university entrance test, his case will be sent to the Head of the Department.

Tanmay has passed high school with 9.2 CGPA. He has scored 92 percent in university entrance test and he was born on 27th April 2004.

A. His case will be sent to the Sr Admission Officer.
B. His case will be sent to the Head of the Department.
C. He will be selected.
D. He will not be selected.

Answer: B

Q15. Rohan is selecting pizza from a pizzeria. Following are the criteria of selection by him for the pizza.
a. It must be a non-veg pizza.
b. It must cost less than INR 450.
c. It must be a hand toasted pizza.
d. If any pizza is satisfying all the criteria given above except c, but it is a cheese burst pizza, then he needs permission from his uncle.
e. If any pizza is satisfying all the criteria given above except b, but provides mushroom and corn for free, then he needs permission from his mother.

"Pizza on the spot" house is providing a new hand toasted non-veg pizza which costs Rs.550. It provides free toppings of onion, capsicum, corn, paneer and tomato.

A. He will need to take permission from his uncle.
B. It will not be selected.
C. He will need to take permission from his mother.
D. It will be selected.

Answer: B

Q16. Five persons A,B,C,D, and E are comparing the number of books which they have bought recently. A bought more number of books than C and E, but not the highest. B bought more number of books than exactly one person. Then which of the following bought the highest numbers of books?

A. C
B. E
C. D
D. B

Answer: Option C

Q17. Rajpal is going to buy a laptop. Following are the criteria of selection of the laptop given by his father.
a. Must be < Rs.38,000.
b. Must have RAm equal to or more than 8 GB.
c. Must have intel processor of version i3 or above.

d. If any laptop is satisfying all of the above criteria except a, it will need his dad's permission if it is less than Rs.45,000.

e. If any laptop is satisfying all of the above criteria except b, it will need his mom's permission if it has storage of more than 512 GB.

ATC58 is a new laptop in the market that costs Rs.36,000and having 16 GB RAM. It consists of Pentium 8 processor and pre-installed Windows 10.

Which of the following options below is CORRECT for the laptop given above?

A. He needs his dad's permission to buy it.
B. He needs his mom's permission to buy it.
C. He will buy the laptop.
D. He will not buy the laptop.

Answer: D

Q18. I, J, K, L, M and N have their birthdays not in the same order but in different months such as January, February, April, July, August and December.

Two people have their birthdays between N and J's birthday. M's birthday is not in the second half of the year. The birthday of N is either in January or August. K's birthday falls in the month having the minimum number of days. At the most, 3 people have birthdays between N and I's birthday.

Whose birthday falls exactly between N and I's birthday?
A. Person I
B. J, birthday in July
C. Person J
D. The one whose birthday is in April.

Answer: D

Q19. Eight persons A,B,C,D,E,F,G and H are sitting around a square table . All of them are facing towards the centre. Only one person sits on each of the sides and only one person sits on each of the corners. Four of them sit on the sides and four of them sit on the corners. C is sitting 3rd to the left of B, who sits on a side. D is sitting opposite to H, who is sitting 3rd to the right of B. A is sitting 2nd to the right of G. G is not sitting opposite to either E or F, F is not an immediate neighbor of H.

Who among the following is sitting opposite to A?
A. C
B. B
C. F
D. E

Answer: Option D

Q20. Six friends L, M, N, O, P and Q are sitting around a circular table and facing outside. Q is sitting fourth to the left of M, who is sitting to the immediate left of N. P is sitting opposite to N and and adjacent to O. O is not sitting adjacent to Q.

Which of the following statements is TRUE?

A. L is adjacent to P
B. M is between O and P
C. P is sitting opposite to Q
D. There are 3 friends sitting between M and L.

Answer: A

TCS Ninja Programming Logic Questions

1. *From the given statements, which one is CORRECT regarding infix notation?
   A. Operators can be written either before or after operands
   B. Operators are written between the operands.
   C. Operators are written between the operands.
   D. Operators are written after the operands.

   Answer: B

2. Which one NOT a unary operator?
   A. Not operator (!)
   B. ++
   C. Address of Operator (&)
   D. ==

   Answer: D

3. Which of the below SDLC models does not incorporate any changes?
   A. Build and Deploy Model
   B. RAD Model
   C. Waterfall Model
   D. Automatic Deployment Model

Answer: C

4. Which of the below techniques is used in merge sort?
   A. Divide and Conquer
   B. Brute Force
   C. Backtracking
   D. Greedy Algorithm

Answer: A

5. What will be the output of the following pseudocode?
```
integer x, y, z
x = 2
y = 1
z = 5
do
 print z--
while( (x&y) || (z+1) )
End Loop
```

A. 5 4 3 2 1 0
B. 4 3 2 1 0 0
C. 5 4 3 2 1 1
D. 4 3 2 1 1 1

Answer: A

6. #include<stdio.h>
int main () {
   while (){
      print("Hello World");
   }
return 0;
}
   A. No output will be printed
   B. Hello World
   C. Compilation error
   D. Infinite loop

Answer: C

7. Convert the following Infix to Postfix expression:
W+x*y+(z*a)
   A. Wxy+*za*+
   B. Wxy*+(za)*+
   C. Wxy*+za*+
   D. W+xy*za

Answer: C

8. Which SDLC model ensures about risk analysis?
   A. Waterfall Model
   B. Spiral Model
   C. V Model
   D. Incremental Model

Answer: B

9. What is the output of the following JAVA code snippet?
Class Main
  {
  public static void main (String args[]) {
String t = "Technical Knowledge test";
int i = t.indexOf('T');
int j = t.lastIndexOf("t");
System.out.print(i+" "+j);
}
}
Enter your answer only as a NUMERAL in the box.

Answer: 0 23

10. What will be the output of the following code?
#Include <iostream>
using namespace std;
int incrementT(int t)
{
return ++(--(++t));
}
int main()
{
int t = 11;
cout<<incrementT(t);
}
Enter your answer only as a NUMERAL in the box.
Answer: 12

11. What will be the output of the following code?
#include <iostream>
using namespace std;
#define pi 3.14159
int main ()
{
float r = 3;
float circular_area;
circular_area = pi * r * r;
cout<<circular_area;
return 0;
}
    A. 28
    B. 28.2743
    C. 29
    D. 18.7564
Answer: B

TCS Ninja Hands-on Coding Questions

Q1. Given a non-negative integer array Arr having size N. Each element of the array will carry a different value. This means no two elements can have the same values. The candidate has to do this with minimal changes in the original value of the elements, making every element as least as much value as it originally had.

Find the minimum sum of all elements that can be set the array for:
Example 1:
Input
3 -> Value of N, represents size of Arr
2 -> Value of Arr[0]
2-> Value of Arr[1]
4-> Value of Arr[2]

Output
9

Explanation:
As two elements have the same value, max value for the one of them needs to be incremented to 3.
He can set the array with 2+3+4=9

Example 2:
Input
2 -> Value of N, represents size of Arr
3 -> Value of Arr[0]
4-> Value of Arr[1]
5-> Value of Arr[2]

Output
Wrong Input

Explanation:
Here N=2, so we need to provide value of only two elements but we are providing value of three elements so result is "Wrong Input"

The Input format for the testing
First input line: Accept a single positive integer value for N representing the size of Arr[]
Second input line: Accept **N number of integer** values separated by a new line, **representing the original value assigned to each element.**

Output Format for testing:
The output must be a non integer only (See the output format example).

Violation of input criteria: System should display message as "Wrong Input".
Additional messages in the output will result in the failure of the test cases.

Solution in C++:

```cpp
#include<iostream>
using namespace std;
int main()
{
    int n, sum = 0, flag = 0;
    cin >> n;
    int arr[n];
    for(int i = 0; i < n; i++)
    {
        cin >> arr[i];
    }
    for(int i = 0; i < n; i++)
    {
        for(int j = i+1; j < n; j++)
        {
            if(arr[i] == arr[j])
            {
                arr[i] = arr[i]+1;
            }
            if(arr[j] < 0)
                flag = 1;
        }
    }
    for(int i = 0; i < n; i++)
    {
        sum = sum + arr[i];
    }
    if(flag == 1)
        cout << "Wrong Input";
    else
        cout << sum;
}
```

Q2. Joseph is learning digital logic subject which will be for his next semester. He usually tries to solve unit assignment problems before the lecture. Today, he got one tricky question. The problem statement is "A positive integer has been given as an input. Convert decimal value to binary representation. Toggle all bits of it after the most significant bit including the most significant bit. Print the positive integer value after toggling all bits".

Constraints
1 <=N <=100

Example 1
Input:
10 ---> Integer

Output:
5 → result - Integer

Explanation:
Binary representation of 10 is 1010. After toggling the bits (1010), will get 0101, which represents "5". Hence the output will print "5".

Example 2
Input:
101 ---> Integer
Output:
Wrong input → result - String

Explanation:
Given integer "101" is out of range. Hence the output will print "Wrong input".

The input format for testing
The candidate has to write the code to accept one input(s).
1. First Input - First line contains an integer

The output format for testing
1. Print integer value based on the number got after toggling all the bits of given input.
2. Print "Wrong input if the string length is out of the range.
3. Additional messages in output will cause the failure of test cases.

Instructions
1. The system doesn't allow any kind of hard-coded input value.
2. Written program code by the candidate will be verified against all the inputs which are supplied from the system.

Solution in C++:
```cpp
#include<iostream>
using namespace std;
void toggle(int &n)
{
        int temp = 1;
        while (temp <= n)
        {
```

```
                n = n ^ temp;
                temp = temp << 1;
        }
}
int main()
{
        int n;
        cin >> n;
        if(n <= 100)
        {
           toggle(n);
           cout << n;
        }
        else
           cout << "Wrong Input";
        return 0;
}
```

Q3. Given a string S(input) consisting of * and #. The length of the string is variable. The task is to find the minimum number of * and # required to make it a valid string. The string is considered valid if the number of * and # are equal. The * and # can be at any position in the string.

Note: The output will be a positive or negative integer based on number of * and # in the input string.

(* > #) : Positive integer
(# > *) : Negative integer
(#=*): 0

Example 1:
Input
###*** → Value of S
Output
0 ---> number of * and # are equal

Example 2:
Input
###***# → Value of S
Output
-1 ---> number of # is more than *

Example 3:
Input

#*** → Value of S
Output
2 ---> number of * is more than #

The input format for testing
The candidate has to write the code to accept one inputs separated by a new line.
<u>First input:</u> Accept a string S without any spaces (consisting of only * and #)

The output format for testing
The output should be a positive integer number (check in e.g.s 1, 2 and 3). Additional messages in output will cause the failure of test cases.

Constraints
S = {*,#}
0<len(S)<=50

Solution in C++:
```cpp
#include<iostream>
using namespace std;
int main()
{
    string str;
    int count = 0, count1 = 0;
    cin >> str;
    for(int i = 0; str[i] != '\0'; i++)
    {
        if(str[i] == '#')
            count++;
        if(str[i] == '*')
            count1++;
    }
    if(count == count1)
        cout << "0";
    else
        cout << count1-count;
}
```