TCS NQT 27th Oct 8 am to 11 am Slot

Numerical Ability

Q1. A sells an article to B at a profit of 15%. B then sells it to C, making a profit of 20%. If C paid Rs. 690 What is the original price of the article?
   A. 700
   B. 500
   C. 575
   D. 690

Answer: Option B

Q2. If the area of the base of a right circular cone is 9856 cm^2 and its height is 33 cm, what is the curved surface area of the cone?
   A. 12420 cm^2
   B. 21040 cm^2
   C. 11440 cm^2
   D. 12000 cm^2

Answer: Option C

Q3. A motorbike starts at the speed of 60 kmph with its speed increasing by 12 kmph every three hours. In how many hours will it cover 480 km?
   A. 8 hours
   B. 6 hours, 30 minutes
   C. 7 hours
   D. 6 hours

Answer: Option C

Q4. The difference between the simple interest and the compound interest calculated annually on a certain amount at the rate of 20% per annum for 2 years is Rs. 248.20. What is the amount?
   A. 6205
   B. 6002
   C. 6022.5
   D. 6202.5

Answer: Option A

Q5. If a perimeter of a rectangle is 82 cm and its diagonal is 29 cm long, what is the area of the rectangle?

    A. $400cm^2$
    B. $420 \ cm^2$
    C. $441 \ cm^2$
    D. $900 \ cm^2$

Answer: Option B

Q6. The mean of the following data is _____

Class	0-10	10-20	20-30	30-40	40-50	50-60
Frequency	3	6	7	6	3	5

    A. 25
    B. 5
    C. 30
    D. 35

Answer: Option C

Q7. A, B and C enter into a partnership by investing in the ratio of 4 : 3 : 5. After six months, B invests another Rs. 2,64,000 and C invests Rs. 5,40,000 at the end of two years also invests. At the end of the three years, profits are shared in the ratio 3 : 5 : 6. What is the initial investment of A?

    A. Rs. 3,00,000
    B. Rs. 1,80,000
    C. Rs. 2,70,000
    D. Rs. 2,40,000

Answer: Option D

Q8. If a and b represent the frequencies of the modal class and median class respectively of the data, the value of 3a + 4b is _____

class	0-10	10-20	20-30	30-40	40-50
frequency	12	14	10	17	7

    A. 98
    B. 90
    C. 27
    D. 91

Answer: Option D

Q9. If $\frac{1}{6} : \frac{1}{x} : : \frac{1}{x} : \frac{1}{2.16}$, the value of x is -

    A. 1.6

B. 6

C. 2.6

D. 3.6

Answer: Option D

Q10. Two cars A and B, which are 280 km apart, start travelling at the same time. If they travel in opposite directions, they meet after 2 hours. IF they travel in the same direction, A meets B after 14 hours. What is the speed of car B?

A. 50 kmph

B. 80 kmph

C. 60 kmph

D. 70 kmph

Answer: Option C

Q11. The value $\dfrac{7.6 \times 3.8 \times 15.28 \times 1.8 \times 5.4 \times 16.2}{(7.6)^{2} + (5.4)^{2} - 41.04} + \sqrt[3]{\dfrac{343}{512}}$ lies between

A. 16 and 17

B. 12 and 13

C. 13 and 14

D. 15 and 16

Answer: Option C

Q12. The salary in rupees of 10 employees in a company per day is
50, 55, 60, 65, 70, 72, 75, 80, 84, 89.
What is the standard deviation of the above data?

A. 11.143

B. 11.747

C. 11.983

D. 11.517

Answer: Option C

Q13. A sum was lent at simple interest at a certain rate for 6 years. Had it been lent at 3% higher, it would have fetched Rs. 540 more. What was the sum?

A. Rs. 3200

B. Rs. 3300
C. Rs. 3000
D. Rs. 2750

Answer: Option C

Q14. If a number is divided by 7, the remainder is 4. What will be the remainder when the square of the same number is divided by 7?
A. 2
B. 4
C. 6
D. 3

Answer: Option A

Q15. A sales representative's commission is 6% on all sales up to Rs. 15000 and 5% on all sales exceeding this. He remits Rs. 47350 to his company after deducting his commission. What were the total sales?
A. Rs. 50000
B. Rs. 49000
C. Rs. 50500
D. Rs. 47500

Answer: Option A

Q16. A and B undertake a piece of work for Rs. 720. A alone can do it in 12 days while B alone can do it in 16 days. If they get C to help them and finish the work in 6 days, what should be C's share of the money earned?
A. Rs. 80
B. Rs. 360
C. Rs. 90
D. Rs. 270

Answer: Option C

Q17. The mean of 29 observations is 33 on adding one more observation. The new mean becomes 34. What is the value of the 30th observation?
A. 55

B. 63

C. 68

D. 34

Answer: Option B

Q18. If $\sqrt[3]{\dfrac{4913}{4096}} = 1 + \dfrac{a}{16}$, what is the value of a?

A. 3

B. 2

C. 1

D. 4

Answer: Option C

Q19. 10% of the voters did not cast their votes in an election between two candidates. 20% of the votes were found invalid. The winning candidate got 60% of the valid votes and won by a majority of 2,880 votes. What is the total number of voters who cast their vote?

A. 18,000

B. 25,000

C. 20,000

D. 24,000

Answer: Option A

Q20. Consider the following pie chart and table. What is the population of village A, if the population of illiterates in village C is 2019 is 11250.
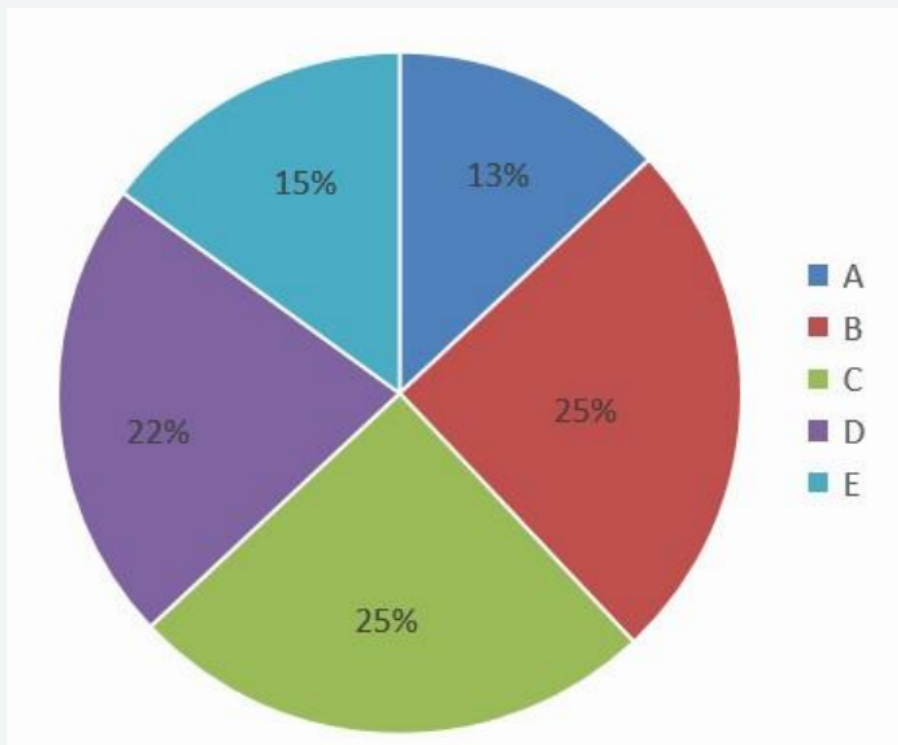
Figure 1 Proportion of the population of 5 villages in 2019

Table - 1	
Village	**% illiterates**
A	40
B	48
C	45
D	35
E	30

A. 25000
B. 13000
C. 15000
D. 22000

Answer: Option B

Q21. If $\sqrt{2} = 1.414$ and $\sqrt{3} = 1.732$ the value of $\dfrac{1}{3\sqrt{2} - 2\sqrt{3}}$?

    A. 1.2803

    B. 1.75

    C. 1.2813

    D. 1.2843

Answer: Option A

Q22. A can do a piece of work in 72 days. He worked at it for 8 days and then B alone finishes the remaining work in 48 days. In how many days will A and B finish the work by working together?

    A. $30\frac{6}{7}$ days

    B. $30\frac{5}{7}$ days

    C. $30\frac{1}{7}$ days

    D. $30\frac{2}{7}$ days

Answer: Option A

Q23. The following table gives the expenditure of a company (in lakhs or rupees per annum) over the given years

Expenditure/ Year	Salary	Transport	Bonus	Taxes	Advertiseme nt
2015	250	105	4	80	2.1
2016	198.7	72.70	4.25	75.75	13.3
2017	270	110	4.5	85	3.5
2018	318	108	93.7	158.2	22.1
2019	325	120	5	75	4.3

What percent of the total expenditure in 2018 is the total expenditure on all these items in 2016?

    A. 52.4%

    B. 56.2%

    C. 50.7%

D. 52.1%

Answer: Option D

Q24. In a competitive exam, 5 marks are awarded for every correct answer and for every wrong answer, 2 marks are deducted. Sathwik and 32 marks in this examination. If 4 marks has been awarded for each correct answer and 1 mark had been deducted for each incorrect answer, Sathwik would have scored 34 marks. If Sathwik attempted all the questions, how many questions were there in the test?
    A. 20
    B. 14
    C. 12
    D. 26

Answer: Option D

Q25. If a dealer makes a profit of 20% by selling an article for Rs. 18, by how much should he increase his selling price in order to make a profit of 30%?

    A. Rs. 1.5
    B. Rs. 3.5
    C. Rs. 4.5
    D. Rs. 2.5

Answer: Option A

Verbal Ability

Q1. Read the passage carefully. Then select the words/ options listed A to D which best fill in the blanks.
Indian-Americans are among the best-educated and economically successful US immigrant groups and share the ideology and political_____of most middle-class professionals in that country. The most recent Asian American Voter Survey confirms what previous studies have shown. Even when_____to other Asian American groups, such as Chinese and Koreans, Indian-Americans are the most likely to support the Democratic Party and its candidates. Just 16% of them identified themselves as Republicans.
Options:
Blank 1:
    A. viewpoint

B. habit
C. job
D. casuality

Blank 2:
A. caused
B. groups
C. compared
D. asked

    A. AC
    B. BA
    C. BD
    D. CB

Answer: Option A

Q2. to Q4. Read the passage and answer the questions:

There are many methods to search for extraterrestrial life. One is to listen for orderly, seemingly deliberate radio signals that could possibly be from sentient and technologically-able life-forms in our Milky Way or beyond. A second method is to search for planets that could harbour life as we know it. Over 4,000 `exo-planets' have been discovered around other stars several of which are in the 'Goldilocks zone.' That is, at a distance from their host star that is not too close/hot nor too far/cold but just right to allow water to exist in liquid form and, therefore, harbour life of a familiar kind. Then there is in situ investigation, i.e., spacecraft landing on the planets (such as Curiosity-Rover to Mars). Robotic instruments on these crewless landers sample the planet's atmosphere and surface material for evidence of life-nurturers like water, for "biosignatures" or chemical compounds that can't be generated by astrophysical or geo-chemical processes and, therefore, must be generated by life-forms, and, of course, for life- forms themselves.

A fourth method, that ties in with the second, is to search for molecules of volatile "biosignatures" that float around in the planetary atmospheres, using telescopes. When these molecules are back-lit, even by the feeble light from the heated planetary surface, they absorb some of this light at specific wavelengths that are dependent on their make-up, amounting to a fingerprint stamped on the light. Phosphine is a molecule with a phosphorus atom bonded to three hydrogen atoms, a well-known toxic fumigant. It is very hard to make by natural processes, except under exceptionally high pressures and temperatures, in, for example, the core of Jupiter. However, living microorganisms in oxygen-less environments on earth are also

known to generate phosphine, and it is, therefore, a clear, though relatively neglected biosignature.

Q2. Who according to the author, is able to transmit radio signals through space?
    A. Intelligent life forms on other planets who are technologically advanced.
    B. Conspiracy theorists living on other planets
    C. Cranks who work out of Area 51 in the U.S.
    D. Mystical saints who live in the Himalayas and are proficient in teleportation and radio signals.

Answer: Option A

Q3. Which qualities do NOT exist in the Goldilocks Zone?
    A. They are at the right distance from their Sun, so that life forms do not burn up and die.
    B. They have adequate heat and cold, so that they can have snow and sans
    C. Their Sun or Host Star does not exist
    D. The temperature of their atmosphere is just right for vapour to liquefy into water and harbour life.

Answer: Option C

Q4. Which option is closest in meaning to 'exo-planet'?
    A. An extraordinary planet moving around Jupiter.
    B. A new planet that was discovered recently.
    C. The exodus of planets from the solar system that is likely to destroy the universe.
    D. A planet which is outside the Earth's solar system.

Answer: Option D

Q5. to Q.8 Read the passage and answer the questions:
Today, silent reading is the norm. The majority of us bottle the words in our heads as if sitting in the hushed confines of a library. Reading out loud is largely reserved for bedtime stories and performances.
New research, however, suggests that we may be missing out by reading only with the voices inside our minds. The ancient art of reading aloud has a number of benefits for adults, from helping improve our memories and understand complex texts, to strengthening emotional bonds between people. And far from being a rare or bygone activity, it is still surprisingly

common in modern life. Many of us intuitively use it as a convenient tool for making sense of the written word, and are just not aware of it.

Colin MacLeod, a psychologist at the University of Waterloo in Canada, has made an extensive research on impact of reading aloud on memory. He and his collaborators have shown that people consistently remember words and texts better if they read them aloud than if they read them silently. This memory-boosting effect of reading aloud is particularly strong in children, but is beneficial for older people too.

Q5. Which of the following is a by-product of reading silently?
- A. Having conflicts with people
- B. Developing verbal ability
- C. Having a prodigious intellect
- D. Having poor recall

Answer: Option D

Q6. With reference to the passage above, which option is closest in meaning to the following sentence segment-
"Bottle the words in our heads as if sitting in an imaginary library"?
- A. To manage to hold one's tongue especially when one is angry.
- B. To magically be able to stop talking once and for all
- C. To behave like a head Marathon and ask everyone to maintain silence
- D. To visualize one is sitting in a public library and reading a book silently

Answer: Option D

Q7. Which of the following statements is TRUE?
- A. Reading aloud scrambles signals in our brain.
- B. Reading aloud is not as good as reading silently.
- C. Reading aloud makes one establish better relationships with people
- D. Reading aloud makes it difficult to understand difficult texts.

Answer: Option C

Q8. Which option is the closest in meaning to the word: *intuitively*
- A. Naturally
- B. Truthfully
- C. Magically

D. Systematically

Answer: Option A

Q9. One part of the sentence below may contain an error. Identify the part. If there is no error, choose 'No error'.
Since sunrise to sunset / my grandmother would sit by her wheel, / spinning and reciting prayers.
    A. my grandmother would sit by her wheel.
    B. Since sunrise to sunset
    C. No error
    D. spinning and reciting prayers.

Answer: Option B

Q10. Choose the most appropriate word to complete this sentence correctly:
The psychic made many_____about the future, but none of them came to pass.
    A. mutterings
    B. savings
    C. sooth-sayings
    D. predictions

Answer: Option C

Q11. Complete the following sentence by filling in the blanks (1 and 2) with the right word from the list given below:
One very old method used in the investigation of past climatic conditions 1._____the measurement of water levels in ancient lakes. In temperature regions, there are enough lakes for correlations between them to give us a 2._____picture.
Blank 1:   A. involves   B. involve   C. involving   D. was involving
Blank 2:   A. constant   B. reliable   C. safe   D. secure
    A. 1A, 2B
    B. 1C, 2A
    C. 1D, 2C
    D. 1B, 2D

Answer: Option A

Q12. For the four-sentence (S1 to S4) paragraph below, sentences S1 and S4 are given. From the options P, Q and R choose the appropriate sentences for S2 and S3 respectively.

S1. London, like the rest of the UK, is committed to becoming net-zero carbon by 2050.

S2.

S3

S4. And exactly how different would the urban environment look if it were net-zero?

Options:

P. But how does London, a city choked with traffic and packed full of carbon-emitting processes and structures - from fossil fuel-generated energy to steel skyscrapers -- reach such a goal?

Q. That means greenhouse gas (GHG) emissions would be dramatically slashed and any remaining emissions offset, neutralising environmental impact and slowing climate change.

R. UK became net-zero carbon 20 years ago and is the biggest proponent of reversing climate change and saving the planet.

    A. QP

    B. RQ

    C. RP

    D. PR

Answer: Option A

Q13. The following sentence can be revised into one better sentence. Choose the sentence that is the best revision:

I was at the fair.I got lost.I got scared.

    A. I got lost at the fair and was scared.

    B. I went to fair and got scared as I was lost

    C. I am scared after I am lost at the fair

    D. I am lost at the fair so I am too scared

Answer: Option A

Q14. Fill in the blanks with the most appropriate set of words from the options given below.

What did the painter do_____himself from failing?

When he felt the ladder_____he grabbed the gutter to save himself from failing

    A. to save/ beginning to slip

    B. for saving/ began to slip

    C. To save/ begin to slip

    D. to save/ began slipping

Answer: Option B

Q15. Choose the word which is misspelt:
    A. Artistic
    B. Simplefy
    C. Anachronistic
    D. Metamorphosis

Answer: Option B

Q16. One part of the sentence below may contain an error. Identify the part
He could not figure/ out why the/ neighbourhood had get/ such a bad reputation
    A. out why the
    B. such a bad reputation
    C. neighbourhood had get
    D. He could not figure

Answer: Option C

Q17. One sentence has been removed from the text below. Read the text and then match the missing sentence to fill up the blank.
People play all kinds of roles in our lives; there are the foundational relationships we have with our nearest and dearest, then there those close friends and sweethearts with whom we like to share as much as possible_____. These people might not seem all that important generally, but there is subject to change, especially now as the powerful Full Moon in Aries illuminates your 11th House of special groups and global communications.
    A. The planets and stars have powerful effect on our personalities.
    B. Our school teachers play one of the key roles in our lives.
    C. Our connections today are quite superficial, certainly nothing like the deep friendships we enjoyed with our school friends.
    D. Then there are all the people "out there," all the people you 'sort of' know, or have connected with over one form of social media or another.

Answer: Option D

Reasoning Ability

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

cze, etg, hoj, lkm, qls, wfy

    A. lkm
    B. qls
    C. hoj
    D. wfy

Answer: Option A

Q2. Seven friends A,B,C,D,E,F and G play one of the seven musical instruments viz, the guitar, flute, dholak, congo, piano, drums and violin. E does not play the congo. A, E and G do not play the violin, flute and guitar. F plays the piano. D plays the drums. Who plays the guitar?

    A. Either A or E
    B. C
    C. B
    D. Either B or C

Answer: Option D

Q3. Six friends P, Q, R, S, T and U are in a group.

    1. Q and R are shorter than U but heavier than P
    2. S is heavier than Q and taller than R
    3. T is shorter than S but taller than U
    4. U is heavier than S
    5. P is shorter than T but taller than

       U Who is tallest in the group?

    A. P
    B. Q
    C. R
    D. S

Answer: Option D

Q4. In a certain code, P+Q means P is the husband of Q; P-Q means P is the daughter of Q and P/Q means P is wife of Q

If A+B-C/D, then which of the following is true?

    A. C is the mother of A
    B. D is the mother of B
    C. D is the father of B
    D. A is the brother of D

Answer: Option C

Q5. Below is a question followed by 2 statements, I and II, each containing some information:

Among six family members O, P, Q, R, S and T, how many are male in the family?

Statements:
    I.   Q is the wife of P and the mother of T. R is the grandmother of O and the mother of P
    II.   T is the granddaughter of S. R is the grandmother of O and T.

    A. Both the statements I and II together are not sufficient
    B. Statement II alone is sufficient
    C. Both the statements I and II together are necessary
    D. Statement I alone is sufficient

Answer: Option A

Q6. Statement :
Should all the government departments in the country be handed over to the private sector?
Arguments:
    I.   No. The private sector will not be sure to handle the entire government departments which are made for social services
    II.   Yes. Private sector will handle all the departments better than the government.

    A. All of I, II and III are strong
    B. Only argument I is strong

C. Only argument II is strong

D. Both I and II are strong

Answer: Option D

Q7. How is Seema related to Ram?

Statements:
   I.   Ram has a brother, Mohan. Mohan is the son of Rahul. Seema is Rahul's sister.
   II. Rahul is the father of Ram and brother of Seema.

   A. Either the statement I or II are sufficient
   B. Statement I alone is sufficient
   C. Both the statements I and II together are necessary
   D. Statement II alone is sufficient.

Answer: Option B

Q8. In each of the five pairs of the letter-clusters, the letters in the second term are rearranged/transformed. Find the transformation which is same.
   A. MANSON : AMNOS
   B. PARTY : APRYT
   C. FAULT : AFTLU
   D. LODGE : DOLEG
   E. CARGO : ACOGS

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

Answer: Option A

Q9. A statement is followed by two assumptions numbered I and II. Consider the statement and decide which of the given assumptions are appropriate.

Statement:

The workers are protesting against the new incentive policy which has been implemented this year by the management this year

Assumptions:
   I.   The workers are not happy with the changes that have been made in the new incentive policy.
   II.   The management has assured the workers for redrafting the policy to avoid further protests

   A. Only II is implicit
   B. Neither I or II is implicit
   C. Both I and II are implicit
   D. Only I is implicit

Answer: Option D

Q10. Seven friends O,P,Q,R,S,T and U are standing in a row.

   1. Q is the right of U
   2. P is between T and S
   3. O is right of Q who is left of S
   4. U is between Q and R

Who is exactly in the middle of the row?
   A. R
   B. Q
   C. S
   D. O

Answer: Option D

Q11. In a coded form, A#B means A is the paternal grandfather of B; A$B means A is the son of B and means A is the brother of B.

Which of the following equations show that P is the father of S?

   A. P#$S
   B. P#

C. P$Q#

D. $R#S

Answer: Option A

Q12. Six friends A,B,C,D, E, F are standing in a row facing east.

1. C is in between B and D
2. E is in between D and F
3. D is right to E and left to C
4. If A is standing extreme right in the row, who on the extreme left?

A. F
B. B
C. D
D. C

Answer: Option A

Q13. Five persons P, Q, R, S and T are sitting in a row. Who is sitting in the middle?

Statements:

1. P is between R and Q. Q is on the left to P
2. T is between Q and S
3. T is on the left of Q but the right of S

A. Statement III alone is sufficient
B. Statement II alone is sufficient
C. Both statements I and II are together sufficient
D. Statement I alone is sufficient

Answer: Option C

Q14. Statement:
Our city has got the maximum rainfall this year in comparison to the last 10 years.

Assumptions:

I. The city was facing drought since last 10 years
II. Many areas in the city got flooded due to such heavy rainfall

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

Answer: Option C

Q15. Statements:
1. No poet is singer
2. All poets are dancers

Conclusions:
1. No singer is dancer
2. No dancer is singer

A. Only I follows
B. I and II follows
C. Only II follows
D. None of the conclusions follow

Answer: Option D

Q16. In a group of six friends P,Q,R,S,T and U of different ages but all have their birthdays on the same date.

The youngest is seventeen years old and the oldest is T of 22 years. U is somewhere between Q and S in age.

P is Older than Q. R is older than S.
If Q is 17 years old, which of the following could be the age of S and R respectively?

A. 18 and 20
B. 19 and 18
C. 19 and 21
D. 17 and 20

Answer: Option C

Q17. The numbers of students studying in six different disciplines of a college are given bleow. Study the given data and answer the questions that follow.

Number of students in different disciplines			
Disciplines	**Total**	**Boys**	**Girls**
Science	1020	680	340
Social Science	2380	1700	680
Humanities	1700	510	1190
Law	680	408	272
Management	1700	1020	680
Commerce	2040	1190	850
Total	**9520**	**5508**	**4012**

Considering the data for both Social Science Humanities, what is the percentage of girls in total students in these two categories clubbed together?
   A. 41.17%
   B. 42.15%
   C. 46.02%
   D. 45.83%

Answer: Option D

Q18. A statement is followed by three courses of action numbered I, II and III. Assuming everything in the statement to be true, decide which of the suggested courses of action (a decision to be taken for follow up/ improvement in regard to the problem) logically follow.
Statement:
The number of passengers following through air route has considerably increased in the last few years and the current numbers of airports and operational flights are not sufficient to fulfil the increasing demands and to provide better services.
Courses of Action:

I.   All the passengers should be asked to use other modes of travel in future.
II. The Aviation Ministry should further strengthen air infrastructure as the trafficdemand is high.
III. More staff should be appointed to provide better services to the increasing numbers of passengers at the airports.
   A. Only I and III follow
   B. Only I and II follow
   C. Only II and III follows
   D. Only I follows

Answer: Option C

Programming Logic

Q1. What would be the output of the below snippet?

```cpp
1 #include<iostream>
2 using namespace std;
3 int main()
4 {
5     int charArr[ ] = {91, 93, 95};
6     cout<<*charArr+1;
7     return 0;
8 }
```

Enter your answer as only numerical in the box:

Answer: 92

Q2. The Hashing Technique hash function takes a _____ and returns the _____ value of that key in order to identify the index of an array.
   A. Null, Hash
   B. Hash, Key
   C. Key, Null
   D. Key, Hash

Answer: Option D

Q3. What will be the output of the following program?

```java
1 public class Main
2 {
3   public static void Check(int a[],int b[])
4   {
5     if(a.equals(b))
6       System.out.println("equal");
7     else
8       System.out.println("Not equal");
9   }
10  public static void main(String args[])
11  {
12    int a[]= {5,6,7,8};
13    int b[]= {5,6,7,8};
14    Check(a,b);
15  }
16 }
```

Type your answer here:

Answer: Not equal

Q4. We can't overload_____operator.

    A. .(Dot operator)

    B. [ ](subscript operator

    C. ()(parenthesis)

    D. =(assignment operator)

Answer: Option A

Q5. What would be the output of the below code?

```
1 public class Main
2 {
3   final int a=null;
4   public static void main(String [] args)
5   {
6     Main obj = new Main();
7     System.out.print(obj.a);
8   }
9 }
```

    A. NULL
    B. error : variable a wrongly initialized in the default constructor
    C. error: incompatible types <null> cannot be converted to int
    D. 0

Answer: Option C

Q6. Which of the below functions is used to convert double value 8.33 to 9?
    A. ceil()
    B. top()
    C. fabs()
    D. floor()

Answer: Option A

Q7. When we execute the given program what will it print?

```c
1 #include<stdio.h>
2 int main()
3 {
4    int x=3;
5    switch(x)
6    {
7      case x+0+0: printf("value remains 3 itslef");
8      case x+0:printf("still value remains 3 itself");
9      case x+2: printf("value will be 5");
10     default: printf("get confused");
11   }
12   getch();
13 }
```

    A. Compile time error
    B. value remains 3 itself
       still value remains 3
       itself
    C. still value remains 3 itself
    D. value remains 3 itself

Answer: Option A

Coding

Question 1

We want to estimate the cost of painting a property.

Interior wall painting cost is Rs.18 per sq.ft. and exterior wall painting cost is Rs.12 per sq.ft.

Take input as

1. Number of Interior walls
2. Number of Exterior walls
3. Surface Area of each Interior Wall in units of square feet
4. Surface Area of each Exterior Wall in units of square feet

If a user enters zero as the number of walls then skip Surface area values as User may don't want to paint that wall.

Calculate and display the total cost of painting the property Example 1:

6
3
12.3
15.2
12.3
15.2
12.3
15.2
10.10
10.10
10.00

Total estimated Cost : 1847.4 INR

Note: Follow in input and output format as given in above example

Solution in C:

```c
#include<stdio.h>
int main()
{
int ni,ne,i=0;
float int_p=18,ext_p=12,cost=0,temp;
scanf("%d %d",&ni,&ne);
if(ni<0 || ne<0 )
{
printf("INVALID INPUT");
}
else if(ni==0 && ne==0)
{
printf("Total estimated Cost : 0.0");
}
```

```c
else
{
for(i=0;i<ni;i++)
{
scanf("%f",&temp);
cost+= int_p*temp;
}
for(i=0;i<ne;i++)
{
scanf("%f",&temp);
cost+= ext_p*temp;
}
printf("Total estimated Cost : %.1f",cost);
}
return 0;
}
```

Solution in C++:
```cpp
#include<iostream>
using namespace std;
int main()
{
int ni,ne,i=0;
float int_p=18,ext_p=12,cost=0,temp;
scanf("%d %d",&ni,&ne);
if(ni<0 || ne<0 )
{
cout<<"INVALID INPUT";
}
else if(ni==0 && ne==0)
{
cout<<"Total estimated Cost : 0.0";
}
else
{
for(i=0;i<ni;i++)
{
cin>>temp;
cost+= int_p*temp;
}
for(i=0;i<ne;i++)
{
cin>>temp;
cost+= ext_p*temp;
```

```
}
cout<<"Total estimated Cost : "<<cost;
}
return 0;
}
```

Solution in Java:
```java
import java.util.Scanner;
class Main {
public static void main(String[] args)
{ int ni, ne, i = 0;
float intP = 18, extP = 12, cost = 0, temp;
Scanner sc = new Scanner(System.in);
ni = sc.nextInt();
ne = sc.nextInt();
if(ni < 0 || ne < 0) {
System.out.print("INVALID INPUT");
}
else if(ni == 0 && ne == 0)
{
System.out.print("Total estimated Cost : 0.0");
}
else {
for(i = 0; i < ni; i++) {
temp = sc.nextFloat();
cost += intP * temp;
}
for(i = 0; i < ne; i++) {
temp = sc.nextFloat();
cost += extP * temp;
}
System.out.printf("Total estimated Cost : %.1f", cost);
}
}
}
```

Question 2

A City Bus is a Ring Route Bus which runs in circular fashion.That is, Bus once starts at the Source Bus Stop, halts at each Bus Stop in its Route and at the end it reaches the Source Bus Stop again.

If there are n number of Stops and if the bus starts at Bus Stop 1, then after nth Bus Stop, the next stop in the Route will be Bus Stop number 1 always.

If there are n stops, there will be n paths.One path connects two stops. Distances (in meters) for all paths in Ring Route is given in array Path[] as given below: Path = [800, 600, 750, 900, 1400, 1200, 1100, 1500]

Fare is determined based on the distance covered from source to destination stop as Distance between Input Source and Destination Stops can be measured by looking at values in array Path[] and fare can be calculated as per following criteria:

If d =1000 metres, then fare=5 INR

(When calculating fare for others, the calculated fare containing any fraction value should be ceiled. For example, for distance 900n when fare initially calculated is

4.5 which must be ceiled to 5)

Path is circular in function. Value at each index indicates distance till current stop from the previous one. And each index position can be mapped with values at same index in BusStops [] array, which is a string array holding abbreviation of names for all stops as-
—THANERAILWAYSTN‖ = ‖TH‖, —GAONDEVI‖ = —GA‖, —ICEFACTROY‖ = —IC‖, —HARINIWASCIRCLE‖ = —HA‖, —TEENHATHNAKA‖ = —TE‖, —LUISWADI‖ = —LU‖, —NITINCOMPANYJUNCTION‖ = —NI‖, —CADBURRYJUNCTION‖ = —CA‖

Given, n=8, where n is number of total BusStops. BusStops = [—TH‖, ‖GA‖, ‖IC‖, ‖HA‖, ‖TE‖, ‖LU‖, ‖NI‖,‖CA‖]

Write a code with function getFare(String Source, String Destination) which take Input as source and destination stops(in the format containing first two characters of the Name of the Bus Stop) and calculate and return travel fare.

Example 1: Input Values ca
Ca
Output Values INVALID OUTPUT
Example 2: Input Values NI
HA
Output Values
23.0 INR
Note: Input and Output should be in format given in example.
Input should not be case sensitive and output should be in the format <FLOAT> INR

Solution in C++:
```
#include <bits/stdc++.h>
using namespace std;
int main() { string s , d;
cin>>s>>d;
```

```cpp
transform(s.begin(),s.end() , s.begin(),::toupper);
transform(d.begin(),d.end() , d.begin(),::toupper);
string arrs[8] = {"TH" , "GA", "IC" , "HA" , "TE", "LU" ,"NI","CA"};
float arr[8]={800,600,750,900,1400,1200,1100,1500};
float res=0;
int st ,ed;
for(int i=0;i<8;i++)
{
if(s==arrs[i]) st=i;
if(d==arrs[i]) ed=i;
}
if(st==ed)
{
}
else
{
cout<<" INVALID INPUT";
return 0;
int i=st+1; cout<<i;
while(i!=ed+1)
{
res+=(arr[i]); i=(i+1)%8;
}
cout<<(ceil)(res*0.005); return 0;
}
}
```