FACE Prep

This document details the Slot Analysis as well as Answers to Questions that students recollected post their TCS NQT(Slot 2) on 26ᵗʰ October 2020

Disclaimer:
1. The questions showcased in this document have been recreated through memory, thanks to test-takers who recalled the questions post their test.
2. The question repetition between slots is very miniscule.
3. Please use this document as an indicative preparation tool, rather than an exact replica of questions that appeared or can appear in the TCS NQT.

Contents

TCS NQT Online Test Pattern

The pattern that was followed for the TCS NQT was as follows.

Section Order	Section	# Qs	Duration (minutes)
1	Numerical Ability	26	40
2	Verbal Ability	24	30
3	Reasoning Ability	30	50
4	Programming Logic	10	15
5	Coding	2	45

Syllabus

The following was the syllabus which was tested in the slot.

Numerical ability:
- Data Interpretation
- Statistics
- Time and Work
- Mensuration
- Number System
- Time, Speed and Distance
- Ratio and Proportions
- Linear Equations
- Simple Interest and Compound Interest
- Percentages
- Profit and Loss
- Simplification – Fractions and BODMAS
- Surds and Indices

Verbal Ability:
- Reading Comprehension
- Passage Completion - Missing words (Cloze passage)
- Passage Completion - Missing sentences
- Error spotting
    - Prepositions
- Sentence Completion
    - Phrasal verbs
    - Prepositions
    - Pronouns
- Knowledge of Formal/Informal language
- Sentence improvement
- Parajumbles

Reasoning Ability:
- Attention to detail
- Unboxing a cube
- Data Arrangements
- Cuts and unfolds
- Venn diagrams
- Blood relations
- Data Interpretation
- Visual reasoning

- Syllogisms
- Statements and Assumptions
- Rule based decision making
- Decision tables

Programming MCQ's:

- Operators
- Looping statements
- Control statements
- Arrays
- Strings
- Functions
- Object Oriented Programming (OOPS)
- Standard Template Libraries (STL)
- Object Modeling
- Compiler Design
- Threading
- Data Structures: Linked List, Stack, Queue, Trees and Graphs
- Recursion
- Pseudocoding
- Algorithms
- Basic Software Development Cycle
- Collections in JAVA
- Data types
- Pointers
- Abstract class in JAVA
- Files in C
- Software Testing – SDLC
- Input/Output

Coding:

- Fundamentals of Programming - Conditional and looping statements, Arrays, Strings.

Slot Analysis

- The assessment platform used was TCS iON.
- **All the programming MCQs were same as the morning slot(26th Oct – Slot 1)**
- As already revealed during the DRC and by FACE Prep, both intra-sectional and inter-sectional navigation were not possible.

- Every question was mandatory, and only upon completing a question would you be able to go to the next question.
- Revisiting of answers already submitted is not possible.
- There was no negative marking.
- All test-takers within the slot got the same questions.
- The test was **NOT Adaptive**, for a lot of other websites incorrectly communicated this to students. FACE Prep accurately pointed out that the test was not adaptive – just that the test had no intra-sectional and inter-sectional navigation.
- There was **100% repetition of topics, as accurately predicted by FACE Prep**.
- There was the presence of an on-screen calculator, which candidates could use.
- As clearly pointed out in the test instructions by TCS, if one had to do rough work, it must be visible clearly in the webcam that one is doing rough work and not performing any malpractice. This has also been **accurately pointed out by FACE Prep** earlier.
- There were two Fill in the Blanks type questions in the programming MCQs section.
- As opposed to what was predicted earlier, **an error log is generated in the compiler** in the event of Compilation error. It mentions what error and where the error is(line number)
- Most students have been complaining about the Coding Compiler not working properly on Python. What doesn't work is the tab key for indentation. Instead, please use the space bar. Several students have been able to use this tactic to compile successfully.
- While attempting the Coding questions, the preferred language can be changed in the middle, but typed code will be erased and cannot be retrieved.
- It is possible to move back and forth between the coding questions but the typed code will be erased if not submitted earlier.
- Coding questions are logic-wise very simple. But they take time to type. Students to please plan their time in the Coding section to type quickly.

Questions with Answers:

Numerical Ability

Q1. A and B can do a piece of work in 60 days, B and C can do it in 100 days, A and C can do it in 75 days. In how many days B alone can do it?

A. 100 days
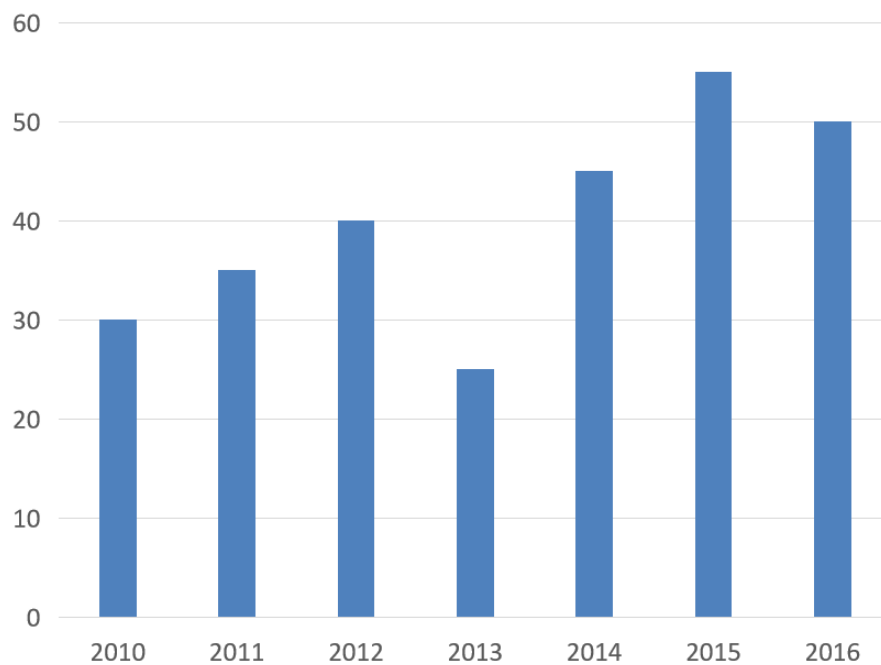B. 75 days
C. 200 days
D. 150 days

Answer: Option D

Q2. The volumes of three containers are in the ratio 2:3:4. They are full of mixtures of milk and water in the ratios 3:1, 3:2 and 4:3 respectively. When the contents of all these three

containers are poured into a fourth container, the ratio of milk and water in the fourth container is _____

    A. 121:249
    B. 12:239
    C. 391:239
    D. 391:249

Answer: Option C

Q3. The following bar graph shows the production of iron by a company (in 100000 tonnes) over the years.

What was the percentage increase in the production of iron in 2015 compared to that in 2011?

    A. 57.142%
    B. 50%
    C. 143.127%
    D. 47.125%

Answer: Option A

Q4. A shopkeeper who incurred a loss in a certain deal, finds that the difference between the selling and cost prices is 16 ⅔% of their sum. By what percentage should the selling price have been increased so that it would have been a break even deal?

    A. 25

B. 24

C. 36

D. 40

Answer: Option D

Q5. Train A leaves a station at a certain time and moves at a uniform speed. After 5 hours Train B leaves the station and moves in the same direction at a fixed speed or a speed of 72Km/hr. Train B catches up with Train A in 3 hours. What is the speed of Train A?

A. 45Km/hr

B. 27Km/hr

C. 36Km/hr

D. 30Km/hr

Answer: Option B

Q6. A can do a job in 26 days. B is 30% more efficient than A. In how many days can B alone do the same job?

A. 18 days

B. 24 days

C. 23 days

D. 20 days

Answer: Option D

Q7. What is the sum (in Rs) which when divided among A, B, C, D in the proportion 2:3:5:8 provides Rs. 8420 less to D than what it provides to him when the proportion is $\frac{1}{2}:\frac{1}{3}:\frac{1}{5}:\frac{1}{8}$?

A. 25020

B. 12510

C. 37530

D. 17540

Answer: Option A

Q8. If the same simple interest gets paid annually on three different sums of money in schemes providing interest rates of 10,12 and 15 per cent respectively per annum. What is the equivalent rate of interest on the total sum?

A. 12.67

B. 12
C. 12.5
D. 12.33

Answer: Option B

Q9. If the mean of 29 observations is 33 and on adding one more observation the new mean becomes 34. What is the value of the 30th observation?
   A. 55
   B. 68
   C. 63
   D. 34

Answer: Option C

Q10. If the curved surface area of a cylinder is 1012 cm² and height of the cylinder is 23cm, what is volume of the cylinder?
   A. 3602 cm³
   B. 3502 cm³
   C. 3712 cm³
   D. 3542 cm³

Answer: Option D

Q11. If there is a 45% increase in amount in 3 years at S.I, what will be the compound interest of Rs.12000 at the same rate after 2 years?

   A. 3600
   B. 3870
   C. 15600
   D. 1800

Answer: Option B

Q12. A bus travels the first one-fourth distance at a speed 15 kmph the second one-fourth distance at a speed of 20 kmph and the third one-fourth distance at a speed of 30 kmph and the last one-fourth distance at a speed of 40 kmph. The average speed of the bus for the whole journey is _____

A. 22.857 kmph
B. 34.056 kmph
C. 29.027 kmph
D. 26.250 kmph

Answer: Option A

Q13. What is the mean proportional between the fourth proportionals of (0.03, 5, 0.006) and (0.81, 29.4, 5.4)?
   A. 14
   B. 1.4
   C. 2.8
   D. 0.28

Answer: Option A

Q14. What is the standard Deviation(correct up to two decimal places) of the numbers: 21334, 21335, 21336, 21337 and 21338?
   A. 21336.41
   B. 2
   C. 21338
   D. 1.41

Answer: Option D

Q15. If the mean of the data 5, 7, 10, 14, x, 25, 32, 19 is x, what is the value of x?
   A. 14
   B. 15
   C. 14.5
   D. 16

Answer: Option D

Q16. If 6 pens and 7 pencils together cost Rs. 90, while 5 pens and 6 pencils cost Rs. 76, what will be the cost of each pen?
   A. Rs. 12
   B. Rs. 10
   C. Rs. 8

  D. Rs. 6

Answer: Option C

Q17. If $5\sqrt{5} \, X \, 625 \, X \, \sqrt[4]{5} = 5^{\,n+\frac{1}{5}}$, what will be the value of n?

  A. $4\frac{11}{20}$

  B. $5\frac{11}{20}$

  C. $7\frac{11}{20}$

  D. $6\frac{11}{20}$

Answer: Option B

Q18. Sarita wants to gift a stationery kit which includes a pencil, an eraser and a sharpener to some kids in her village. She went to a wholesaler for purchasing these items. The seller sells pencils in packing of 12, erasers in a packing of 18, and sharpeners in a packing of 10. She purchases the minimum number of packets of pencils, erasers and sharpeners so that a fixed number of kits can be prepared without any item being unused or short. What is the number of packets of pencils purchased by her?

  A. 15

  B. 18

  C. 10

  D. 12

Answer: Option A

Q19. The expenditure of a person is 60% of his income. His income increased by 15% and he increased his expenditure by 10%. What is the percentage of increase in his savings?

  A. $30\frac{1}{2}\%$

  B. $34\frac{1}{2}\%$

  C. $25\frac{1}{2}\%$

  D. $22\frac{1}{2}\%$

Answer: Option D

Q20. When a owner sells his house for Rs.26400, he loses 20%. At what price should he have sold the house in order to get profit at 12%?

    A. Rs. 36960
    B. Rs. 33000
    C. Rs. 36000
    D. Rs. 35000

Answer: Option A

Q21. If the real positive fourth root of $(28 + 16\sqrt{3})$ is divided by $(2 + \sqrt{3})$, and the result is expressed as $(a + b\sqrt{3})$, with a & b both being integers, then (4a + 3b) is equal to:
    A. 2
    B. -1
    C. -3
    D. 1

Answer: Option B

Q22. If $\sqrt{1 + \frac{31}{225}} = 1 + \frac{x}{15}$, then the value of x is

    A. 1
    B. 16
    C. 15
    D. 2

Answer: Option A

Q23. What is the area (in cm²) of a trapezium whose parallel sides are 12 cm and 16 cm and whose height is equal to that of an equilateral triangle of side √3 cm?
    A. 21
    B. 17.5
    C. 24.5
    D. 28

Answer: Option A

Q24. The following table gives the expenditure of a company (in Lakh Rupees per annum) over the given years 2015 to 2019.

Expenditure/ Year	Salary	Transport	Bonus	Taxes	Advertisement
2015	250	97	4	80	4.1
2016	200	113	4.25	70	3.0
2017	270	95	4.5	85	8.1
2018	300	103	4.5	79	7.6
2019	325	92	5	75	9.2

The total amount incurred on advertisement by the company during the period 2015 to 2019 is what percent of the total amount of transport incurred during this period?

    A. 3.75%

    B. 4%

    C. 6.4%

    D. 3.5%

Answer: Option C

Q25. If 20%(a + b) = 25% of (a - b), what percent of a is b?

    A. $11\frac{5}{9}$

    B. $11\frac{7}{9}$

    C. $11\frac{1}{9}$

    D. $11\frac{2}{9}$

Answer: Option C

Q26. The daily sale of wheat flour (in kgs) in a certain grocery shop is given below table.

Mon	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday

47	15	37	20	38	42	18

What is the standard deviation of the given data?

  A. 14.4
  B. 12.0
  C. 13.2
  D. 13.4

Answer: Option B

Verbal Ability

Q1. Fill in the blanks with the most appropriate pair of words from the options given below.

There are many jobs where workers deal with _____ situations. Therefore, companies must ensure that proper safety _____ are in place to protect the workers from any injury

  A. Hazarding/ precautions
  B. hazardous/ measures
  C. hazards/ measure
  D. hazard/ gears

Answer: Option B

Q2. Fill in the blanks with the most appropriate pair of words from the options given below.
Did you remember _____ seats for the theatre tomorrow?

Yes, I have the tickets here. Do you mind _____ it with you? I fear I may lose them.
  A. to have booked/ keeping
  B. booked/ to keep
  C. booking/ to keep
  D. to book/ keeping

Answer: Option D

Q3. Fill in the blanks with the most appropriate pair of words from the options given below.
The Indian Air Force was _____ established on 8th October 1932 as apart of an auxiliary air force of the British Empire and was known as the Royal Air Force. It was only after India became a republic in 1950 that the name _____ to Indian Air Force.
  A. officially/ was changed

B. judiciously/ has been changed
C. official/ has been changed
D. officious/ had been changed

Answer: Option A

Q4. One part of the sentence below may contain an error. Identify the part. If there is no error, choose 'No error'

There is no doubt /that this is the most difficult but disrupting year /that many of us will ever have experienced.

A. that this is the most difficult but disrupting year
B. that many of us will ever have experienced.
C. No error
D. There is no doubt

Answer: Option B

Q5. The following three sentences 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 am scared after I am lost at the fair
　　C. I am lost at the fair so I am too scared
　　D. I went to fair and got scared as I was lost

Answer: Option A

Q6. Complete the following sentences by filling in the blanks (1 and 2) with the right words from the list given below.
Melting glaciers add to rising sea levels, which in turn increases coastal _____ and elevates storm surge as warming air and ocean temperatures create more frequent and intense coastal storms like hurricanes and typhoons. Specifically, the Greenland and Antarctic ice sheets are the largest _____ of global sea level rise.

Blank 1: A. erosion, B. eroded, C. corrosion, D. corrode
Blank 2: A. destruction, B. contribution, C. contributors, D. responsibility

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

Answer: Option A

Q7. You are going to read a text about skills that the workforce of the future will need. Some sentences are missing from the text. Choose from the list(A-C) the most appropriate sentence As technological innovations continue to change the workplace, we are seeing more industries entrust their operations to new gadgets, software and programs that can transform the workplace. (1) _____ With more industries starting to embrace RPA software, RPA robots would be able to handle mundane, repetitive tasks like some of the clerical work normally dealt with by administrative staff, thereby lowering running costs and increasing productivity. There is a common concern that companies employing technology like RPA are only interested in increasing their profit margins through cost reduction, and that this trend would eventually leave most of the workforce jobless.(2)_____
A. By equipping our future generation of workers with such business skills, we can ensure that when automation fully takes over, our workers will have the survival skills to become better employees and leaders of the future.
B. However, while it is true that the menial tasks of administrative and clerical jobs are likely to be taken over by automation, the demands on the average office worker will evolve to include more creative work, managerial duties and communication with clients and suppliers
C. One such technology that has the potential to revolutionise workplaces in the coming years is RPA (Robotic Process Automation).
A. (1)-A, (2)-B
B. (1)-A, (2)-C
C. (1)-B, (2)-C
D. (1)-C, (2)-B.

Answer: Option D

Q8. Read the following passage and answer the questions given after it.
Rosio Sánchez, a Mexican-American chef who lives in Copenhagen, makes the best tortillas in Scandinavia. That, she admits, isn't necessarily saying much – like laying claim to the best pizza in Indonesia. "It was so much worse," she said, describing the state of Mexican food when she arrived in 2010 to work as a pastry chef at the celebrated restaurant Noma. "Imagine the worst Tex-Mex food in America, and imagine that being passed on like a game of telephone, by

people who have no idea what real Mexican food is." That is beginning to change, and not only in Copenhagen, where Sánchez has opened a taqueria with freshly ground, hand-pressed corn tortillas.
It goes far beyond tacos and tortillas, though: Mexican cuisine has made the leap to the global stage of fine dining.

Chefs are making house-cured chorizo in Toronto, and Michelin-starred chilaquiles at Punto MX in Madrid. Last week, the Houston chef Hugo Ortega, who began his working life as a shoeshine boy in Mexico City, received the James Beard Foundation's award for best chef in his region: a first for a Mexico-born chef.

"Everywhere, I see a new respect for Mexican culture," said Martha Ortiz, a celebrity chef in Mexico who is opening a warmly elegant restaurant, Ella Canta, in the InterContinental London Park Lane hotel this summer. Ten years ago, when a taco in London might easily have contained canned baked beans, the idea of a Mexican restaurant in a posh hotel would have been mystifying.

"Our traditional food has always had a high value at home, and there is a lot of respect for the women who produce it," she said. "But for people internationally to be excited about it and willing to pay for it? That is new."

Q8. What is the main idea of the passage?
    A. there is more to Mexican food than just tacos and tortillas
    B. there are celebrity chefs in Mexican cuisine nowadays
    C. Mexican food is being globally appreciated now
    D. Mexican restaurants are opening in different countries

Answer: Option C

Q9. Why is the Mexican food being compared to a game of telephone?
    A. It was like the worst Tex-Mex food being served in the name of Mexican food.
    B. It reached people instantly like a telephone message.
    C. Its naturally was drastically changed when it reached people in other countries
    D. It was passed from hand before reaching the consumers.

Answer: Option A

Q10. Which of the following is NOT a Mexican food item?
   A. Tortillas
   B. Chorizo
   C. Chilaquiles
   D. Taqueria

Answer: Option B

Q11. In the context of the given passage, which of the following is closest in meaning to the word 'mystifying'?
   A. Appropriate cuisine
   B. Perfectly suitable
   C. Impossible to explain
   D. A special occurrence

Answer: Option D

Q12. 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. spinning and reciting prayers
   C. Since sunrise to sunset
   D. No error

Answer: Option C

Q13. For the four sentences (S1 to S4) in the paragraph below, sentences S1 and S4 are given. From the options P, Q and R, choose appropriate sentences for S2 and S3 appropriately.
S1: The past is not dead and static, it is alive and dynamic and is moved in determining the quality of our present and the prospects of our future.
S2: _____
S3: _____
S4: I, therefore, pledge myself to the loyalty of our past culture from whomsoever it may have come and by whomsoever it may have been contributed. (Dr. Radhakrishnan)
P: The process of its constant renewal is, indeed the process of growth of national culture and national character.

Q: It is the business of education, as I see it, to minister this constant renewal and I may be forgiven the presumption that the choice to this high office has mainly if not entirely been made on account of my long association with the education of my people
R: The work on one's self is to follow the urge towards moral development as a free person and under self-imposed discipline which alone can render that development possible.
   A. QR
   B. RQ
   C. PR
   D. PQ

Answer: Option D

Q14. Which of the following sentences does NOT use formal language?
   A. In a short time, we will serve refreshments
   B. Welcome aboard! To operate your seat belt, insert the metal tab into the buckle, and pull tight
   C. We'd like to thank you folks for flying with us today.
   D. This is the final boarding call for passengers Neha and Mohit Sahni booked on flight 372A to Kansas City. Please proceed to Gate 3 immediately.

Answer: Option B

Q15. For the four sentence (S1 to S4) paragraph given below, sentences S1 & S4 are given.From the options P,Q and R, choose appropriate sentences for S2 & S3.

S-1: INS Vikrant was the first aircraft carrier to be designed by the directorate of Naval design of the Indian Navy
S-2:
S-3:
S-4: Due to this, it became the first ship to be built completely using domestically produced steel

P. The Keel for Vikrant was laid by the Defence Minister at the Cochin shipyard on 28th February 2009.
Q. It took a longtime to build a warship which was indigenously built by the cochin shipyard
R. About 26,000 tons of different types of steel were manufactured by the Bhilai steel plant, chhattisgarh and Rourkela Steel plant, Odisha

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

Answer: Option D

Q16. 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 53 respectively.
S1: The Hawa Mahal or Palace of the Wind was built for the female residents of Jaipur's City Palace
S2.
S3.
S4. The vented, ornate windows and balconies provided passive-cooling, keeping the interior more comfortable than the sunbaked streets, all without using any mechanical air conditioning devices
P. And they could do so in relative comfort as its architecture allowed cool air to pass through
Q. Traditionally, the women of Jaipur wear scarves over their faces when in public
R. It gave the women of City Palace a place to watch the activities on the streets of the city without having to wear veils and scarves
    A. QR
    B. RP
    C. PQ
    D. QP

Answer: Option B

Q17 to Q20. Read the passage given below and answer the following questions:
Terming India's winning of a non-permanent seat of the UN Security Council one of its "best performances" ever, the Union government said the majority of votes it received in the General Assembly demonstrated the "goodwill" the country enjoyed. India will promote multilateral solutions for the COVID-19 crisis and enhance global action against terrorism, among its priorities, during the two-year term beginning January 2021, it said. In the election decided overnight on Wednesday, India secured 184 of the 192 votes, far in excess of the 128, or two-thirds minimum, it needed to be confirmed.

"The strong support by almost the entire U.N. membership for India's election demonstrates the goodwill that India enjoys in the U.N. and the confidence that the international community

has reposed in India's capability to contribute to the work of the Council," said MEA Secretary Vikas Swarup on Thursday.

India's term on the 15-member Council will be its eighth. Briefing the media about the win, Mr. Swarup said India would be the "voice for all those who are not represented in the Council" during its tenure. He also thanked the government of Afghanistan, which had allowed India to contest unopposed by giving up its bid for the seat in favour of India in 2013.

On the basis of your understanding of the passage answer the questions below by choosing the best option.

Q17. India's overwhelming success at the recent General Assembly elections of the UN Security council for a non permanent seat was a result of the tremendous goodwill of a number of nations
Which of the following sentences does not represent the above thought?
   A. The strong support by almost the entire U N membership for India's election demonstrates the goodwill that India enjoys in the UN
   B. ...the Union government said the majority of votes it received in the General Assembly demonstrated the "goodwill the country enjoyed
   C. ...the confidence that the international community has reposed in India's capability to contribute to the work of the Council
   D. Briefing the media about the win, Mr Swarup said India would be the voice for all those who are not represented in the Council" during its tenure

Answer: Option D

Q18. What will be India's priorities during its two-year term in the Security Council?
   A. To further strengthen the confidence reposed in its abilities by the international community.
   B. To build ground for the Government of Afghanistan to make way for India to stand unopposed in 2013.
   C. To be a voice for those represented at the Security Council.
   D. To promote multilateral solutions for Covid-19 crisis and enhance action against global terrorism.

Answer: Option D

Q19. What was the total number of votes India would have required to be confirmed a non-permanent seat of the UN Security Council?
- A. Two thirds of 184
- B. 184
- C. 192
- D. 128

Answer: Option D

Q20. According to the MEA secretary, Mr. Vikas swarup why does India need to thank Afghanistan for their success?
- A. Afghanistan India's biggest supporter in the UN Security Council
- B. Afghanistan voted for India, so India could win
- C. Afghanistan campaigned in favour of India
- D. Afghanistan gave up its bid for a seat in India's favour in 2013.

Answer: Option D

Q21. Self styled visionaries and people particularly fond of their pajamas have for decades been arguing that a lot of work done in large shared offices could better be done at home. With covid-19 their(1) _____ were put to the test in a huge if not in a randomized trial. The preliminary results are now in. Yes a lot of work can be done at home. And what is more, many people seem to (2) _____ doing it there.

Blank 1:   P. mindsets   Q. ideas   R. philosophies   S. designs
Blank 2:   P. desire   Q. select   R. Prove   S. prefer

- A. 1-R, 2-P
- B. 1-Q, 2-S
- C. 1-P, 2-Q
- D. 1-S, 2-R

Answer: Option B

Q22. You are going to read a text about motivation. Some sentences are missing from the text. Choose from the list(A-C) the most appropriate sentence

Motivation is the desire to act in the service of a goal. It is the crucial element in setting and attaining one;s objectives--and research shows that people can influence their own levels of motivation and self-control. Motivation can have many sources, and often people have multiple motives for engaging in any one behaviour (1) _____ Motivation can also be intrinsic whereby the inspiration comes from within a person--the desire to improve at a certainty activity (2) _____

A. Everyone feels demotivated or devoid of willpower at times

B. Intrinsic motivation tends to push people more forcefully, and the accomplishments are more fulfilling

C. Motivation might be extrinsic, whereby a person is inspired by outside forces--other people or events that transpire.

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

Answer: Option B

Reasoning Ability

Q1. There are five persons in a group: Raju, Sanjay, Deepak, Suresh and Mukesh. Deepak is elder to Raju, but not tall as suresh. Suresh is younger to Sanjay and taller than Mukesh and Raju. Sanjay is taller than Mukesh but not taller than Raju. Mukesh is elder to sanjay but the shortest of all friends. Who among the following is the eldest?

    A. Suresh
    B. Sanjay
    C. Either Deepak or Mukesh
    D. Deepak

Answer: Option C

Q2. Given below is a question followed by two statements, I and II each containing some information. Decide which of the statements is/are sufficient to answer the question
In a row, Vijay is sitting exactly in the middle of Ambar and Sonam.What is Vijay's position from the right end of the row?

Statements:

    I.   Vijay is 16th from the left and is separated by four persons from Ambar who is to his left and if Ambar interchanges his position with sonam, he becomes 15th from the right

   II.   Vijay is 16th from the left and if Sonam changes her position with Ambar, she becomes 11th from left

        A. Both the statements I and II are not sufficient
        B. Either statement I alone or statement II alone is sufficient
        C. Statement I alone is sufficient
        D. Statement II alone is sufficient

Answer: Option A

Q3. Four Statements are given followed by four conclusions numbered I, II, III and IV. Assuming the statements to be true, even if they seem to be at variance with commonly known facts, decide which of the conclusions logically follow(s) from the statements.
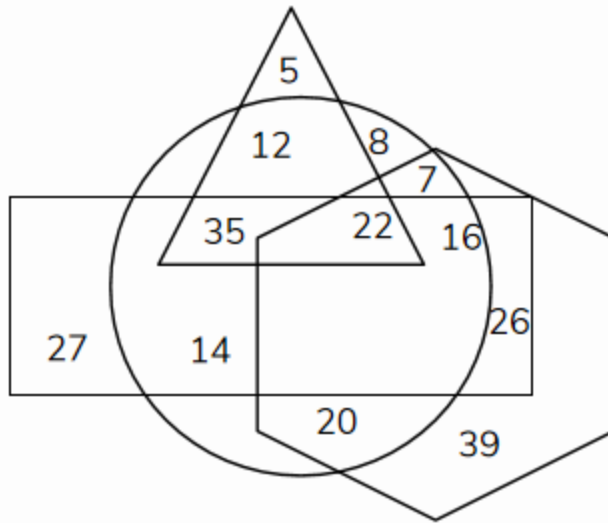
Statements:
1. All vegetables are fruit
2. No carrot is fruit
3. Some roots are carrot
4. All roots are eatables

Conclusions:
    I.   Some fruits are eatables
   II.   No root is vegetable
  III.   Some eatables are carrots
  IV.   Some roots are vegetables

        A. Only conclusion II, III and IV follow
        B. Only conclusion III and IV follow
        C. Only I and either II or IV follow
        D. Only III and either II or IV follow

Answer: Option D

Q4. In the following diagram, the triangle stands for 'males', and the circle stands for 'doctors', the rectangle stands for 'government employed', the hexagon stands for 'corona warriors'. The numbers in different segments show the number of persons for that segment.

How many government employed doctors are either corona warriors or males or both?

   A. 38
   B. 73
   C. 22
   D. 35

Answer: Option B

Q5. Eight persons P,Q,R,S,T, U, V and W are sitting around a circular table facing the centre. U is sitting between S and W. P is facing W and T is second to the left of W. S is third to the right of Q, who is second to the right of V.
Who is sitting between R and V?

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

Answer: Option B

Q6. Read the following information carefully and answer the given question:

A public charitable organization desires to select a candidate for the post of programme Coordinator for a health project, based on the following criteria:

The Candidate must
 (i) hold B.E. degree with minimum 60% marks and above
(ii) have an experience of 5 years in the relevant field
(iii) be ready to execute a bond of three years of service

Incase of the applicant who satisfies all other criteria except -

1. At (i) above, but has B.E. degree with minimum 55% marks but has completed M.Tech with 50%, his/her case is to be referred to the secretary.
2. At (ii) above, but has 3 years full time experience as a programme manager, his/her case is to be referred to the project director
3. At (iii) above, but is ready to give Rs.30,000/- as secure money, his/her case is to be referred to the president of the trust

Based on the criteria and information provided decide the course of action.
Jayvinder has completed B.E degree with 56% marks and also has M.Tech with 55% marks, he has been working for 6 years in a Government Funding Health Project. He is ready to execute a bond of 3 years of service.What decision would be taken for him?
   A. Refer to project director
   B. Refer to secretary of trust
   C. Refer to president of trust
   D. He would be selected

Answer: Option B

Q7. In a certain code, if A + B means A is the wife of B, A x B means A is the son of B, A/B means A is the brother of B then, What is the meaning of the expression H/K x S + M?

   A. K is the brother of M
   B. H is the brother of M
   C. H is the son of M
   D. M is the son of H

Answer: Option C

Q8. Given below is a question followed by two statements I and II, each containing some information. Decide which of the statements is/are sufficient to answer the question

How much did Mayank get as profit at the year-end in business done by Abinash, Mayank and Pankaj?

Statements:

I. Abinash invested Rs.6000 every month for eight months and earned a profit which was one and a half times that of Mayank while that of Abinash's total investment is three times than that of Pankaj

II. Pankaj and Mayank invested for one year in the ratio of 1:2and the total profit earned by all three was Rs.3600

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

Answer: Option D

Q9. There are four friends Roy, Prem, Amar and Dhir

1. Each one plays one of the following games - Badminton, Hockey, Tennis and Cricket
2. Each owns only one of the following coloured cars - Red, Blue, White and Yellow
3. Prem owns a white car and plays cricket
4. Amar does not play either Badminton or Tennis and does not own a yellow car.
5. Dhir does not play Badminton and owns a red car.

Who plays Badminton and owns a yellow car?

A. Amar
B. Dhir
C. Roy
D. Prem

Answer: Option C

Q10. In a family of 7 persons having 4 female and 3 male members, P is the brother of Q and son of R. R has two children and two grandchildren. V is the daughter of S who is the son-in-law of R. W is the nephew of Q and son of T. How is V related to T?

A. Cousin sister
B. Niece
C. Nephew
D. Sister-in-law

Answer: Option B

Q11. Which is the wrong term in the following series?
jkl, lin, mho, ofq, per, rds, sbu

A. sbu
B. per
C. ofq
D. rds

Answer: Option D

Q12. A statement is followed by three assumptions numbered I and II. Consider the statement and decide which of the given assumption(s) is/are implicit in the statement

Statement:
The advancement of technology will lead to increase in the sale of smartphone due to its multipurpose usage

Assumptions:
I.   With the help of smartphone people uses many facilities that are available online now a day
II. There are more functions of smartphone rather than just conversation

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

Answer: Option B

Q13. Given below is a question followed by two statements I and II, each containing some information. Decide which of the statements is/are sufficient to answer the question
What is the age of Sumit?

Statements:
I.Sumit is five years younger than Amit, who is double the age of Prateek
II. Prateek is 10 years older than Ravi, whose age is 22 years

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

Answer: Option B

Q14. In each of the five pairs of letter-clusters, the letters in the second term is a rearranged/transformed form of the letters in the first term in a particular pattern.In which two pairs, has the transformation been done the same way?

      P. MASON : AMNOS
      Q. PARTY : APRYT
      R. FAULT : AFTLU
      S. LODGE : DOLEG
      T. CARGO : ACOGS

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

Answer: Option B

Q15. 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(s) for pursuing

Statement:

In one of the worst road accident, 15 people died when a roadways bus carrying them collided on to a running track

Course of Action:
    I.   The bus driver should immediately be suspended without any enquiry
    II.   The Government should make the markings to all the accident prone areas
    III.   The department of roadways should hold an enquiry at every level and try punish those who are responsible for the negligence in the court
    A. Only II follows for pursuing
    B. Both I and III follow for pursuing
    C. Only I follows for pursuing
    D. Both II and III follow for pursuing

Answer: Option D

Q16. The following are the criteria for selecting trainees for the IT department of a company.

The candidate must
1. Be an engineering graduate in IT or Computer Science or Electronics with at least 65% of marks
2. Be not less than 22 years and not more than 27 years of age as on 1.3.2020
3. Have secured more than 80% in HSC examination
4. Have scored at least 60% in the written test and at least 50% in the interview

However if the candidate fulfils all the above except
(i) at 2 and/or 3 but has scored at least 70% in the written test and 60% in the interview his/her case is referred to the General Manager, HR
(ii) at 3 and/or 4 but has secured more than 75% in the engineering examination his/her case is to be referred to the VP,HR

Based on the criteria given above and without adding any additional information, you have to make a decision for the candidate whose profile has been given below. Mark your answer by choosing the appropriate alternative
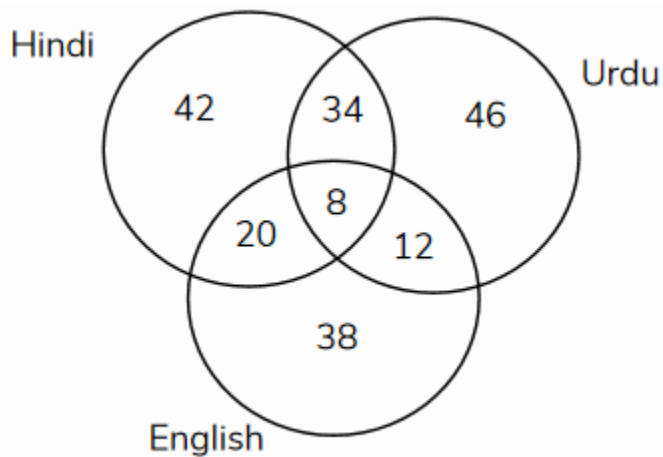
Poonam passed graduate engineering in computer science in 2015 at the age of 21 years with 78% of marks. She scored 65% in the interview as well as in the written test. She has secured 80% of marks in the HSC examination.What decision would be taken in her case?

    A. Her case is to be referred to the VP, HR

B. Her case is to be referred to the General manager, HR
C. She is not to be selected
D. She is to be selected

Answer: Option C

Q17. Consider the venn diagram given below.

The number in the Venn diagram indicates the number of persons who can speak various languages in a city. The diagram is drawn after surveying 200 persons. In a population of 15,000. How many people can be expected to speak in Hindi Language only?
   A. 2290
   B. 4320
   C. 3150
   D. 3232

Answer: Option C

Programming Logic

Q1. What will be the output of the following program?

```java
1 import java.util.*;
2 public class Main
3 {
4    public static void main(String[] args)
5    {
6       ArrayList<Integer>TempArrayList = new ArrayList<Integer>();
7       TempArrayList.add(30);
8       TempArrayList.add(20);
9       TempArrayList.add(10);
10      TempArrayList.add(40);
11      TempArrayList.add(50);
12      Collections.sort(TempArrayList, Collections.reverseOrder());
13      Collections.sort(TempArrayList, Collections.reverseOrder());
14      System.out.println(TempArrayList);
15   }
16 }
```

Type your answer in the given box.

Answer: [50, 40, 30, 20, 10]

Q2. Construct post order Transversal for the constructed tree with the given In-Order and Preorder Traversals:
In-Order: 9 7 10 6 8
Pre-Order: 6 7 9 10 8

   A. 9 10 7 8 6
   B. 9 7 6 10 8
   C. 8 9 10 7 6
   D. 9 8 10 7 6

Answer: Option A

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

```java
1 public class Main
2 {
3    public static void main(String args[])
4    {
5        int x=10,y,z;
6        z=y=x;
7        y-= x --;
8        z-=--x;
9        x-= --x - x--;
10       System.out.println(x+"-"+y+"-"+z);
11   }
12 }
```

Type your output in the given box.

Answer: 8-0-2

Q4. Consider the following variables declarations:

Float num1;
Short num2;
Long num3;

What is the data type of num1-num3/num2?

   A. None of the given options
   B. Float
   C. Double
   D. Short

Answer: Option B

Q5. The kind of software testing you can do when you have both the source code and the executable code in hand, is called as?

    A. Red Box Testing
    B. Black Box Testing
    C. White Box Testing
    D. Blue Box Testing

Answer: Option C

Q6. Select the precise options for the below scenarios

Expression 1: cout<<endl;
Expression 1: cout<<"\n"<<flush;

    A. Second expression will not insert new line
    B. First expression will not insert new line
    C. Both expression will give same results
    D. Both expression will give different results

Answer: Option C

Q7. Spot the error in the given code. If there is no error, select the most appropriate option

```cpp
1 #include<iostream>
2 using namespace std;
3 class Employee
4 {
5    private:
6    int UserId;
7    public:
8    Employee(): UserId(0) {}
9    friend int displayUser(Employee);
10 };
11 int displayUser(Employee emp)
12 {
13    emp.UserId +=12;
14    return emp.UserId;
15 }
16 int main()
17 {
18    Employee e;
19    cout<<"Employee UserId:"<<displayUser(e)<<endl;
20    return 0;
21 }
```

    A. Error at line 9
    B. Error at line 8
    C. Employee User Id:12
    D. Compilation error

Answer: Option C

Q8. float (*p)[5]
Here, p is _____

    A. Pointer to array of float
    B. Float
    C. Array of pointer
    D. Pointer

Answer: Option C

Q9. What is the function of rewind()?
    A. Setting file pointer at the beginning of line
    B. Setting file pointer anywhere in file
    C. Setting file pointer at the end of file
    D. Setting file pointer at the beginning of file

Answer: Option D

FACE Prep

Q10. What will be the output of the following program?

```
1 abstract class Shape{
2   public abstract void Disp();
3 }
4 class Triangle extends Shape{
5   public final void Disp() {
6     System.out.println("Triangle");
7   }
8 }
9 class Rectangle extends Triangle{
10    public void Disp() {
11      System.out.println("It's Rectangle");
12    }
13 }
14 public class Main{
15    public static void main(String [] args){
16      Rectangle obj = new Rectangle();
17      obj.Disp();
18    }
19 }
```

A. Run time error
B. Triangle
C. Compile Time error
D. It's Rectangle

Answer: Option C.

Coding

Q1. A doctor has a clinic where he serves his patients. The doctor's consultation fees are different for different groups of patients depending on their age. If the patient's age is below 17. The fee is 200 INR. If the patient's age is between 17 and 40, fees are 400 INR.
If the patient's age is above 40, fees are 300 INR. Write a code to calculate earnings in a day for which one array/List of values representing age of patients visited on that day is passed as input.

Note:

- Age should not be zero or less than zero or above 120.
- Doctors consult a maximum of 20 patients a day.
- Enter age value (press ENTER without value to stop):

Example 1:

Input

20

30

40

50

2

3

14

Output

Total income 2000 INR

Solution in C++:

```cpp
1 #include<iostream>
2 using namespace std;
3 int main()
4 {
5    int a[20],i=0,income=0;
6    while(cin>>a[i])
7    {
8       if(a[i]<1 || a[i]>120)
9       {
10          cout<<"INVALID INPUT";
11          return 0;
12       }
13       else if(a[i]<=17)
14          income=income+200;
15       else if(a[i]<=40)
16          income=income+400;
17       else
18          income=income+300;
19       i=i+1;
20       if(i==20)
21          break;
22    }
23    cout<<"Total Income "<<income<<" INR";
24 }
```