



TCS NQT

EXAM PREPARATION BOOK



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2025

Contents

All Previous Year Question Paper with Solution

**4 Previous Year Solved Papers
from TCS NQT Exam**

Latest TCS National Qualifier Test Pattern 2025

Sections	Duration (in minutes)
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Numerical Ability	25
Verbal Ability	25
Reasoning Ability	25
Part B – Advanced Section	
Advanced Quantitative and Reasoning Ability	25
Advanced  Coding	90
Total Duration	190 Minutes

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TCS National Qualifier Test Syllabus 2025- Section Wise

Those who are about to appear for the TCS National Qualifier Test (TCS NQT) can start preparing for the test using the given information. Moreover, keeping all the candidates' view in mind, we have provided the section-wise topics to be covered for the test. So, go through the below-listed topics and schedule a proper timetable to revise all the topics. Without having the TCS NQT Exam Syllabus, no one can prepare for the examination easily.

TCS NQT Programming Logic Topics

- Data Types
- Input-Output (based on C)
- Functions and Scope
- Variables and Registers
- Command Line Programming
- Pointers
- Inbuilt Libraries (based on C)
- Call by value/ reference
- Iteration
- Recursion

TCS NQT Reasoning Ability Topics

- Meaningful Word Creation
- Number Series - Missing Number Single, Missing Number Analogy
- Data Sufficiency - Rank Based Logic, Ages
- Blood Relations
- Coding-Decoding
- Ages

- Odd Man Out - Numbers, Logical
- Distance and Directions
- Statement and Conclusion
- Seating Arrangement (Easy)
- Seating Arrangement (Complex)
- Analogy
- Mathematical Operational Arrangement
- Symbols and Notations

TCS NQT Numerical Ability Topics

- Arrangements and Series
- P&C
- Number System, LCM & HCF
- Percentages
- Allegations and Mixtures
- Probability
- Ratios, Proportion, and Averages
- Reasoning
- Work and Time
- Speed Time and Distance
- Geometry
- Divisibility
- Profit and Loss
- Ages
- Clocks & Calendar
- Series and Progressions
- Equations
- Averages
- Area, Shapes & Perimeter
- Numbers & Decimal Fractions

TCS NQT Verbal Ability Topics

- Synonyms
- Antonyms
- Prepositions
- Sentence Completion
- Active and Passive Voice
- Spelling Test
- Spotting Errors
- Passage Completion
- Substitution

- Sentence Arrangement
- Transformation
- Idioms and Phrases
- Sentence Improvement
- Para Completion
- Joining Sentences
- Error Correction (Underlined Part)
- Error Correction (Phrase in Bold)
- Fill in the blanks

TCS NQT Coding Topics

- C++
- Java
- C
- Perl
- Python

Topic wise Syllabus

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

Verbal Ability:

- Reading comprehension
- Sentence correction
- Sentence completion
- Error Identification
- Synonyms & Antonyms
- Sentence Arrangement
- Paragraph Arrangements
- Grammar

Topic wise Syllabus

Reasoning Ability:

- Attention to detail
- Unboxing a cube
- Data Arrangements
- Coding and Decoding
- Cuts and unfolds
- Venn diagrams
- Blood relations
- Data Interpretation
- Visual reasoning
- Syllogisms
- Statements and Assumptions
- Analogy

Coding:

- Fundamentals of Programming
- Conditional and looping statements
- Arrays
- Strings
- Knowledge of Ascii values of characters(Uppercase-Lowercase), digits, special characters

Topic wise Syllabus

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

SET 1

Numerical Ability

Question 1- What is the sum (in RS) which when divided among X Y Z in the proportion 3:5:7 provides rupees 8000 more to Z than what it would have done to him when the proportion is 11 : 15 : 19?

- 1.180000
- 2.120000
- 3.175000
- 4.135000

Answer 1) 1800

Explanation :

$$\begin{array}{ll} X:Y:Z & X:Y:Z \\ 3: 5: 7 & 11: 15: 19 \\ Z = 7a/15 & Z = 19a/45 \\ \text{So as per Question } (7a/15) - (19a/45) = 8000 \\ \Rightarrow 2a/45 = 8000 \\ a = 18000. \end{array}$$

Question 2- If the positive square root of $(\sqrt{90} + \sqrt{80})$ is multiplied by $(\sqrt{2} - 1)$ and the product is raised to the power of four, the result would be

- 1.100
- 2.1600

3. 11520000

4. 10

Answer 4) 10

Explanation : Use the TCS calculator directly to find the answer of this question

Question 3- A man has to travel 50 km in 2 hours. He could cover 20 km in one hour, and then had to stop for 10 minutes for refueling. By What factor should he increase his speed with reference to that during the first hour so as to be able to complete the journey as per schedule?

1. 1.5

2. 1.8

3. 1.2

4. 2.4

Answer 2) 1.8

Explanation:

Total time he has = 2 hrs

total distance he has to covered = 50 km

in first 1 hr he completed 20 km

so $S_1 = 20 \text{ km/hr}$

so remaining distance = $50 - 20 = 30 \text{ Km}$

and remaining time = 1 hr

now he spent 10 minutes for refueling

so total remaining time he has = $60 - 10 = 50 \text{ minutes}$

he has to complete 30 km in this time

$$\text{speed} = 30/(10/60) \text{ km/hr}$$

$$\text{speed} = 36 \text{ km/hr}$$

for making a factor of initial speed as 20 km/hr

multiply 36 with 20/20

$$\text{speed} = 36 \times (20/20)$$

$$= (1.8 \times S_1) \text{ km/hr}$$

$$= 1.8 \text{ km/hr} \text{ (As } S_1 \text{ is } 20 \text{ km/hr)}$$

Question 4- X is four times as efficient as Y in respect of doing a particular work. Working together they complete the work in 16 days. In how many days y working alone will be able to half the work?

1.80

2.20

3.40

4.60

Answer 3) 40

Explanation :

Efficiency of X = 4a

Efficiency of Y = a

Time taken by both to complete a work = 16 days

$$\frac{1}{4a} + \frac{1}{a} = \frac{1}{16}$$

$$\frac{1+4}{4a} = \frac{1}{16}$$

$$\frac{5}{4a} = \frac{1}{16}$$

$$a = 20$$

Hence X will do the work in 20 days

And Y will do the work in 80 days

Thus Y will do half of work in 40 days

Note -

Efficiency and time taken are inversely proportional

So, if $a = 20$

then efficiency of X is 4 times of Y

So Y will do the task in 80 days and will complete half of the task in 40 days

Question 5- If $5^X 3^Y = 225 \times 405$, find the value of X^{2Y-3X}

1. 27
2. 81
3. 125
4. 25

Answer 1) 27

Explanation:

Prime Factorization of $225 = 5 \times 5 \times 3 \times 3$

Prime Factorization of $405 = 3 \times 3 \times 3 \times 3 \times 5$

$$5^2 3^6 = 5^X 3^Y$$

So $X = 3$ and $Y = 6$

$$\text{Now, } X^{2Y-3X} = 3^2(6) - 3(3)$$

$$3^12 - 9 = 3^3 = 27$$

Question 6- The collection of numbers which comprise the data given below is arranged in ascending order.

(3,7,9, N - 1,15,18,19,20)

If the median of the data is 12.5, what is the value of N?

1. 10.5
2. 11.5
3. 11
4. 12

Answer 2) 11

Explanation:

Median of the even data = (sum of middle terms) / 2

$$= [(N - 1) + 15] / 2 = 12.5$$

Question 7 - How much percentage is (0.025% of 240% of 1.5) of 0.9?

1. 10
2. 0.01
3. 0.1
4. 1

Answer 2) 0.01%

Explanation:

$$0.025\% \text{ of } 240\% \text{ of } 1.5 = 0.0009$$

$$0.01 \% \text{ of } 9 = 0.0009$$

Question 8 - After purchasing two copies of the same book, X sold them respectively at 0.8 and 1.4 times their cost prices. What was the percentage gain earned or loss incurred by X?

1. 10% loss
2. 5% gain
3. 10% gain
4. 5% loss

Answer 3) 10% gain

Let the C.P of each copy be Rs 100

ATQ one copy is sold at $0.8 \times 100 = 80$

One copy is sold at $1.4 \times 100 = 140$

Total money spent in buying the copies = Rs 200

Total money earned after selling the copies = Rs $(80 + 140) = \text{Rs } 220$

Total gain of Rs 20. Therefore gain% = 10%.

Question 9 - A file of cadets consisting of ten rows and five columns measures 420 m in length along the direction of their marching. How much time (in hours and minutes) would it take to march for a stretch of 3 km, if the stride of each cadet is 80 cm and he takes 57 strides per minute?

1. 1 hr 10 min
2. 1 hr 20 min
3. 1 hr 24 min
4. 1 hr 15 min

Answer 4) 1 hr 15 min



So total distance need to be covered by last cadet

$$D = 420$$

$$\text{Speed} = \frac{80}{100} \times 5.7 \times \frac{1}{60} \text{ per sec}$$

$$= \frac{76}{100} \text{ m/sec}$$

$$T = \frac{D}{S} = \frac{3420 \times 100}{76} = 4500 \text{ sec}$$

$$= 75 \text{ min} = 1 \text{ hr } 15 \text{ min}$$

Question 10: Two vessels X and Y of capacities one and two litres respectively are completely filled with mixtures of two chemicals A and B. The ratio by volume of the chemicals A and B in X and Y are 3:2 and 4:5 respectively. The contents of A and B are mixed and the combination is kept in a vessel C of capacity of four litres. How many litres of Chemical A should be added to the combination so as to make the ratio of A to B equal to 1:1?

1. $\frac{1}{270}$

3. $\frac{1}{135}$

2. $\frac{1}{67}$

4. $\frac{1}{68}$

Answer 4) 1/68

Explanation:

In X, A:B

$$\frac{600}{1000} : \frac{400}{1000}$$

In Y, A:B

$$\frac{8}{9} : \frac{10}{9}$$

$$\left(\frac{6}{10}; \frac{4}{10}\right) Lt + \left(\frac{8}{9}; \frac{10}{9}\right) Lt$$

$$A = \frac{6}{10} + \frac{8}{9}; B = \frac{4}{10} + \frac{10}{9}$$

$$A : B = \frac{54 + 80}{90} : \frac{36 + 100}{90}$$

$$= 134 : 136$$

$$= 67 : 68$$

$$= \frac{67}{68} : 1$$

$$= \frac{67}{68} + \frac{1}{68} : 1$$

$$\text{We will get } 1:1 \Rightarrow \frac{1}{68}$$

Question 11- In a competitive exam, 5 marks are awarded for every correct answer and for every wrong answer, 2 marks are deducted. Sathwik scores 32 marks in the examination. If 4 marks had 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 ?

1. 14
2. 12
3. 20
4. 26

Answer 4) 26

Explanation

In given Question:-

Correct answer = $5x$ and wrong answer= $2y$

Correct answer = $4x$ and wrong answer= $1y$

So,

$$5x - 2y = 32$$

$$4x - 2y = 34 \quad \cdots \cdots \cdot *2$$

Now

$$5x - 2y = 32$$

$$8x - 4y = 68$$

By solving

$$3x = 36$$

$$x = 12$$

Now to find 'y'

$$5*12 - 2y = 32$$

$$60 - 2y = 32$$

$$y = 14$$

By adding $x+y$

$$12+14 = 26$$

Questions in the test =26

Question 11 -The diameter of a pizza is 30 cm.What is the area(in cm square) of the upper surface of a sector of the pizza whose arc length is 8 cm?

- 1. 120
- 2. 60

Answer 2) 60

Explanation:

Area of sector when arc is given = $(L \times r)/2$

Where L = length of arc and r = radius of the circle

Here L = 8 cm and r = 15 cm

$$\text{Therefore, Area} = \frac{8 \times 15}{2} = 60\text{cm}^2$$

Question 13- An item was sold at a profit of 12% after giving a discount of 12.5% on the list price. What would be the gain or loss percentage if a discount of 25% is given on the list price ?

- 1. 2.5% gain
- 2. 2.5% loss
- 3. 4% loss
- 4. 4% gain

Answer 3) 4% loss

Explanation:

Cost Price -> 100%

Selling Price -> 112% (12% profit)

But Selling Price is 12.5% of Market Price => 12.5% discount

=> 87.5% of M.P = 112

=> List price = 128

25% discount on M.P = 25% of 128 = 32

=> 128 - 32 = 96 = S.P

C.P = 100 => SP = 96 => 4% loss

Question 14- The mean of a set of data is 5. What will be the mean if ten is subtracted from each data ?

1. -5
2. 5
3. 10
4. -15

Answer 1) -5

Let the number of data be n

so sum of data = mean * number of data

= 5 n

Now 10 is subtracted to each data

so now sum becomes = 5n-10n = -5n

mean = sum of data / no. of data

= -5n/n = -5

so new mean becomes -5

Question 15- If $(x+10)\%$ of 240 is 60% more than $x\%$ of 180, then 15% of $(x+20)$ is what percent less than 25% of x ?

1. $19\frac{1}{21}$

2. 15

3. $15\frac{1}{2}$

4. 16

Answer 4) 16

$$(x + 10)\% \text{ of } 240 = x\% \text{ of } 180 + 60\% \text{ of } 180$$

if you solve this expression x value = 50

15% of x+20 is 10.5

25% of x is 12.5

$$\text{so how much less} = 2/12.5 * 100 = 16$$

Questions 16- What is the diameter (in cm) of a solid right circular cylinder whose height is 6 cm and the area of the curved surface is five times the combined area of the two flat surfaces

1. 2.4

2. 0.9

3. 1.2

4. 3

Answer 1) 2.4

Here h = 6 cm,

$$\text{C.S.A} = 2\pi rh$$

$$2\pi rh = 5(2\pi r^2)$$

$$2 \times \pi \times r \times 6 = 10 \times \pi \times r^2$$

$$1.2 = r$$

Then diameter is 2.4

Questions 17- A sum invested on simple interest grows to Rs 22500/- and Rs 25500/- in seven and nine years respectively. What is the rate percentage of the interest ?

1. 7.5
2. 9.6
3. 12.5
4. 13.5

Answer 3) 12.4

Explanation:

Total Interest of two years= 25500-22500=3000

Interest of one year= $3000/2 = 1500$

Total Interest = $9 * 1500 = 13500$

Principle = $25500 - 13500 = 12000$

$$R = I * 100/P * t$$

$$= 13500 * 100 / 1200 * 9 = 12.5$$

Question 18- What is the value of $(0.0000128)^{\frac{1}{7}}$?

1. 0.5
2. 5
3. 0.2
4. 2

Answer : Option 3

Question 19 - The variation in temperatures throughout the day in a desert town was studied on the basis of the record of minimum and maximum temperatures which were 8 and 36 degrees centigrade respectively. What was the standard deviation in degree centigrade?

1. 12
2. 22
3. 14
4. 28

Answer 3) 14

Explanation:

Minimum --> 8 degrees

Maximum --> 36 degrees

$$\begin{aligned}\frac{8 + 36}{2} &= 22 \\ S.D &= \sqrt{\frac{\sum(x_i - \mu)}{N}} = \sqrt{\frac{(8 - 22)^2 + (36 - 22)^2}{2}} \\ \sqrt{\frac{(14)^2 + (14)^2}{2}} &= \sqrt{\frac{2 \times (14)^2}{2}} = 14\end{aligned}$$

Question 20 - A sum of Rs. 30000 invested in a scheme where the interest gets compounded annually and grows to Rs. 51840 in three years. How much interest in Rs. would have got accrued in six months in the same scheme had the interest been compounded quarterly?

1. 3075
2. 2975
3. 3024
4. 3126

Answer 1) 3075

Explanation:

$$51840 = 30000 \times \left(1 + \frac{r}{100}\right)^3$$

$$\frac{51840}{30000} = \left(1 + \frac{r}{100}\right)^3$$

$$1 + \frac{r}{100} = 3\sqrt[3]{1.728}$$

$$1 + \frac{r}{100} = 1.2$$

$$\frac{r}{100} = 0.2 \Rightarrow r = 20\%$$

$$\text{Rate of interest CI per quarterly} = \frac{r}{4} = 5\%$$

=> for 6 months => 5% of 30000 = 1500 (1st quarter)

5% of 30000 + 5% of 1500 = 1500 + 75 (2nd quarter)

=> total of 6 months = 3075.

Question 21- 96 men were engaged for a project of constructing a railway track of the length of 18 km in four weeks. After one week it was observed that the work of 4 km was completed. How many additional men should be engaged for timely completion of the project?

1. 16
2. 14
3. 15
4. 12

Answer: 1) 16

Explanation:

4 km was completed by 96 men

Remaining work is 14 km in three weeks so per week $14/3$

For 4km ---> 96men

For $14/3$ km -----> ?

= $14/3 \times 96 \times \frac{1}{4} = 112$ so additionally 16 men needed

Question 22- If n is an integer such that 1nn352 is a six-digit number exactly divided by 24, what will be the sum of the possible value of n?

1. 21
2. 27
3. 9
4. 15

Answer 4) 15

Possible values of n are 2, 5 and 8 so sum of all possible values is $2 + 5 + 8 = 15$

Question 23. What is the mean deviation of the data

8,9,12,15,16,20,24,30,32,34?

1. 10.2
2. 8
3. 0
4. 9.6

Answer 2) 8

Explantion:

Step 1

Find the mean

$$8+9+12+15+16+20+24+30+32+34/10$$

$$=200/10$$

$$=20$$

Find the distance of each value from that mean

Value	Distance from 20
8	12
9	11
12	8
15	5
10	4
20	0
24	4
30	10
32	12
34	14

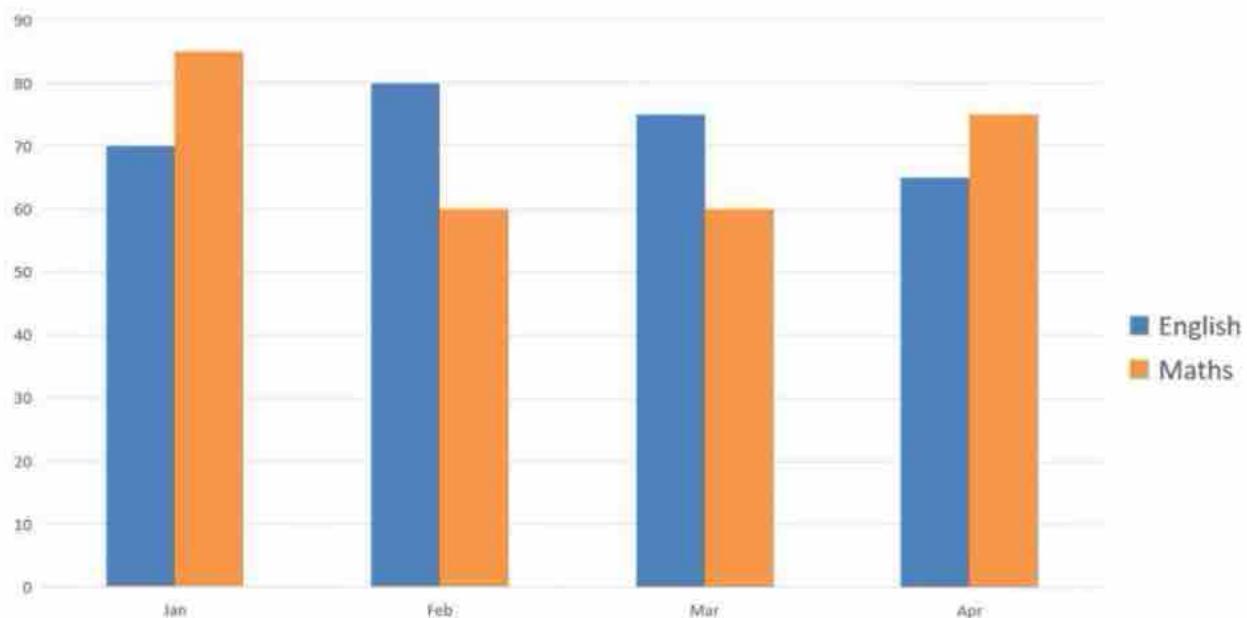
Step 3:- Find the mean of those distances

$$12+11+8+5+4+0+4+10+12+14/10$$

$$80/10=8$$

Question 24 - The marks scored by a student out of 100 in English and Mathematics at four consecutive monthly tests held in 2019 are presented through a Bar Graph shown below. In each case the marks are a multiple of five.

In which month is the difference of marks scored in the two subjects the highest ?



1. Jan
2. Mar
3. Apr
4. Feb

Answer 4) Feb (It is clear from the graph itself.

Question 25: What is the mean proportional (MP) between the MPs of

$$\left(\frac{2}{7} \text{ & } \frac{32}{343}\right) \text{ and } \left(2 \text{ & } \frac{1}{5000}\right)$$

1. $2/175$
2. $3/35$
3. $4/35$
4. $2/35$

Answer 4) $2/35$

Explanation: $\sqrt{\sqrt{\frac{2}{7} \times \frac{32}{343}} \times \sqrt{2 \times \frac{1}{5000}}}$

$$4\sqrt{\frac{2}{7} \times \frac{22}{343} \times \frac{2}{5000}}$$

$$4\sqrt{\frac{2^4}{7^4} \times \frac{8}{5000}}$$

$$4\sqrt{\frac{2^4}{7^4} \times \frac{1}{5^4}} = \frac{2}{35}$$

Question 26: What is the fourth proportional of 0.006, 1.2 and $6/25$?

1.4.8

2.3.6

3.36

4.48

Answer 4) 48

Explanation:

Let the fourth proportional be 'x'.

So, $0.006 : 1.2 :: 6/25 : x$

When $a:b:c:d$ are in proportion then $a/b = c/d$

$$0.006/1.2 = 6/25 / x$$

$$x = 48$$

Verbal Ability

Question 1 - For the four sentences S1 to S4 paragraph below, sentences S1 and S4 are given. From the options P Q and R, choose appropriate sentences for the following.

S1- Gandhi does not reject machinery as such

S2-

S3-

S4 what he objects to is the craze for machinery, not machinery as such.

P: He says that today, machinery merely helps a few to ride on the back of millions.

Q: And adds that the spinning wheel is a machinery, a little toothpick is a machine.

R: He observes “How can I be against machinery when I know that even this body is a most delicate piece of machinery”

1. QR
2. RQ
3. PQ
4. QP

Answer 2) RQ

Question 2 : Government have been promising the eradication of child labour in high-risk industries in India for many years. However, almost 100 million children are still not able to go to school, and around 10 million are

working in (1) _____ industries. India has the biggest child population of 380 million in the world _____ number of children who are forced to earn a living.

Blank 1

- A. honorary B.hazardous C.handicraft D.hardware

Blank 2.

- A. largest B. lowest C.latest D.loudest

Options:

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

Answer 3) B , A - Hazardous industries, and largest number of children

Question 3: Read the passage given below and answer the questions

It used to be the American shopper that exemplified the state of the world economy. The focus now should be on the person on the other side of the till. America's retail industry is huge; it employs 15.9 million workers who represent one in nine American jobs. It is also undergoing a wrenching change, as E-Commerce is into sales. There is no more pressing test of society's ability to walk with technology's impact on work.

That impact is already visible. For all the benefits that online retailing

brings to consumers, it is causing immense pain to offline rivals. Last year 4000 American stores closed; this year more than twice the number main shutter standard and poor's a rating agency, expects retail defaults there to outnumber those in 2009. at the height of the global recession. some formats----discount stores groceries, high end malls----- will continue to thrive. But many will shrink. The industry has shed 50,000 net jobs since January. Department stores may need to close more than 800 stores to reach the productivity levels of 2006. Many outlets are looking for ways to cut labour costs by embracing automation

The passage is mainly about ?

1. those who cannot afford to buy anything in large retailer shops
2. those who regularly do their shopping online
3. those who run large business and retail stores
4. those who run smaller retailer shops

Answer 4) those who run smaller retailer shops

Question 4- What are the significant measures that stores are trying to adapt

- Automation
- Diversifying
- Merging
- Shutdown Business

Answer 1) Automation.

The answer is clearly stated in the last line of the passage.

Question 5- Which businesses will NOT continue to productivity levels of 2006

1. Grocery Stores
2. High end mails
3. Discount stores
4. Department Stores

Answer 4) Department Stores

Department stores may need to close more than 800 stores to reach the productivity levels of 2006.

Question 6- Why does the writer consider it important to discuss the plight of those on the other side of the till

1. they need to be trained to deal with pandemic related protocols
2. they have to take greater safety precautions at the workplace
3. they know they now have less work to do but are great getting paid well
4. there are a very large group of workers whose jobs are threatened

Answer 4) there are a very large group of workers whose jobs are threatened

Question 7: One the part of the sentence below may contain an error identify the part if there is no error choose “No error”

The state government has proposed to put on place the new portal to promote transparency and simplification

1. The state government has proposed
2. to put on place the new portal
3. No Error
4. to promote transparency and simplification

Answer 2) to put on place the new portal
Put in place will be the right preposition.

Question 8 : Read the passage given below and answer the questions

Twinkling lights are just visible behind screens where staff are putting the finishing touches of this year's Christmas displays, but in other parts of the shop, the lights are still off. John Lewis, flagship store in Oxford Street, Central London, is bearing the scars of the pandemic.

A restaurant and cafe are closed as there is more stuff than customers on the furnishings floors. The fashion floor is also a depressing sight, with tags flagging big discounts on racks of unwanted dresses and office wear. Last week it emerged that, John Lewis had applied for planning permission to convert entire floors of the shop into office space, it's not hard to see why ,

John Lewis, with its employee ownership and reputation for stealing customer service, still holds a special place in shoppers' hearts. But while sister chain Waitrose along with other supermarkets, has thrived in the pandemic results published last week show the department store chain is in trouble.

Huge changes in shopper behaviour, which have been accelerated by coronavirus mean the John Lewis website is now responsible for 60% of the chain sales ----- up from 30 % pre-covid. This tilt towards the web means the department stores, as properties, and now deemed to be worth nearly Euro 500Mn and less than before ----- a reassessment in last week's results that sent the group crashing Euro 635 Mn into the red in the first half of its financial year.

Which one of the following is not a scar of the pandemic ?

- 1.more floors converted to office space
- 2.putting finishing touches to festival decorations
- 3.Lights off in parts of the shop
- 4.Fewer customers and more staff

Answer 2) putting finishing touches to festival decorations is not a scar of the pandemic as stated in the first line of passage.

Question 9 : Which of the following sentences does NOT use informal language?

- 1.Did you locate our office quite easily?
- 2.You will be working with different managers during your training
- 3.We shall endeavour to inform you of the position in two weeks time
- 4.Is there anything else you want to ask?

Answer 3) Use of endeavour is formal. Informal would be 'try'.

Question: 10- One part of the sentence below may contain an error. Identify the part. If there is no error, choose 'No Error'

Everyday life have become more complicated with the advancement in mobile technology.

1. Everyday life have become
2. No error
3. advancement in mobile technology
4. more complicated with the

Answer 1) everyday life has become (life is singular)

Question 11: 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

1. I am scared after I am lost at the fair
2. I went to the fair and got scared as i was lost
3. I am lost the fair so i am too scared
4. I got lost at the fair and was scared

Answer 4)

This sentence combines all the elements of the 3 sentences with a proper use of conjunction and tenses.

Question 12 : Henry looks carefully into the telescope which lets him see far, far away, as far as the distant nebulae on the far edges of the Milky Way. Henry is an _____. He looks at the sky and stars in particular. Even though he spends much of his time looking at detailed computer reports, which are just lists and lists of numbers. His _____ thing about his job is looking through the telescope. And today he is very excited. He isn't sure yet, but he thinks he has seen a dense cloud which might be the beginning of a new star.

Blank 1 - A. astrologer B - astrologist C -astronomer D - Astronaut

Blank 2 - A. favoring B - pleasant C - pleasing D - favourite.

1.D , B

2.C , D

3.A , A

4.B , C

Answer 2) C , D

Henry is an astronomer (who studies the stars and planets) and his favourite thing is to look at the sky.

Question 13: Fill in the blanks with the most appropriate set of words from the options given below.

What did the painter do _____ himself from falling?

When he felt the ladder _____ he grabbed the gutter to save himself from falling.

1. To save / began slipping
2. To save / beginning to slip
3. To save / begin to slip
4. For saving / began to slip

Answer 4) For saving / began to slip

Question 14: You are going to read a text about an artist. 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.

Kahini held her first solo show in 1998, the entire proceeds of which went to the Helen Keller institute for the Deaf and Blind in Mumbai. _____ Encountering the pathless terrain of inner landscape, the artist engages in a restless re-examination of idea and image. _____ She has also taken part in several art camps.

- A. In her fifth solo show with acrylic and oil-on-canvas paintings in the series titled 'Metamorphosis' held recently at the Mumbai's Jehangir Art Gallery. She showed for the first time her abstract work as well.
- B. Her work has been acquired by corporate houses and also forms part of private collections.
- C. She has participated in a group show along with 50 women artists to celebrate International Women's Day

1. A , C
2. C , B

3. A, B

4. B , A

Answer 4) B, A

Question 15: Aisha had been very successful managing her team in Edinburgh and was asked by the company to lead a remote team for an important two- year project. Keen to demonstrate her leadership abilities to the head office. Aisha got her team members together for a remote meeting. But right from that first meeting , she realized that this was going to be a different challenge.

_____ Lucia kept asking about really specific details while Aisha was hoping to use the meeting to get to know the team members and identify priorities. Archies and Lucia kept accidentally talking at the same time, and when they didn't speak, there was an uncomfortable silence. Valentina hardly said a word. _____ Without these visual clues, Aisha had no idea whether people were interested, lost, confused or bored.

- A. No one had their cameras on, so there was none of the usual communication through body language and facial expressions.
- B. Compared to a face-to-face meeting the remote team is not preferred by all the managers
- C. For a start, Archie was late for the meeting by about 15 minutes because of the 'technical problems'.

-
- 1.A , C
 - 2.B , A
 - 3.A , B
 - 4.C , A

Answer 4) C, A

C starts with (for a start) hence this will be the beginning.

A talks about lack of visual clues which satisfies the sentence following the blank.

Question: 16 - Select the most appropriate option to fill in the blank

The final report on the project was _____ into three parts

- 1.Broken out
- 2.Broken off
- 3.Broken up
- 4.Broke away

Answer: 3) Broken Up

Question: 17- The lady _____ purse was lost lodged a complaint at the police station

- 1.Whom
- 2.Who
- 3.Whose
- 4.Which

Answer 3) whose

Whose is a relative pronoun that takes the place of a noun, pertaining to relate with a person.

Question: 18- One part of the sentence below may contain errors.

Identify the part if there is no error choose "No error".

The board announced that the decision to reduce the syllabus is yet to be approved by the competent authority.

1. No error
2. the decision to reduce the syllabus
3. The board announced that
4. is yet to be approved by the competent authority.

Answer 1) No error

Question 19- For the four sentences (S1 to S4) paragraph below, sentences S1 and S4 are given. From the P, Q, R, choose the correct sequence.

S1- Once upon a time an ambassador came to see the king of Sparta on some official business.

S2-

S3-

S4 - But he found Nothing of the kind.

P - The ambassador knew that the king of Sparta was also really the ruler of the entire Greece and so he expected to see the massive

Q - You are looking at the walls - ten thousand men and every man is a brick

R- After their work was over the King took his visitor on a sightseeing tour of the capital city.

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

Answer 1) RP

Question: 20- For the four sentences (S1 to S4) paragraph below, sentences S1 and S4 are given. From the P, Q, R, choose the correct sequence.

S1 - The question has often been asked why the Wright Brothers were able to succeed in an effort in which so many others had failed.

S4 - Both men worked well together, read the same books, located and shared information, talked incessantly about the possibility of manned flight, and served as a consistent source of inspiration and encouragement to each other.

P - First, they were a team.

Q - Many explanations have been mentioned, but three reasons are most often cited

R - Each aircraft was slightly better than the last, incorporating in it the knowledge that they had gained from previous failures.

1. PR
2. QP
3. RQ
4. PQ

Answer 2) QP

Question: 21- You are going to read a text about a man in a photograph. Some sentences are missing out from the text. Choose from the list (A to 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

It was the first photograph that I had ever seen, and it fascinated me. I still remember holding it at every angle in order to catch the flickering light from the (1)_____

I never met him but I felt that I knew him. (2) _____I moved the photograph so the shadow lay perfectly around his hollow cheeks. How differently his chin looks.

- A. The man in the photograph was Unsmiling but his eyes were kind.
- B. I would tell him how wonderful he looked with the the shadow that I had seen across his photograph, and I would most carefully suggests that he grew with
- C. One evening when I was looking at the photograph, as I always did before I went to sleep, I noticed a shadow across the man's thin face.

1. 1- C 2- A
2. 1- C 2- B

3. 1- B 2- A

4. 1- A 2- C

Answer 4) 1- A 2-C

Question: 22 - Governments have been promising the eradication of child labour in high risk Industries in India for many years. However almost 100 million children are still at work instead of going to school, and around 10 million are working in (1) _____ Industries. India has the biggest child population of 380million in the world; plus the (2) _____ number of children who are forced to earn a living.

Blank 1. A) honorary B) hazardous C) handicraft D) hardware

Blank 2. A) largest B) lowest C) latest D) loudest

1. 1 - D, 2 - C

2. 1 - B, 2 - A

3. 1 - A, 2 - D

4. 1 - C, 2 - B

Answer 2) 1 - B, 2 - A

Question: 23 - Twinkling lights are just visible behind screens where staff are putting the finishing touches to this year's Christmas displays, but in other parts of the shop, the lights are still off. John Lewis's flagship store in Oxford Street, central London, is bearing the scars of the pandemic.

A restaurant and cafe are closed and there are more staff than customers on the furnishings floor.

The fashion floor is also a depressing sight, with tags flagging big discounts on racks of unwanted dresses and office wear. Last week it emerged John Lewis had applied for planning permission to convert entire floors of this shop into office space. It's not hard to see why.

John Lewis, with its employee ownership and reputation for stellar customer service, still holds a special place in shoppers' hearts. But while sister chain Waitrose, along with other supermarkets, has thrived in the pandemic, results published last week show the department store chain is in deep trouble. Huge changes in shopper behaviour, which have been accelerated by coronavirus, mean the John Lewis website is now responsible for 60% of the chain's sales – up from 30% pre-Covid. This tilt towards the web means the department stores, as properties, are now deemed to be worth nearly £500 Mn less than before – a reassessment in last week's results that sent the group crashing £635 Mn into the red in the first half of its financial year.

Question: 23 - Which business will NOT continue to prosper?

1. Department stores
2. Discount stores
3. High-end Malls
4. Grocery Stores

Answer 1) Department stores

Question: 24 - What unpleasant announcement will the chairman have to make to the employees?

1. That they will have a pay cut
2. That they will not get their annual bonus
3. That they will not get their salaries
4. That they will lose their job

Answer 2) That they will not get their annual bonus

Question: 25 - How do we know that John Lewis had been in prosperous business prior to the COVID pandemic?

1. Their website now handles 60% of their business
2. They paid an annual bonus for sixty-seven years
3. They have a new Lady Chairman
4. They were known for their customer services

Answer 2) They paid an annual bonus for sixty-seven years

Question: 26 - Which one of the following expressions from the passage means losing money?

1. Tilt towards
2. On racks
3. Sent crashing
4. In the red

Answer 4) In the red

Reasoning Ability

Question 1 : In a certain code A%B means A is the brother of B, A&B means A is the mother of B, A@B means A is the daughter of B, A\$B means A is the father of B, A#B means A is the sister of B.

If K \$ Z % U & H # N @ T, how T is related to U?

1. Sister
2. Brother
3. Husband
4. Wife

Answer 1) Sister

Explanation:

K \$ Z = K is the father of Z (1)

Z % U = Z is the brother of U (2)

U & H = U is the mother of H (3)

H # N = H is the sister of N (4)

N @ T = N is the daughter of T (5)

From statement 3, 4, and 5

As U is the mother of H, H is the sister of N and N is the daughter of T complies that U and T are sisters

Question 2: Four friends A, B, C, and D have one of the four professions i.e., Doctor, architect, engineer, and lawyer. Each friend belongs to one of the four different cities, Chandigarh, Indore, Lucknow, and Pune. A is not a

lawyer or engineer. The doctor is from Lucknow, D is an architect. The lawyer is from Pune. The engineer is neither from Chandigarh nor Pune. D is not from Pune. C is from Indore. Which of the following statements is correct about B?

1. B is the lawyer and belongs to Chandigarh
2. B is Doctor and belongs to Pune
3. B is a doctor and belongs to Chandigarh
4. B is a lawyer and belongs to Pune

Answer 4) B is a lawyer and belongs to Pune

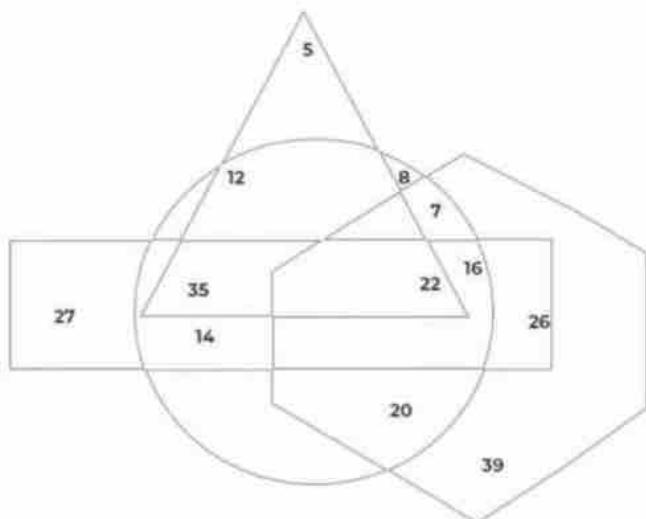
Explanation:

- A is not a lawyer or engineer
- The doctor is from Lucknow
- D is an architect
- The lawyer is from Pune
- The engineer is neither from Chandigarh nor Pune
- D is not from Pune
- C is from Indore

From the above statements, we can draw a table

People	Profession	Cities
A	Doctor	Lucknow
B	Lawyer	Pune
C	Engineer	Indore
D	Architect	Chandigarh

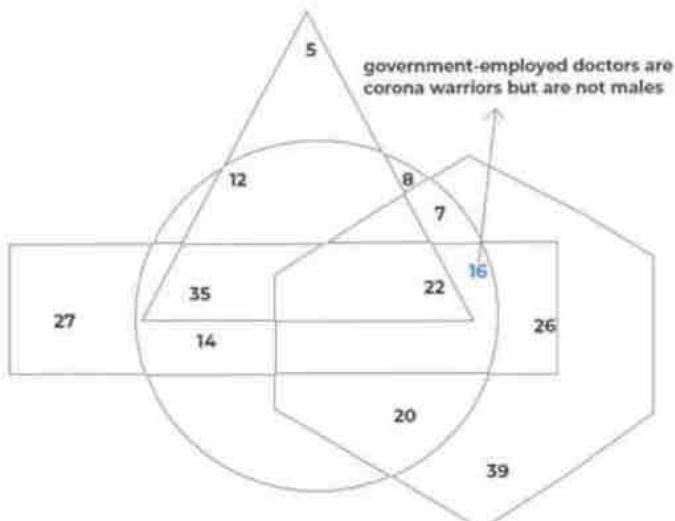
Question 3: In the following diagram, the triangle stands for “males”, the circle stands for “doctors”, the rectangle stands for “government employed”, the hexagon stands for “corona warriors”. The numbers in different segments show the number of persons for that segment.



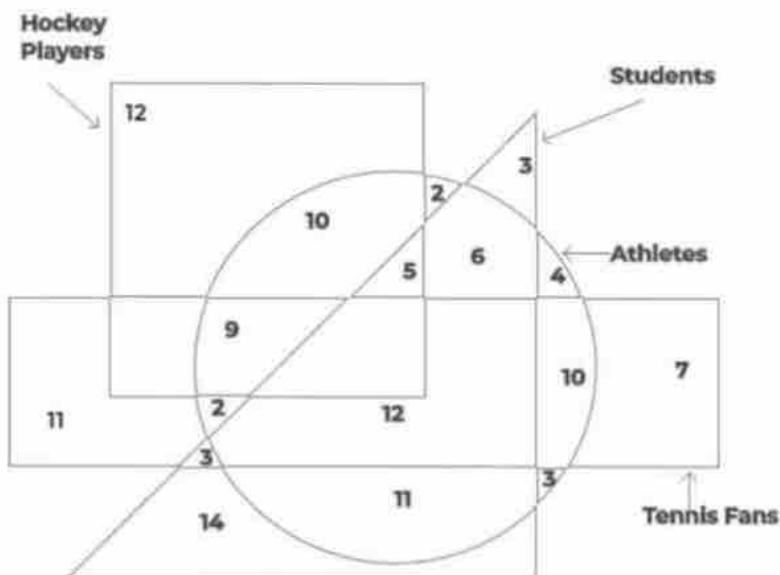
How many government-employed doctors are corona warriors but are not males?

1. 14
2. 23
3. 16
4. 17

Answer 3) 16



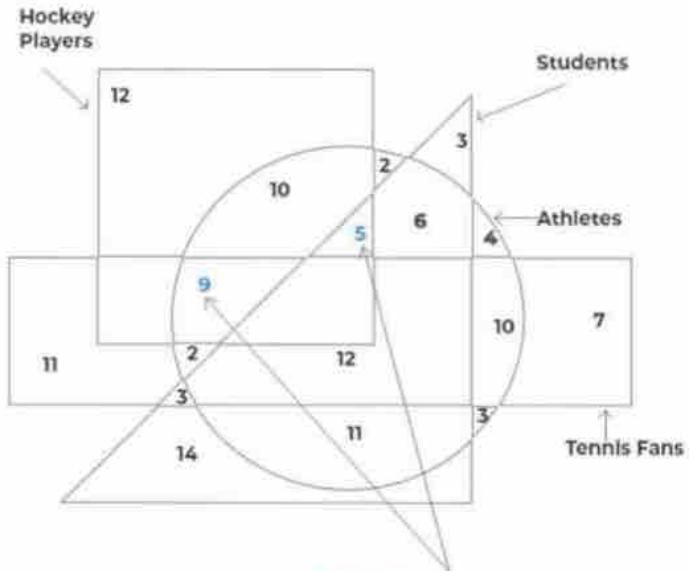
Question 4: In the following diagram, the rectangle stands for tennis fans, the circle stands for athletes, and the triangle stands for students, and the square stands for hockey players. The number in different segments show the number of persons.



How many athletes playing hockey are either students or tennis fans but not both

1. 18
2. 15
3. 14
4. 3

Answer 3) 14



$9 + 5 = 14$
athletes playing hockey are either
students or tennis fans but not both

Questions 5: Nehal, Iqbal, Ronit, Malini, and Harbajan, in any one of the 5 activities, i.e., quiz, singing, dance, debate, and mimicry. Ronit participate in singing, Harbajan does not participate in debate or mimicry, Malini does not participate in Mimicry. Iqbal participates in Quiz. Who participates in the debate?

1. Nehal or Malini
2. Can not be determined
3. Malini
4. Nehal

Answer 3) Malini

Explanation:

- Ronit participate in singing
- Harbajan does not participate in debate or mimicry
- Malini does not participate in Mimicry
- Iqbal participates in Quiz

From the above statements, we can draw a table

Person	Activities
Nehal	Mimicry
Iqbal	Quiz
Ronit	Singing
Malini	Debate
Harbajan	Dance

Question 6: Five teachers P, Q, R, S, and T teach a group of students in a sequence between 9 a.m. and 2 p.m. Each teacher teaches for one hour Q takes the first class, S teaches just after T. R teaches before P and T. Who takes the second class from 10 am to 11 am?

1. P
2. T
3. R
4. S

Answer 3) R

Explanation:

- Q takes the first class
- S teaches just after T
- R teaches before P and T

As Q is taking the first class (10 - 11 am) and R teaches before P and T, also S is teaching after T.

Hence R is taking the second class.

Question 7: Each of the five pairs of letters clusters, the letter in the second term is a rearranged, transformed form of the letters to the first term in a particular pattern. In which two pairs has the transformation been done the same?

- A. MASON: AMNOS
- B. PARTY: APRYT
- C. FAULT: AFTLU
- D. LODGE: DOLEG
- E. CARGO: ACOGS

1. D and E
2. A and C
3. B and C
4. A and E

Answer 3) A and C

Explanation:

MASON: AMNOS

M and A are interchanged and S and N are interchanged keeping O at its original position

Similarly.

FAULT: AFTLU

F and A are interchanged and U and T are interchanged keeping L at its original position.

Question 8: Given below is a question followed by two statements. I and II, each containing some information. Decode which of the statements are sufficient to answer?

How many Rs would Shalini need to spend to buy 11 pencils and 14 pens?

1. Shalini spent an amount of Rs 201 to buy 15 pencils and 12 pens
2. Shalini spent an amount of Rs 121 to buy 7 pencils and 9 pens

1. Statement II alone is sufficient
2. The combination of both statements I and II are necessary
3. The combination of both the statements are not sufficient
4. Statement I alone is sufficient

Answer 2) The combination of both statements I and II are necessary

Question 9: The number of employees working in six different departments in two companies A and B are given below. Study the given data and answer the questions that follow.

Company A

Departement	No of Employees
Marketing	256
HR	72
Production	504
Accounts	68
Operations	256
Planning	46
Total	1202

Company B

Departement	No of Employees
Marketing	524
HR	108
Production	736
Accounts	122
Operations	146
Planning	58
Total	1694

What is the percentage difference between the employees working in the production department of company A and B.

- 1. 3.21%
- 2. 2.27%
- 3. 1.52%
- 4. 1.15%

Answer 3) 1.52%

Question 10 - If both company A and B merge together to form company C, then what is the percentage of marketing and accounting employees in total employees of company C?

- 1. 33.49%
- 2. 37.59
- 3. 29.52%
- 4. 41.24%

Answer 1) 33.49%

Explanation:

Total no of employees in marketing in both the companies=256+524=780

Total no of employees in accounting in both the companies=68+122=190

Total number of employees in marketing and accounting in both A and B =
(780+190)

=970.

And the total no of employees in both the companies=1202+1694=2896.

Hence, the percentage of employees in marketing and accounting in total employees in company

$$C = \frac{970}{2896} \times 100$$

= 33.49%

Question 11: A statement is followed by two assumptions numbered I and II. Consider the statement and decide which of the given assumption(s) is/are implicit in the statement.

Statement-

Various governments across the world have issued strict guidelines for the public to wear masks and wash hands regularly to safeguard their health during covid-19 pandemic.

Assumptions-

1. Covid-19 Pandemic is a serious health issue.
2. There are ways by which people can save themselves from Covid-19 pandemic.

Options-

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

Answer 2) Both I and II are implicit.

Question 12: Five Friends A,B,C,D,E are sitting in a line facing North. Who is sitting exactly in the middle?

1. C is sitting between A and B. E is at the fourth place to the left of B.
2. E is sitting to the immediate left of D. C is to the immediate left of B.

Options:

1. Statement II alone is sufficient.
2. The combination of both the statements I and II are not sufficient.
3. The combination of both the statements I and II are necessary.
4. Statement I alone is sufficient

Answer 4) Statement I alone is sufficient

Question 13: What is the wrong number in the following series?

CMQ , FPT ,JTX ,OYC ,UFI

1. OYC
2. JTX
3. FPT
4. UFI

Answer 4) UFI

Explanation:

Lets take CMQ

Difference between letter C and Letter M is 10 and difference between M and Q is 3 , Same with OYC ,JTX,FPT

But not with UFI

Question 14:- In a certain code , K*N means K is the brother of N , K+N means K is the husband of N, K x N means K is the mother of N and K ÷ N means K is the sister of N , then which of the following expressions means C is the daughter of Y?

-
- 1. $Y + R \times C * H \div V$
 - 2. $Y + R \times H \div C * V$
 - 3. $Y + R \times H * C \div V$
 - 4. $Y \times R + H * C \div V$

Answer 2) $Y + R \times H * C \div V$

Explanation:

$Y + R = Y$ is husband of R

$R \times H = R$ is mother of H

$H * C = H$ is brother of C

$C \div V = C$ is the sister of V

Question 15: 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.

How is A related to C?

Statements:-

- 1. A is the wife of B and B is the brother of C.
- 2. C is the son of D

- 1. Statement I alone is sufficient.
- 2. Statement II is sufficient.
- 3. Both I and II together are sufficient
- 4. Both I and II together are not sufficient.

Answer 1) Statement I alone is sufficient

A is sister in law of C.

Question 16: Four Statements are followed by four conclusion numbered conclusions(s) logically follows/follow from the statements.

Statements.

1. All vegetables are fruit.
2. No Carrot is fruit.
3. Some roots are carrot
4. All roots are eatables

Conclusion

1. Some fruits are eatables.
2. No root is vegetable
3. Some eatables are carrot
4. Some roots are vegetables

Options:

1. Only III and IV follow.
2. Only I and either II or IV follow
3. Only III and either II or IV follow
4. Only II , III and IV follow

Answer 3) Only III and either II or IV follow

Question 17: The following are the criteria of Selecting a Software Engineer for an IT company.

The Candidate must

1. Have completed B.C.A with more than 70 % marks.
2. Be more than 25 years and less than 30 years of age as june 1, 2020.
3. Have secured more than 75 % in the interview and more than 60% marks in the written test.

However , if the candidate fulfills all the above criteria except

1. At (b) , but has completed M.C.A with at least 75% of marks, his/her case is to be referred to the managing director.
2. At (c) , but has secured more than 85% marks in B.C.A, his/her case is to be referred to the chief Executive officer.\

Keith completed B.C.A and M.C.A with 76% and 72% marks respectively. He has completed 27 years of age in the year 2019. He has secured 65% marks in the written test and 78% in the interview . What decision would be taken in his case?

1. His case is to be referred in the managing director
2. He would be selected
3. He would not be selected
4. His case is to be referred to the chief executive officer.

Answer 2) He would be selected

Explanation:

Because all the conditions are ful-filled.

Question 18: Given below is a question followed by two statements, I and II, each containing some information. Decide which of the statements are sufficient to answer the question.

Five friends A, B, C, D, E are sitting in a line facing north. Who is sitting exactly in the middle?

I - C is sitting between A and B. E is at the fourth place to the left of B.

II - E is sitting between A and B. E is at the fourth place to the left of B.

1. Statement I alone is sufficient.
2. Statement II alone is sufficient.
3. The combination of both the statements I and II are not sufficient.
4. The combination of both the statement I and II are necessary.

Answer 1) Only Statement I is alone is sufficient

Question 19 : Two statements are given followed by three conclusions numbered I, II and III. 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:

- All animals are plants.
- All plants are shrubs.

Conclusions:

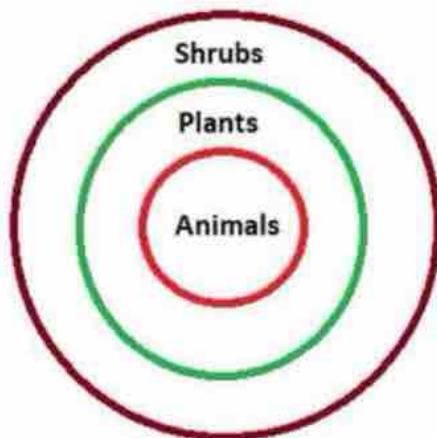
1. Some shrubs are plants
2. Some animals are not shrubs
3. All animals are shrubs

Options:

1. None of the conclusions follow.
2. Only conclusion I and III follow
3. Only conclusion I and II follow
4. Only conclusion II and III follow. (not given)

Answer 3) Only conclusion I and II follow

Explanation:



Question 20: In a certain code, A % B means 'A is the brother of B', A & B means 'A is the mother of B', A @ B means 'A is the daughter of B', A \$ B means 'A is the father of B' and A # B means 'A is the sister of B'.

If K \$ Z % U & H # N @ T, how is T related to U?

1. Sister
2. Husband
3. Wife
4. Brother

Answer 2) Husband

Question 21. Choose the best option.

Statement:

Air quality has been polluted due to the increasing number of two-wheelers and four-wheelers.

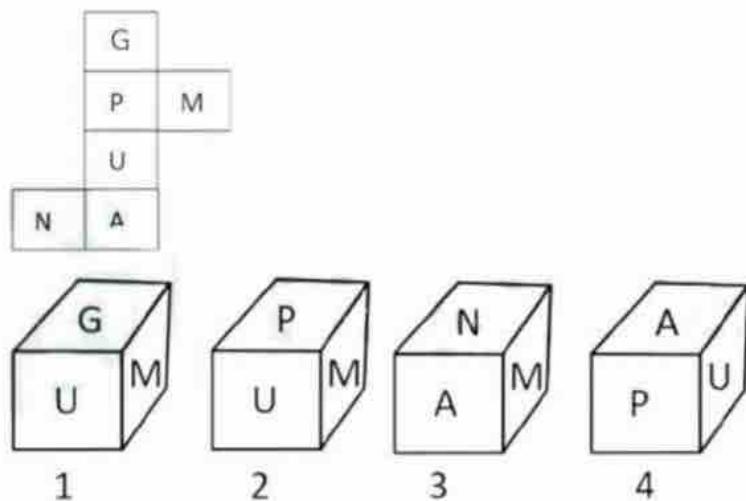
Courses of action:

1. There should be a complete ban on the sale of two-wheelers at least for the next 5 years.
2. Monitoring should take place to ensure that the vehicle's owners get their vehicles checked and certified for pollution-control.
3. Four wheelers cause more pollution, hence four-wheelers alone can be banned from running on the roads.

1. None of the options follow
2. Only II follows
3. Only III follows
4. Only I follows

Answer 2) Only II follows

Question 22: Which of the following patterns of the boxes can be formed when the sheet given below is folded? (the letters are shown to indicate the sides only)

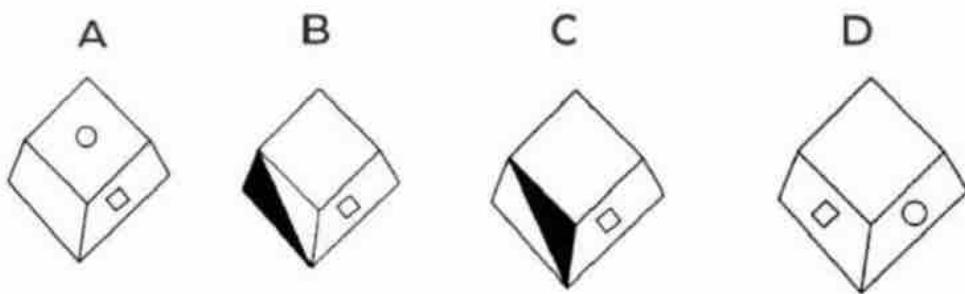
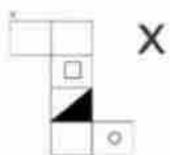


1. Only 1, 2, and 4
2. Only 2
3. Only 2 and 3
4. Only 1 and 2

Answer 2) Only 2

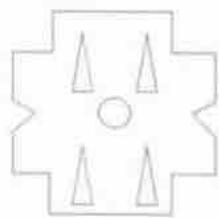
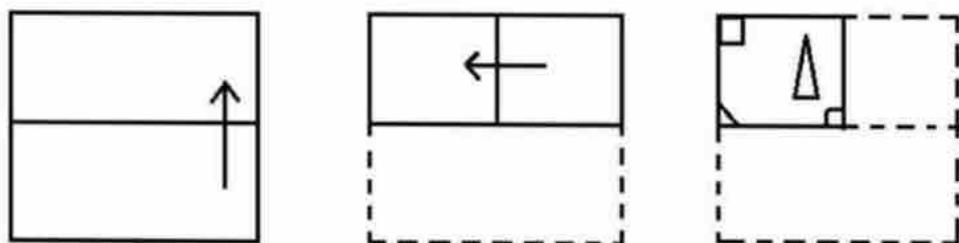
Question 23: The fig marked X is folded to form a box. Four possible boxes A, B, C, and D are given below, some of which can be formed and some cannot be formed. Choose from the alternatives, the boxes that can be formed.

1. A and B only
2. B and C only
3. B and D only

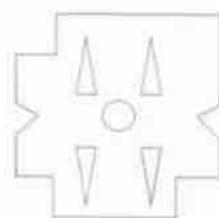


Answer 2) B and C only

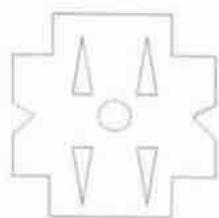
Questions 24:



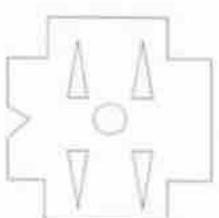
A



B



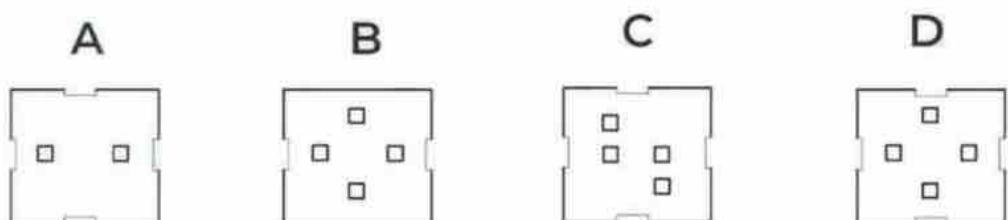
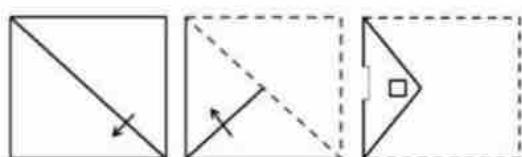
C



D

Answer : Correct Answer is Option C

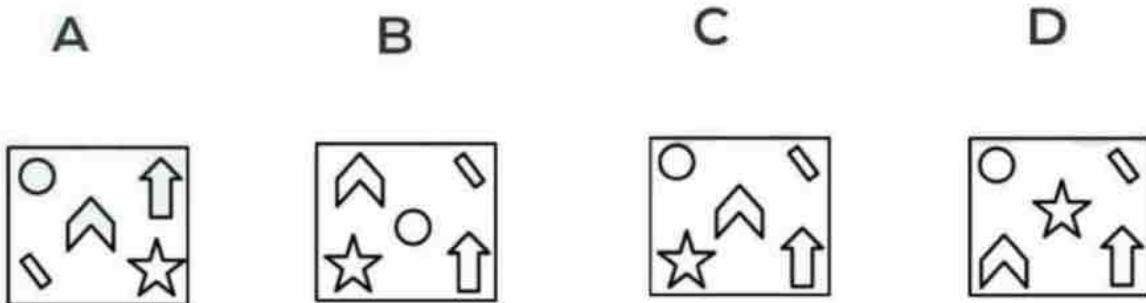
Question 25. A paper is folded and cut as shown below. How will it appear when unfolded?



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

Answer: 4) D

Question 26. Select the figure that will replace the question mark in the following figure series.



-
- 1.A
 - 2.B
 - 3.C
 - 4.D

Answer: 3) C

Question 27: There are five rods K,LM,N and O. The weight of L is equal to the weight of K and M taken together. The weight of O is K and N taken together. The weight of M is twice the weight of K. The weight of N is the weight of M. If the weight of N is 90 kg. What will be the weight of O?

- 1.105 kg
- 2.60 kg
- 3.120 kg
- 4.90 kg

Answer 1) 105 kg

Question 28 : A statement is followed by two assumptions numbered I and II. Consider the statement and decide which of the given assumption(s) is/are implicit in the statement.

Statement:

The sale of LED televisions has increased by 20% in this financial year.

Assumptions:

1. There was hardly any sale of LED televisions in the previous years.
2. LED televisions have been introduced this year.

Options-

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

Answer 1) Neither I nor II is implicit.

Question 29: Which is the wrong term in the following series ?

axc, cve, fsh, jpm, oyq, udw

1. udw
2. ojq
3. jpm
4. fsh

Answer 3) jpm

Explanation:

AXC = 1 letter gap between 1st and 3rd letter

CVE = 1 letter gap between 1st and 3rd letter

FSH = 1 letter gap between 1st and 3rd letter

OYQ = 1 letter gap between 1st and 3rd letter

UDW = 1 letter gap between 1st and 3rd letter

JPM= no pattern like above words.

Hence JPM is the wrong term in the series.

Question 30: Given below is a question by two statement, I and II each containing some information . Decide which of the statement (s) is/are sufficient to answer the question.

Among Six people P,Q,R,S,T and U , how many are teachers ?

Statement:

I. “ Q and T are teachers “ is True .

II. “ At least one of P and R is a teacher” is false and S and U’s status is same like P and R.

1. Statement II alone is sufficient.
2. Both the statement I and II together are needed.
3. Both the statement I and II together are not sufficient.
4. Statement I alone is sufficient.

Answer 3) Both the statement I and II together are not sufficient.

Programming Logic

Question 1: What will be the output

```
public class Main {  
    public static void main(String[] args)  
    {  
        int $ = 5;  
    }  
}
```

1. Nothing will print
2. Symbol not found Error.
3. Runtime Error
4. Compile time error

Answer 1) Nothing will print

Question 2: Given Code -

```
class Main  
{  
    public static void main(String args[])  
    {  
        int i,j,x=0;  
        for(i=0;i<5;i++)  
            for (j=0;j<5;j++){  
                x=(i+j-1);  
    }
```

```
System.out.print(x);
    break;
}
System.out.print(x);
}
}
```

What will be printed when the above sample code is executed ?
Enter your answer ONLY as a NUMERAL, in the box.

Answer: -101233

Question 3: Which of the following options best suits for 'Memory Leak Occurred'

1. Resource allocation pending while debugging the code
2. Program releases resources allocated in the memory
3. Program does not free the memory which is allocated dynamically
4. Occurs due to address assignment failure.

Answer 3) Program does not free the memory which is allocated dynamically

Question 4: What among the following is a server based paradigm

1. Request for Information(RFI)
2. Data Validation Routine
3. Cloud computing
4. Total cost of Ownership.

Answer 3) Cloud Computing

Question 5: When we declare constant pointer to integer, we CANNOT change:

1. Value pointed by pointer
2. Either addressing pointer variable or value at that address
3. Changes are not permitted
4. Address in pointer variable.

Answer 4) Address in the pointer variable.

Question 6: Given here is a scenario. Consider the graph algorithm and answer the given question.

John wants to go to different locations of the city in which he is. He has listed all of them down. However he wants to visit one location before visiting some other location. What application of graphs can he use to determine that location?

1. DFS
2. Dijkstra's
3. BFS
4. Topological Sorting

Answer 2) Dijkstra's

Question 7 : There are two integer numbers X and Y, and the value of X and Y is in between 0 to 25. User stores the value under a 5 bit number. How many minimum bit is required to store the result of the below expression?

$$\text{Res} = 3 * (\text{X} - \text{Y})$$

- 1. 7
- 2. 5
- 3. 8
- 4. 6

Answer 3) 8

Explanation:

To understand the solution we first have to understand why the user chose a 5 bit number. User said numbers lie between 0 to 25 in binary these values will range from 00000 to 11001

Why?

- 0 in binary is 00000
- 25 in binary is 11001

Now, it is clear that you need 5 bits to store such a number as the min bits required to store 25 is 5 (as 11001).

Formula for the max number that can be stored per bit is $2^x - 1$. Where x is the number of bits

The max number that 5 bits can store will be 31 as $11111 = 31$.

The range of $3^*(X-Y)$ will be [-75,75]

- -75 when X = 0, Y = 25
- 75 when X = 25, Y = 0

To store 75 in binary we need to calculate the nearest power 2 just greater than 75. Which is 128. Where power of 2 will be 7.

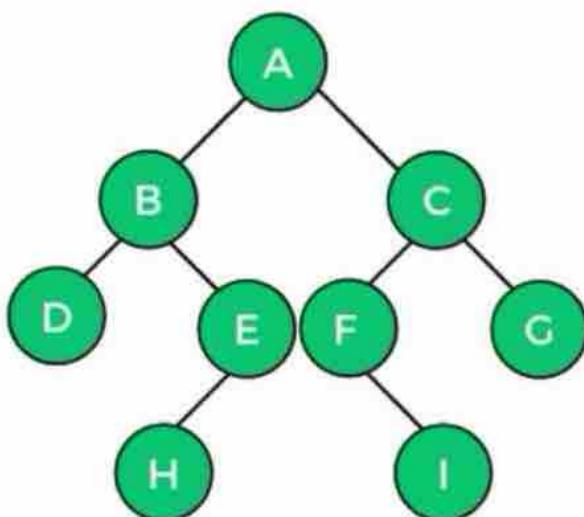
Since the number can also be negative so you need extra binary digital as MSB(Most significant Bit) for negative or positive sign.

So answer is $7 + 1 = 8$

Question 8: Write the name of library of functions which is used to perform arithmetic operations on BigInteger and BigDecimal

Answer: import java.math.*;

Question 9 : Consider the following tree what will be the preorder traversal.



-
- 1. A B D E H C F I G
 - 2. D H E B I F G C A
 - 3. H I D E F G B C A
 - 4. D H E B A F I G C

Answer 1) A B D E H C F I G

Question 10: _____ function is used to show key pressed by user will appear on the screen

- 1. gets()
- 2. getche()
- 3. gfets()
- 4. getch()

Answer 2) getche()

Coding

Question 1 : There is a JAR full of candies for sale at a mall counter. JAR has the capacity N, that is JAR can contain maximum N candies when JAR is full. At any point of time. JAR can have M number of Candies where $M \leq N$. Candies are served to the customers. JAR never remains empty as when last k candies are left. JAR is refilled with new candies in such a way that JAR gets full.

Write a code to implement the above scenario.

Display JAR at the counter with an available number of candies. Input should be the number of candies one customer can order at a point of time.

Update the JAR after each purchase and display JAR at Counter.
Output should give the number of Candies sold and the updated number of Candies in JAR.

If Input is more than candies in JAR, return: "INVALID INPUT"

Given,

N=10, where N is NUMBER OF CANDIES AVAILABLE

K <= 5, where k is number of minimum candies that must be inside JAR ever.

Example 1:(N = 10, k <= 5)

Input Value

3

Output Value

NUMBER OF CANDIES SOLD : 3

NUMBER OF CANDIES AVAILABLE : 7

Example : (N=10, k<=5)

Input Value

0

Output Value

INVALID INPUT

NUMBER OF CANDIES LEFT : 10

Solution in C

```
#include <stdio.h>
int main()
{
    int n=10, k=5;
    int num;
    scanf("%d",&num);
    if(num>=1 && num<=5)
    {
        printf("NUMBER OF CANDIES SOLD : %d\n",num);
        printf("NUMBER OF CANDIES LEFT : %d",n-num);
    }
    else
    {
        printf("INVALID INPUT\n");
        printf("NUMBER OF CANDIES LEFT : %d",n);
    }
    return 0;
}
```

Solution in CPP

```
#include <iostream>
using namespace std;
int main()
{
    int n=10, k=5;
    int num;
```

```
cin>>num;
if(num>=1 && num<=5)
{
cout<<"NUMBER OF CANDIES SOLD : "<<num<<"\n";
cout<<"NUMBER OF CANDIES LEFT : "<<n-num;
}
else
{
cout<<"INVALID INPUT\n";
cout<<"NUMBER OF CANDIES LEFT : "<<n;
}
return 0;
}
```

Solution in Java

```
import java.util.Scanner;

class Main{
    public static void main(String[] args) {
        int n = 10, k = 5;
        int num;
        Scanner sc = new Scanner(System.in);
        num = sc.nextInt();
        if(num >= 1 && num <= 5) {
            System.out.println("NUMBER OF CANDIES SOLD : " + num);
            System.out.print("NUMBER OF CANDIES LEFT : " + (n - num));
        }
    }
}
```

```
    }
else
{
    System.out.println("INVALID INPUT");
    System.out.print("NUMBER OF CANDIES LEFT : " + n);
}
}
}
```

Question 2: Selection of MPCS exams include a fitness test which is conducted on ground. There will be a batch of 3 trainees, appearing for running test in track for 3 rounds.

You need to record their oxygen level after every round. After trainee are finished with all rounds, calculate for each trainee his average oxygen level over the 3 rounds and select one with highest oxygen level as the most fit trainee. If more than one trainee attains the same highest average level, they all need to be selected.

Display the most fit trainee (or trainees) and the highest average oxygen level.

Note:

1. The oxygen value entered should not be accepted if it is not in the range between 1 and 100.
2. If the calculated maximum average oxygen value of trainees is below 70 then declare the trainees as unfit with meaningful message as “All trainees are unfit”
3. Average Oxygen Values should be rounded.

Example 1:

INPUT VALUES

95
92
95
92
90
92
90
92
90

OUTPUT VALUES

Trainee Number : 1

Trainee Number : 3

Note:

Input should be 9 integer values representing oxygen levels entered in order as

Round 1

Oxygen value of trainee 1

Oxygen value of trainee 2

Oxygen value of trainee 3

Round 2

Oxygen value of trainee 1

Oxygen value of trainee 2

Oxygen value of trainee 3

Round 3

Oxygen value of trainee 1

Oxygen value of trainee 2

Oxygen value of trainee 3

Output must be in the given format as in above example. For any wrong input final output should display “INVALID INPUT”

Solution in C

```
#include <stdio.h>
int main()
{
    int trainee[3][3];
    int average[3] = {0};
    int i, j, max=0;
    for(i=0; i<3; i++)
    {
        for(j=0; j<3; j++)
        {
            scanf("%d", &trainee[i][j]);
            if(trainee[i][j]<1 || trainee[i][j]>100)
            {
                trainee[i][j] = 0;
            }
        }
    }
    for(i=0; i<3; i++)
```

```
{  
for(j=0; j<3; j++)  
{  
    average[i] = average[i] + trainee[j][i];  
}  
average[i] = average[i] / 3;  
}  
for(i=0; i<3; i++)  
{  
if(average[i]>max)  
{  
    max = average[i];  
}  
}  
for(i=0; i<3; i++)  
{  
if(average[i]==max)  
{  
printf("Trainee Number : %d\n",i+1);  
}  
if(average[i]<=70)  
{  
printf("Trainee is Unfit");  
}  
}  
}  
return 0;  
}
```

Solution in CPP

```
#include <iostream>
using namespace std;
int main()
{
    int trainee[3][3];
    int average[3] = {0};
    int i, j, max=0;
    for(i=0; i<3; i++)
    {
        for(j=0; j<3; j++)
        {
            cin>>trainee[i][j];
            if(trainee[i][j]<1 || trainee[i][j]>100)
            {
                trainee[i][j] = 0;
            }
        }
    }
    for(i=0; i<3; i++)
    {
        for(j=0; j<3; j++)
        {
            average[i] = average[i] + trainee[j][i];
        }
    }
    average[i] = average[i] / 3;
}
for(i=0; i<3; i++)
```

```
{  
if(average[i]>max)  
{  
max = average[i];  
}  
}  
for(i=0; i<3; i++)  
{  
if(average[i]==max)  
{  
cout<<"Trainee Number : "<<i+1<<"\n";  
}  
if(average[i]<=70)  
{  
cout<<"Trainee is Unfit";  
}  
}  
return 0;  
}
```

Solution in Java

```
import java.util.Scanner;  
  
class Main {  
public static void main(String[] args) {  
int[][] trainee = new int[3][3];  
int[] average = new int[3];  
int max = 0;
```

```
Scanner sc = new Scanner(System.in);
for(int i = 0; i < 3; i++) {
    for(int j = 0; j < 3; j++) {
        trainee[i][j] = sc.nextInt();
        if(trainee[i][j] < 1 || trainee[i][j] > 100) {
            trainee[i][j] = 0;
        }
    }
}
for(int i = 0; i < 3; i++) {
    for(int j = 0; j < 3; j++) {
        average[i] = average[i] + trainee[j][i];
    }
    average[i] = average[i] / 3;
}
for(int i = 0; i < 3; i++) {
    if(average[i] > max) {
        max = average[i];
    }
}
for(int i = 0; i < 3; i++) {
    if(average[i] == max) {
        System.out.println("Trainee Number : " + (i + 1));
    }
    if(average[i] <= 70) {
        System.out.print("Trainee is Unfit");
    }
}
```

Set 2

Numerical Ability

Question 1-In case of frequency distribution of ten continuous classes, the class width is 4 and the lower class limit of the lowest class is 8. What is the upper class limit for the highest class?

1. 12
2. 4
3. 42
4. 48

Answer: 4) 48

Solution :

Let x and y be the upper and lower class limit of frequency distribution.

Given, width of the class =4

$$\Rightarrow x - y = 4 \dots\dots\dots (i)$$

Also, given lower class (y)=8

On putting $y = 8$ in Eq. (i), we get

$$x - 8 = 4 \Rightarrow x = 12$$

So, the upper class limit of the lowest class is 12.

Hence, the upper limit of the highest class

= (Number of continuous classes x Class width + Lower class limit of the lowest class)

$$= 10 \times 4 + 8 = 40 + 8 = 48$$

Hence, the upper class limit of the highest class is 48.

Question 2: What is the simplified value of $\frac{1.728 + 1}{1.24} + \frac{1 - 0.343}{2.19}$

1. 2.25
2. 2.5
3. 2.4
4. 2.33

Answer 2) 2.5

Solution:

$$\begin{aligned}\frac{1.728 + 1}{1.24} + \frac{1 - 0.343}{2.19} \\ \frac{2.728}{1.24} + \frac{0.657}{2.19} \\ = 2.2 + 0.3 = 2.5\end{aligned}$$

Question 3: What is the fourth proportional of the mean proportionals between (4, 6.25): (0.0027, 300) :: (1.2 x 10⁻³, 3) : ?

1. 0.018
2. 0.108
3. 1.08
4. 0.0108

Answer 4) 0.0108

Solution: (4, 6.25) = a

(0.0027, 300) = b

(1.2 x 10⁻³, 3) = c

? = d

a : b :: c : d

Mean Proportional of a = $\sqrt{4 \times 6.25} = 5$

Mean Proportional of b = $\sqrt{0.0027 \times 300} = 0.9$

Mean Proportional of c = $\sqrt{1.2... \times 10^{-3} \times 3} = 0.06$

a/b = c/d

$$\frac{5}{0.9} = \frac{0.06}{d}$$

$$d = \frac{0.06 \times 0.9}{5}$$

$$d = 0.0108$$

Question 4: A sales representative commission is 6% on all sales up to Rs 15,000 and 5% on all the sales exceeding this. He remits Rs 47,350 to his company after deducting his commission. What was the total sale?

1. 49000
2. 50500
3. 50000
4. 47500

Answer: 3) 50000

Solution:

$$47350 = x - 6\% \text{ of } 15000 - 5\% \text{ of } (x - 15000)$$

$$47350 = x - 900 - 5\% \text{ of } x - 5\% \text{ of } 15000$$

$$47350 + 900 - 750 = x - 5\% \text{ of } x$$

$$47500 = 95\% \text{ of } x$$

$$\Rightarrow x = 47500 \times 100/95$$

$$x = 50000$$

$$\text{Rs. } 50000$$

Question 5: The area of the sector with central angle 150° of a circle is 231 sq cm. If $\pi = 22/7$, what is the circumference (in cm) of the circle?

1. 262 cm
2. 264 cm
3. 144 cm
4. 164 cm

Answer: 2) 264 cm

Solution:

$$\text{Area of Sector} = \pi r^2 (\text{Sector Angle}/360) = 231$$

$$22/7 * r^2 * (15/360) = 231$$

$$22/7 * r^2 * (1/24) = 231$$

$$r^2 = ((231 * 24 * 7)/22)$$

$$r^2 = 21 * 12 * 7$$

$$r^2 = 1764$$

$$r = 42$$

$$\text{Circumference of circle} = 2\pi r$$

$$2 * 22/7 * 42$$

$$= 22 * 12$$

$$= 264 \text{ cm}$$

Question 6: In a competitive exam, 5 marks are awarded for every correct answer and for every wrong answer, 2 marks are deducted. Sathwik scores 32 marks in the examination. If 4 marks had 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 ?

1. 14
2. 12
3. 20
4. 26

Answer 4) 26

Solution:

According to Question,

Correct answer = $5x$ and wrong answer= $2y$

Correct answer = $4x$ and wrong answer= $1y$

So,

$$5x - 2y = 32$$

$$4x - 2y = 34 \quad \cdots \cdots \cdots \cdot 2$$

Now

$$5x - 2y = 32$$

$$8x - 4y = 68$$

By solving

$$3x = 36$$

$$x = 12$$

Now to find 'y'

$$5 * 12 - 2y = 32$$

$$60 - 2y = 32$$

$$y = 14$$

By adding $x+y$

$$12+24=26$$

Questions in the test =26

Question 7: A takes 10 days less than B to complete a work, and together they do it in 12 days. In how many days can B alone do the work?

1. 30 days
2. 60 days
3. 20 days
4. 10 days

Answer 1) 30 days

Solution:

Let B do the work independently in x no.s of days then

According to the Question,

A will take $(x - 10)$ no.s of day

Then in a unit day

A works $1/x$ part of work and B works $1/(x-10)$ part of work, as they both complete it in 12 days then

$$\frac{1}{x} + \frac{1}{x-10} = \frac{1}{12} \text{ (portion of work in a day)}$$

$$x(x-10)/2x - 10 = 12$$

$$x^2 - 10x = 24x + 120$$

$$(x-30)(x-4)$$

Possible value is $x=30$

Hence B will do the work in 30 days

Question 8: What is the simplified value of $\left(2\frac{3}{4} + 2\frac{1}{2} \text{ of } \frac{5}{2\frac{5}{7}} - \frac{1\frac{2}{3}}{2\frac{1}{2}}\right) \div \left(5\frac{1}{12} \times \frac{5}{19}\right)$?

1. 6
2. 4
3. 2
4. 5

Answer 4) 5

Solution:

$$\left(2\frac{3}{4} + 2\frac{1}{2} \text{ of } \frac{5}{2\frac{5}{7}} - \frac{1\frac{2}{3}}{2\frac{1}{2}}\right) \div \left(5\frac{1}{12} \times \frac{5}{19}\right)?$$

$$\left(\frac{11}{4} + \frac{5}{2} \times \frac{35}{19} - \frac{2}{3}\right) \div \left(\frac{61}{12} \times \frac{5}{19}\right)$$

$$\left(\frac{11}{4} + \frac{175}{38} - \frac{2}{3}\right) \div \left(\frac{61 \times 5}{12 \times 19}\right)$$

$$\left(\frac{627 + 1050 - 152}{19 \times 4 \times 3}\right) \div \left(\frac{61 \times 5}{12 \times 19}\right)$$

$$\left(\frac{1525}{19 \times 4 \times 3}\right) \times \left(\frac{12 \times 19}{61 \times 5}\right)$$

$$= 5$$

Question 9: The total surface area of a solid hemisphere is 75 times the area of a circle whose diameter is 6 cm. What is the radius (in cm) of the hemisphere?

1. 16 cm
2. 225 cm
3. 15 cm
4. 75 cm

Answer 3) 15cm

Solution :

$$\text{Area of circle} = \pi r^2 = \pi \times 3^2$$

$$= 9\pi$$

$$\text{Total surface area of hemisphere} = 75 \times 9\pi$$

Now ,

$$3\pi r^2 = 75 \times 9\pi$$

$$r^2 = 75 \times 3 = 225$$

$$r = 15 \text{ cm}$$

Question 10: $(0.0\overline{163} + 0.00\overline{1})$ solves to ?

1. $0.01\overline{712}$
2. $0.01\overline{242}$
3. $0.01\overline{742}$
4. $0.01\overline{772}$

Answer 3) $0.01\overline{742}$

Solution: $(0.0\overline{163} + 0.00\overline{1})$

$$= 0.00163163163 + 0.0011111111 = 0.0174274274$$

$$= 0.01\overline{742}$$

Question 11: 10 men can complete a work in 8 days and 10 women take 12 days to complete the same work. How many days will 3 men and 6 women take to complete the same work?

1. $9\frac{3}{7}$
2. $10\frac{3}{7}$

$$3. \ 11\frac{3}{7}$$

$$4. \ 12\frac{3}{7}$$

Answer 3) $11\frac{3}{7}$

Solution:

$$1 \text{ men } 1 \text{ day's work} = 1/80$$

$$1 \text{ women } 1 \text{ day's work} = 1/120$$

$$(3 \text{ men} + 6 \text{ women})' \text{ s day's work} = (1/80 + 1/120) = 7/80$$

5 men and 10 women will complete the work in $80/7$ days. = $11\frac{3}{7}$ days

Question 12: Raju lends Rs 3000 to Bharath and a certain sum to Charan at the same time of 6% per annum simple interest. If after 5 years, Raju altogether receives Rs 1650 as interest from Bharath and Charan, What is the sum lent to charan ?

1. Rs 2500
2. Rs 3300
3. Rs 2750
4. Rs 3250

Answer 1) Rs 2500

Solution:

For Bharath and Charan 6% for 5 year = 30% for each

30% for 3000 = 900

=> total interest - 900 = Charan

$1650 - 900 = 30\% \text{ of } x$ (given to Charan)

$30\% \text{ of } x = 750$

$X = \text{Rs } 2500$

Question 13: A shopkeeper calculated his profit as 12% with the selling price of an article as the base. What would have been his actual profit percentage if the selling price was 20% more?

1. 21
2. 20
3. 23
4. 24

Answer: 3) 23

Solution: Assume the cost price was 100

Then after 12% profit the selling price would have been = $100+12 = 112$

Now,

Profit at 20% would be= $112 \times 20 / 100 = 22.5$

So answer is option 3

Question 14: The sum of the ages of two friends is 74. After one year the ratio of their ages will be 9:10. What was the ratio of their ages nine years ago?

1. 7 : 6
2. 3 : 2
3. 4 : 3
4. 13 : 15

Answer 4) 13 : 15

Solution:

$$x + y = 74 \text{ ----- eq(1)}$$

According to the question,

$$X + 1 / Y + 1 = 9 / 10$$

$$10X + 10 = 9Y + 9$$

$$10X = 9Y + 9 - 10$$

$$10X = 9Y - 1$$

$$X = 9Y - 1 / 10$$

Now putting value of x in equation 1

$$(9Y - 1 / 10) + Y - 74$$

$$9Y - 1 + 10Y = 740$$

$$19Y = 741$$

$$Y = 741 / 19 = 39$$

$$\text{And } X = 74 - Y$$

$$= 74 - 39 = 35$$

Ratio of ages nine years ago = $35 - 9 / 39 - 9$

$$= 26 / 30$$

$$= 13 : 15$$

Question 15: A leak in the body of a ship which can admit 5 units of water in 16 minutes got detected when it was 40 km away from the shore. Entry of 60 units of water will cause the ship to sink which has a pump that can throw out 12 units of water in an hour. Aided by the pump, what should be the average speed (in Km/h) of the ship in order to reach the shore just before it starts sinking?

1. 4
2. 4.2
3. 4.5
4. 4.8

Answer 3) 4.5

$$d = 40 \text{ km}$$

water in ---> 5 unit in 16 min

water out ---> 12 unit / hr

in 16 min water in 5 unit

so, in 1 min water in = $5/16$

in 60 min water in = $75/4$

Let time be t hours

$$\text{water in} = 75/4 * t$$

$$\text{water out} = 12 t$$

$$\text{collecting water} = 75/4 * t - 12 * t = 27/4 * t$$

$$27/4 * t = 60$$

$$t = (60 * 4) / 27 = 80/9$$

$$\text{Speed} = d/t = 40 / (80/9) = 4.5$$

Question 16: The present ages of three brothers are in the proportion 12:14:17. The difference between the ages of elder and the eldest is 6 years. What will be the proportion of their ages after 4 years?

1. 40:46:55
2. 14:16:19
3. 42:41:15
4. 14:16:18

Answer 2) 14:16:19

Solution:

$$14 - 17 = 3 \text{ parts} = 6 \text{ years}$$

$$= 1 \text{ part is } 2 \text{ year}$$

$$24, 28, 34 = \text{present}$$

$$28, 32, 38 = \text{After } 4 \text{ years}$$

$$14:16:19$$

Question 17: What is the fourth proportional of 0.006, 1.2 and $6/25$?

1. 4.8
2. 3.6
3. 36
4. 48

Answer 4) 48

Solution :

Let the fourth proportional be 'x'.

$$\text{So, } 0.006 : 1.2 :: 6/25 : x$$

When a:b:c:d are in proportion

$$\text{then } a/b = c/d$$

$$0.006/1.2 = 6/25 / x$$

$$x = 48$$

Question 18: A man who has to walk 11 km, finds that in 30 minutes he has travelled two-ninth of the remaining distance. What is his speed in km/hr?

- 1. 4.2
- 2. 4
- 3. 4.5
- 4. 4.8

Answer 4) 4.8

Solution:

$$\text{distance} = 11 \text{ km} = 11 * 2/9 = 22/9$$

$$\text{Time} = 30 \text{ min} = 30/60 = \frac{1}{2} \text{ hr}$$

$$x = \text{distance} / \text{time}$$

$$x = 22/9 / \frac{1}{2}$$

$$x = 44/9$$

$$x = 4.8$$

Question 19 :What is the simplified value of

$$(10/15 * 6)[22/2/5 \text{ of } [(64 - 2 * 8) + 2] - 2/5]$$

- 1. 6
- 2. 4
- 3. 5
- 4. 2

Answer 2) 4

Question 20 :The Range and the standard deviation of a data are R & S respectively. With the shift of the origin of the data, change(s) occur in the value(s) of:

1. Both R & S
2. R only
3. Neither R nor S
4. S only

Answer 3) Neither R nor S

Explanation:

As a general rule, the median, mean, and quartiles will be changed by adding a constant to each value. However, the range, interquartile range, standard deviation and variance will remain the same

Question 21: With what value should the highest quantity in the data 65,52,14,26,18,35,32,38 be replaced so that the mean and median become equal?

1. 66
2. 53
3. 64
4. 51

Answer 2) 53

Explanation: The highest quantity 65 will be replaced by 53 to make the mean and median equal.

Question 22: What is the real value of $(0.000314 + 0.000198)^{(1/3)}$

1. 0.8
2. 0.08
3. 0.4
4. 0.04

Answer: 1) 0.8

Solution :

$$\begin{aligned}0.000314 + 0.000198 &= 0.000512 \\&= (0.000512)1/3 \\&= (0.08)(3 * 1/3) \\&= 0.08\end{aligned}$$

Question 23: A sales representative commision is 6% on all sales upto 15000 and 5% on all sales exceeding this. He remits Rs. 47350 to his company after deducting his commission. What were the total sales.

1. Rs 50000
2. Rs 49000
3. Rs 47500
4. Rs 50500

Answer: 1) Rs 50000

Solution :

$$\begin{aligned}47350 &= x - 6\% \text{ of } 15000 - 5\% \text{ of } (x - 15000) \\47350 &= x - 900 - 5\% \text{ of } x - 5\% \text{ of } 15000 \\47350 + 900 - 750 &= x - 5\% \text{ of } x\end{aligned}$$

$$47500 = 95\% \text{ of } x$$

$$\Rightarrow x = 47500 \times 100/95$$

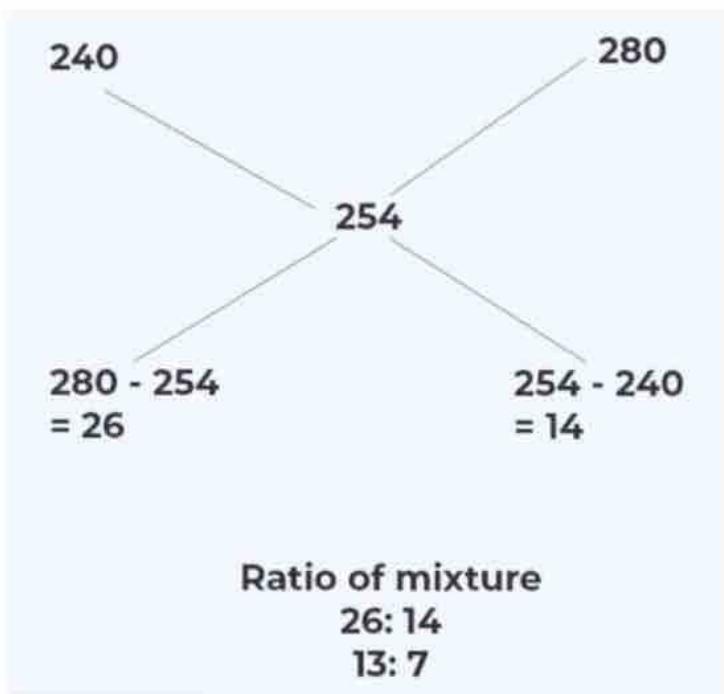
$$x = 50000 = \text{Rs. 50000}$$

Question 24: In what ratio should two varieties of tea priced at Rs. 240 and Rs 280 respectively. Be mixed so that the cost of the combination is Rs 254 per kg?

1. 3: 2
2. 7: 6
3. 13: 17
4. 4: 3

Answer 3) 13: 7

Solution:



Hence the mixture will be in ratio 13: 7

Question 25: The table below presents the percentage marks obtained by the three students X, Y, and Z in the four components of assessment A, B, C, D, of a paper whose respective weightages are 4, 3, 2, 1.

Students/Marks	A	B	C	D
X	78	85	72	76
Y	65	68	64	73
Z	82	76	81	75

What is the ratio of the average percentage of X in A, B to that of Y, Z combined in C, D

1. 28 : 25
2. 326 : 293
3. 342 : 283
4. 81 : 73

Answer 2) 326 : 293

Solution:

$$\text{Average Marks obtained by X in A and B} = (78 + 85)/2 = 163/2$$

$$\text{Average marks obtained by Y in C and D} = 137/2$$

$$\text{Average of X and Y combined} = \frac{\frac{137}{2} + \frac{156}{2}}{2} = \frac{293}{4}$$

Ratio of X and Y, Z combined X : (Y and Z)

$$= \frac{163}{2} : \frac{293}{4} = 326 : 293$$

Question 26: A retailer purchased 25 identical toys for a price Rs P and sold some of these for price Rs P. If he calculated his profit as 8% , with selling price as base instead of cost price then how many toys did he sell.

- 1. 20
- 2. 23
- 3. 21
- 4. 24

Answer 2) 23

Solution:

25 identical toys are Rs.P.

one toy = $\text{Rs.P}/25$

profit % = $(\text{sp}-\text{cp})/\text{cp}$

In question It is said to change the base from cost price to selling price

$$8/100 = (\text{p} - \text{xp}/25) / \text{p}$$

solving for x,

then $x=23$.

Verbal Ability

Question 1: Select the most appropriate option to fill in the blank.

The exotic remedies for some illness have been _____ from generation to generation.

- 1. handed in
- 2. handed down
- 3. handed over
- 4. handed out

Answer 2) handed down

Explanation: Handing down means passing on the legacy.

Question 2: Select the most appropriate option to complete the sentence.

While MSME's are waiting ____ the release ____ around Rs. five lakh crore pending payments, no major relief has come their way so far.

1. to, with
2. of, at
3. for, of
4. from, on

Answer 3) for, of

Question 3: You are going to read a text about fighting pollution. 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.

A team of scientists at the University of Portsmouth of England has developed a new enzyme that has the ability to break down plastics up to six times faster than standard enzymes, according to CNN (1) _____ In reducing the amount of non-biodegradable plastic on Earth, enzymes have been used to help combat pollution by breaking down polyethylene terephthalate (PET) chain molecules, the most common thermoplastic that makes up everyday items like single-use bottles, clothing, and carpet. (2) _____ The first altered enzyme was called PETase, which will now be connected with MHETase to create the University's new enzyme protein.

Between these two enzymes connecting, PET chains in plastic were found to break down twice as fast as PETase alone.

- A- The researchers, who had earlier engineered an enzyme found within bacteria of a plastic bottle combined it with a second enzyme to accelerate the breakdown of plastics.
- B- A tool called the Diamond Light Source was used to map the molecular structure of MHETase.
- C- Enzymes, proteins that are key components in chemical reactions within the human body, act as catalysts that speed up the breakdown of substances.

Options:

- 1. 1-B, 2-A
- 2. 1-B, 2-C
- 3. 1-A, 2-B
- 4. 1 -C, 2- A

Answer 4) 1-C, 2- A

Question 4: One part of the sentence below may contain an error. Identify the part. If there is no error, choose 'No error'

Whatever she said in her defence was not taken seriously by the investigating authorities.

-
- 1. No error
 - 2. Whatever she said in her defence.
 - 3. by the investigating authorities
 - 4. was not taken seriously.

Answer 1) No error

Question 5: Select the most appropriate option to fill in the blank.

The security guard _____ leave ended two days ago has not yet reported back to work.

- 1.whom
- 2.who
- 3.which
- 4.whose

Answer 4) whose

Question 6: You are going to read a text. 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.

Disney is an international maze of parent companies and subsidiaries that leave few corners of the globe untouched, its vast holidays are maze of media networks, film studios, production companies, merchandising

ventures, parks, resorts, distribution operations, Finance firms, gaming corporations, publishing companies, construction firms, vacation and cruise lines, music studios, and digital content providers. (1) _____ However, the company's reach spreads farther than many people might think- in movies, and television alone. (2) _____ Forbes ranks Disney- which employs more than 20,000 people ----- among top 10 most powerful brands in the world and values the company at more than \$238 billion.

A - it is common knowledge that Disney is behind classics like 'Beauty and the Beast' and 'The Lion King'.

B - There is only a seemingly endless web of companies, properties, holdings, and franchises that don't bear the Disney name yet serve as revenue streams for the corporate empire just the same.

C - Walt Disney World in Orlando, Florida re-opened the park in July with new safety precautions in place following months of being shut down amid the Coronavirus pandemic.

1. 1-C, 2-B
2. 1-C, 2-A
3. 1-A, 2-B
4. 1-A, 2-C

Answer 4) 1-A, 2-C

Question 7: One part of the sentence below may contain an error. Identify the part.

Something about the way he spoke stuck a bell in Lauren's mind.

1. stuck a bell
2. in Lauren's mind
3. way he spoke
4. Something about

Answer 1) struck a bell

Question 8: Complete the following sentence by, filling in the blanks (1 and 2) with the right word from the list given below.

Compared with conventional agriculture, organic farming uses fewer pesticides, reduces soil erosion, decreases nitrate leaching into groundwater and surface water and, (1)_____ animal wastes into the farm. These benefits are (2)_____ by higher food costs for consumers and generally lower yields.

Blank 1: A- recycling B- recycle C- recycles D-recycled

Blank 2: A- increased B- balanced C- counter-balanced D- encountered

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

Answer 4) 1-C, 2-C

Question 9: Complete the following sentence by, filling in the blanks (1 and 2) with the right word from the list given below.

As we scrutinize our own faces for wrinkles and flaws, we can fail to notice what a marvelous organ the face is. Our faces are the most (1) _____ part of our visible body, a mysterious mosaic of the physical and psychical. Faces are the body's workaholics. They confer and confirm identity, express emotion, communicate meaning, perform, (2) _____ functions necessary for life, and enable us to experience the world through our senses.

Blank 1) A-distinctive B-typical C-average D-classic

Blank 2) A-plan B-Basic C-needed D-compulsory

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

Answer 3) 1-A, 2-B

Question 10: One part of the sentence below may contain an error. Identify the part.

Either Rahul or Rohit accompany their grandmother and grandfather whenever they go to the hospital.

Options:

1. Either Rahul or Rohit accompany
2. No error
3. their grandmother and grandfather
4. whenever they go to the hospital.

Answer 1) Either Rahul or Rohit accompany

Explanation : Rohit accompanies

Question 11: Read the passage below and answer the question.

Archeology is based on the scientific method. Archeologists ask questions and develop hypotheses. They use evidence to choose a dig site, then use scientific sampling techniques to select where on the site to dig. They observe, record, categorize, and interpret what they find. Then they share their results with other scientists and the public.

Underwater archaeologists study materials at the bottom of lakes, rivers, and oceans. Underwater archaeology encompasses any prehistoric and historic periods, and almost all sub-disciplines as Archaeology. Artifacts and features are simply submerged.

Artifacts studied by underwater archaeologists could be the remains of a shipwreck. In 1985, National Geographic Explorer-in-Residence Dr. Robert Ballard helped locate the wreck of RMS Titanic, which sank in the North Atlantic Ocean in 1912, killing about 1,500 people. Ballard and other scientists used sonar to locate the wreck, which had been lost since the ocean liner sank. By exploring Titanic using remote-controlled cameras, Ballard and his crew discovered facts about the shipwreck (such as the fact

the ship broke in two large pieces as it sank) as well as hundreds of artifacts, such as furniture, lighting fixtures, and children's toys.

Underwater archaeology includes more than just shipwrecks, however. Sites include hunt camps on the continental shelf of the Gulf of Mexico, and portions of the ancient city of Alexandria, Egypt, submerged due to earthquakes and sea level rise.

What significant information did Dr. Ballard discover about the RMS Titanic?

1. That 1500 people were on board the liner.
2. That the ship had sunk in the North Atlantic ocean.
3. That the liner had broken into two while sinking.
4. That children's toys, furniture, and artifacts had also sunk with the ship.

Answer 2) That the ship had sunk in the North Atlantic ocean.

Explanation : 3rd line of third paragraph

Question 12: According to the passage, which was the research technology used by Underwater Archeologists to get the most effective visual feedback of the artifacts?

1. Sonar technology
2. Remote controlled cameras
3. Scuba Diving team with cameras
4. Miniature submarines.

Answer 2) Remote controlled cameras

Explanation : 5th line of third paragraph

Question 13: Which option gives the correct order of the process followed by archeologists?

1. Categorize, develop hypotheses, apply evidence, ask questions, record, dig a site, interpret, observe, share.
2. Observe, apply evidence, record, dig a site, ask questions, interpret, share, categorize, develop hypotheses.
3. Dig a site, interpret, ask questions, observe, apply evidence, categorize, share, develop hypotheses, record.
4. Ask questions, develop hypotheses, apply evidence, dig a site, observe, record, categorize, interpret, share.

Answer 4) Ask questions, develop hypotheses, apply evidence, dig a site, observe, record, categorize, interpret, share.

Explanation: First line of the passage

Question 14: Which of the following are underwater archeologists most unlikely to find?

1. Artifacts and prehistoric features.
2. Portions of an ancient history.
3. Remains of a shipwreck
4. Evidence of previous excavations.

Answer 4) Evidence of previous excavations

Question 15: Read the passage below and answer the questions.

When behavioural ecologists, Liz Derryberry saw a news report of coyotes crossing the Golden Gate Bridge in March, she immediately thought of her birds. For over a decade, Derryberry has studied the white crowned sparrow and how urban noise has disrupted and degraded the species ability to communicate.

With most San Franciscans staying at home due to the coronavirus pandemic, she decided to seize an unprecedented opportunity to study how this small, scrappy songbird responded when human noises disappeared.

"I realized we gotta do this, and we gotta do this now," she says.

By recording the species' calls among the abandoned streets of the Bay Area in the following months, Derryberry and colleagues have revealed that the shutdown dramatically improved the birds' calls, both in quality and efficiency. Male birds in particular rely on their songs to defend territory and find mates.

"The songs didn't change as much as we predicted—they changed even more," says Derryberry, of the University of Tennessee, Knoxville. "It highlights just how big of an effect noise pollution has."

The research, published today in *Science*, is among the first to scientifically evaluate the effects of the pandemic on urban wildlife. It also adds to a burgeoning field of research into how the barrage of human-made noise

has disrupted nature, from ships drowning out whale songs to automobile traffic jamming bat sonar.

Question : Which word does the writer use to describe the extent of research on noise pollution.

- 1.Improved
- 2.Disrupted
- 3.Burgeoning
- 4.Drawing

Answer 3) Burgeoning

Question 16: What purpose do the calls of the birds serve?

- 1.They help the male secure their territory.
- 2.They help them locate other birds.
- 3.They show them the direction during flight.
- 4.They assist them in finding food.

Answer 1) They help the male secure their territory.

Question 17: The passage is primarily about the impact of the pandemic on_____

1. bats
2. whales
3. sparrows
4. coyotes

Answer: 3) sparrows

Question 18: The results of Derryberry and her companion's research were unexpected because_____

1. It revealed that birds did not change their songs or their other habits.
2. It showed that birds migrated from their original homes due to the pandemic.
3. The birds' songs became fewer and less audible when fewer humans watched them.
4. The bird songs became louder and better when human noises reduced.

Answer 4) The bird songs became louder and better when human noises reduced.

Question 19 - For the four sentences (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: Finland's Helsinki Airport is using a unique method for screening arriving passengers for COVID 19 - specially trained dogs that can detect the virus in humans - even before they show any symptoms

S2:

S3:

S4: According to the press release “The dog will perform its work in a separate booth so that the fear of spreading the infection is reduced”

P- Those taking the test will swipe with a test wipe and drop it into a cup, which is given to the dog.

Q - Upon arrival at the airport, passengers may be asked to volunteer for the program, and if they agree. Are given a wipe to collect a sweat sample

R- More dogs are currently being trained and should be available for the screening procedure in a few months

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

Answer 3) QP

Question 20 - For the four sentences (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: COVID-19 spreads mainly among people who are in close contact (within about 6 feet) for a prolonged period.

S2:

S3:

S4: Since people can spread the virus before they know they are sick it is important to stay at least 6 feet away from others, when possible even if you - or they - do not have any symptoms

P: Social distancing is especially important for people who are at higher risk for severe illness from COVID - 19.

Q: Spread happens when an infected person coughs, sneezes, or talks, and droplets from their mouth or nose are launched into the air and land in the mouths or noses of people nearby

R: The droplets can also be inhaled into the lungs.

1. QR
2. PQ
3. RQ
4. RP

Answer 1) QR

Question 21 - You are going to read a text about an interesting initiative. 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 need to choose.

This year COVID-19 pandemic has introduced a wide swath of Americans to the joys of gardens and gardening. (1) _____ American's rose garden at the American Rose Centre is seeking volunteers to participate

during its upcoming Volunteer days from 8:00 a.m. to 3:00 p.m. on October 23rd and 24th (2) _____. Mask wearing and social distancing will be observed and a brown, bag lunch will be provided to all who register.

A- Volunteers are welcome to come and work in the garden any time during the two days.

B- The fresh air and other healthful benefits of outdoor exercises, together with the good feeling of accomplishing something useful have drawn many to being gardening or increase activities in the garden

C- After the tour, volunteers will be guided through tasks by garden team leaders.

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

Answer 4) (1) - B, (2) - A

Question 22 - Which of the following sentences does NOT use informal language?

1. Can we sort this out together?
2. I sincerely apologise for the oversight
3. Thanks a lot for sharing this information
4. This is a high priority account, take care

Answer 2) I sincerely apologise for the oversight

Explanation : apologise is formal

Question 23 - For the four sentences (S1 - S4) paragraph below, sentences S1 and S4 are given. From the options P, Q, R, choose the appropriate sentences for S2, S3 respectively.

S-1: Gianni Crea, the head key-keeper of the Vatican, is intimately familiar with the contours of history.

S-2:

S-3:

S:4: They traverse a 4.6 - mile route through the museums which see upto 28,000 visitors per day.

P: Almost every morning for the past six years, he's opened the doors to the Vatican Museums.

Q: Crea and his team of 10 - Five each on the morning and evening shifts - open and close 300 doors every day, mobilizing about 700 employees along with them.

R: Crea has worked in the Vatican for 20 years and as head key-keeper for six.

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

Answer 2) (PQ)

Question 24 - 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 (1)_____ of most middle-class professionals in that country. The most recent Asian American Voter Survey confirms what previous studies have shown.

Even when (2)_____ 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.

Blank 1:

- A. viewpoint
- B. Habit
- C. Job
- D. Casualty

Blank 2:

- A. Caused
- B. Groups
- C. Compared
- D. Asked

Options:

1. AC
2. BA
3. BD
4. CB

Answer 1) AC

Reasoning Ability

Question 1: Which is the wrong term in the following series ?

AXC, CVE, FSH, JPM, OYQ, UDW

1. UDW
2. OJQ
3. JPM
4. FSH

Answer 3) JPM

Solution :

AXC = 1 letter gap between 1st and 3rd letter

CVE = 1 letter gap between 1st and 3rd letter

FSH = 1 letter gap between 1st and 3rd letter

OYQ = 1 letter gap between 1st and 3rd letter

UDW = 1 letter gap between 1st and 3rd letter

JPM= no pattern like above words.

Hence JPM is the wrong term in the series.

Question 2: Given below is a question by two statement, I and II each containing some information . Decide which of the statement (s) is/are sufficient to answer the question.

Among Six people P,Q,R,S,T and U , how many are teachers ?

Statement:

I. “ Q and T are teachers “ is True .

II. “ At least one of P and R is a teacher” is false and S and U’s status is same like P and R.

1. Statement II alone is sufficient.

2. Both the statement I and II together are needed.

3. Both the statement I and II together are not sufficient.

4. Statement I alone is sufficient.

Answer 3) Both the statement I and II together are not sufficient.

Question 3: In each of the five pairs of the letter- clusters, the letter in the second term is a rearranged/ transformed form of the letter in the first

term in a particular pattern. In which two pairs, has the transformation been done the same way ?

[A] WMSHD- DSHWM

[B] NPKRQ - PRKQN

[C]HQRWK - HKWQR

[D] ZIGPM- PIZGM

[E] BWIKG - GIKBW

1. A and E

2. A and C

3. D and B

Answer 1) A and E

Solution :

[A] WMSHD- DSHWM

Here,

WMSHD divide it into two parts i.e., WM and SHD

Now, in second part move the last letter in front and so on, i.e, DSH

Now put second part before the first part i.e., DSHWM

Similarly,

In [E] = BWIKG - GIKBW

Here, divide it into two parts i.e., BW and IKG

Now, in second part move the last letter in front and so on i.e., GIK

Further, shift the second part before first part ie., GIKBW

Hence Option 1 is correct i.e, A and E

Question 4: There are five person in a family A, B,C,D and E. In which, one is working as a doctor; one is an engineer. Both A and C are unmarried ladies, who are not working. None of the ladies is working as a doctor and a lawyer in the family.E is the husband of the only one married couple in the family. B is the brother of C and neither a lawyer and nor an engineer.

Who is the doctor in the family ?

1. A
2. E
3. B
4. D

Answer 3) B

Soution:

A, B are unmarried ladies who are not working. E is the husband of only one married couple..so D is the lady and none of the ladies are working as doctor and lawyer.SO now E profession is not given but B is neither lawyer nor an engineer so.. B can be a doctor

Question 5: The following are the criteria for selecting a candidate for the post Assistant Manager.

The candidate must.

- (i) Be a graduate in engineering in specification of Human Resource Management with minimum 55% marks.
- (ii) Have three years full time experience.
- (iii) Have secured more than 60 % in the interview and at least 70% in the written test.

However, if the candidate fulfills the above criteria except.

In case of the applicant who satisfies all other criteria except-

- at(i) above , but has more than five year experience in relevant field. his/her case is to be referred to the management.
- at(ii) above, but has secured more than 65% in the written test as well as in the interview. his/her case to be referred to the HR department.
- at(iii) above, but has graduated in engineering with specialization Human Resource Management with a minimum 65% marks in his/her case to be referred to the General Manager.

Sidharth has recently completed his graduate in engineering with specialization of Human Resource Management with minimum 65 % marks. He has now secured 65% in the interview and 65% in the written test. Based on these criteria and the information Provided , decide the course of action.

1. Refer to HR department
2. He would be selected.
3. Refer to the General Manager.
4. Refer to Management.

Answer 1) Refer to HR department

Explanation :

Because he has already fulfilled the above criteria and scored 65% in the written test as well as in the interview so his case will be referred to the HR department.

Question 6: Two Statements are given followed by three conclusion numbered I,II and III . Assuming the statements to be true, even if they seem to be at variance with commonly known facts, decide which of the conclusion logically follow (s) from the statements.

Statements-

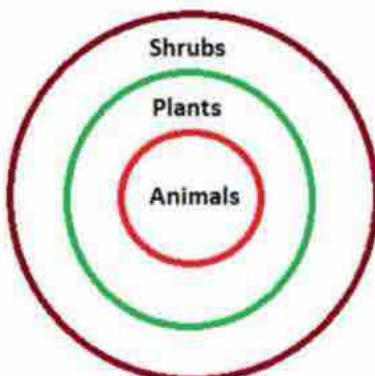
- All animals are plants.
- All plants are shrubs.

Conclusion-

- I. Some shrubs are plants.
 - II. Some animal are not shrubs.
 - III. All animal are shrubs.
-
- 1. Only Conclusion I and II follow.
 - 2. None of the Conclusion Follow.
 - 3. Only Conclusion I and III follow
 - 4. None of the above

Answer : 3) Only Conclusion I and III follow

Solution:



Question 7:- Three Statements are followed by four conclusions numbered I, II, III and IV. Assuming the statement to be true. Even if they do not confirm to real world knowledge, decide which of the conclusion(s), logically follows from the statements.

Statement:

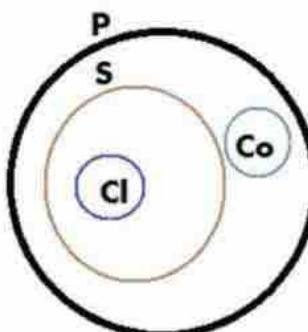
1. All clothes are shirts
2. All shirts are pants.
3. All cots are pants.

Conclusion:

1. No clothe is cot
 2. Some cots are shirts.
 3. Some pants are clothes.
 4. Some cots are clothes.
-
1. Only II follow
 2. Either II or I follow
 3. Only Either I or IV and III follow
 4. Only III follow

Answer : 3) Only Either I or IV and III follow

Solution:



Question 8: In a certain code, $a+b$ means a is the wife of b; $a*b$ means a is the brother of b and a/b means a is the son of b.

If $T/z * U+W$, then which of the following is true ?

1. U is the aunt of T
2. W is the wife of Z
3. T is the daughter of Z
4. U is the uncle of T

Answer 1) U is the aunt of T

Solution :

T is the son of Z , Z is the brother of U and U is the wife of W

So, U is the aunt of T

Question 9: There are five person in a family A, B,C,D and E. In which, one is working as a doctor; one is an engineer. Both A and C are unmarried ladies, who are not working. None of the ladies is working as a doctor and a lawyer in the family.E is the husband of the only one married couple in the family. B is the brother of C and neither a lawyer and nor an engineer.

Who is the lawyer ?

1. E
2. D
3. A
4. B

Answer 1) E

Solution:

A, B are unmarried ladies who are not working. E is the husband of only one married couple..so D is the lady and none of the ladies are working as doctor and lawyer. B is neither lawyer nor an engineer so, B is a doctor and the person that is left is E so E is a lawyer.

Question 10: Given Below is a question followed by two statements, I and II ,each containing some information.Decide which of the statement is /are sufficient to answer the question.

The ratio of fees of two different schools is 2: 2.5 What would be the fees of the school if discount of 25% and 35% are given on the both the schools respectively ?

Statements:

I. Discount on the second school fees in Rs. 8750 ?

II. difference between the discount on the two school fees is Rs. 3750 ?

1. Statement II alone is sufficient
2. Statement I alone is sufficient
3. Both Statement I and II together are not sufficient.
4. Both Statement I and II together are sufficient

Answer 4) Both Statement I and II together are sufficient

Question 11: There are five people in the family O,P,Q,R, and S. They are working as a farmer, a teacher, a lawyer, an engineer and a doctor. P is an unmarried daughter of O working as a teacher. S is the brother of Q, working as a lawyer. Q is the husband of the only married couple in the family. O is the father of an unmarried daughter and two sons. Working as a farmer O's daughter in law is a doctor.

Who is an engineer in the family ?

1. O
2. P
3. R
4. Q

Answer 4) Q

Solution :

O - farmer

P - teacher

Q - Engineer

R - doctor

S - lawyer

O is the father of P who is teacher (unmarried daughter) and Q (married) and S (lawyer) (Brother). So Q is married so R is the wife of Q who is a doctor. The only one who is left is Q so Q is an engineer.

Question 12: A statement is followed by two assumptions number I and II. Consider the statement and decide which of the given assumptions (S) is/are Implicit in the statement.

Statement:

If he is a hard worker ,he will succeed in Life.

Assumptions:

- I To succeed,he must be a hard worker
- II He will succeed in life.

Options:

1. None of I and II are implicit.
2. Only I is implicit.
3. Only II is implicit.
4. Both I and II are implicit.

Answer 2) Only I is implicit

Question 13: 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 follows for pursuing .

Statement:

There is a considerable increase in the number persons infected by corona virus during the last few months through person to person contact and direct contact with respiratory droplets, exhausted by the infected person.

Courses of action:

- I. Wear a mask when social distancing is not possible.

- II. The government should give adequate information through mass media regarding corona virus
- III. Health Centres and facilities should be increase and fully equipped properly for the treatment patients

Options:

1. Only I is implicit.
2. All are implicit.
3. Both I and II are implicit.
4. Only II is implicit.

Answer 3) Both I and II are implicit

Question 14: Given below is a question followed by two statements, I and II, each containing some information Decide which of the statements(s) is/are sufficient to answer the question.

What is the age of Sumit ?

Statements:

- I. Sumit is five year younger than amit , who is double the age of Prateek.
- II. Prateek is 10 years elder than Ravi whose age is 22 years.

1. The Combination of both the statement I and II are necessary.
2. The Combination of both the statement I and II are not necessary.
3. Statement II alone is sufficient.
4. Statement I alone is sufficient.

Answer 1) The Combination of both the statement I and II are necessary.

Question 15: A statement is followed by two assumptions numbered I and II. Consider the statement and decide which of the given assumption is/are implicit in the statement

Statement:

If you have any queries ,ask them to me

Assumptions:

- I. You have no questions.
- II. I can answer any questions

Options:

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

Answer 3) Both I and II are implicit

Question 16: The following are the criteria for selecting a candidate for the post Assistant Manager.

The candidate must:

- (i) Be a graduate in engineering in specification of Human Resource Management with minimum 55% marks.

- (ii) Have three years full time experience.
- (iii) Have secured more than 60 % in the interview and at least 70% in the written test.

However, if the candidate fulfills the above criteria except:

In case of the applicant who satisfies all other criteria except:

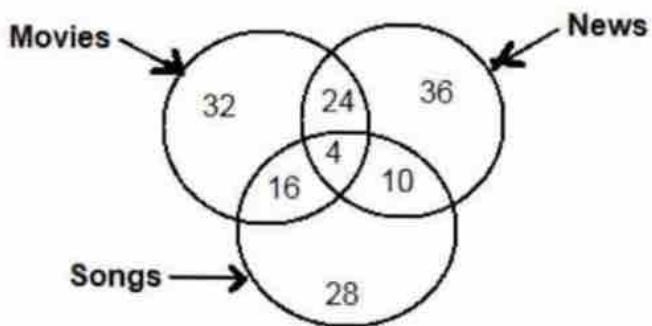
- at(i) above , but has more than five year experience in relevant field. his/her case is to be referred to the management.
- at(ii) above, but has secured more than 65% in the written test as well as in the interview. his/her case to be referred to the HR Operatement.
- at(iii) above, but has graduated in engineering with specialization Human Resource Management with a minimum 65% marks in his/her case to be referred to the General Manager.

Amit has completed his B.E with 60% marks without HRM specialization but he has been working as an assistant manager in a required company for the last six year. He has now secured 65% in the interview and 66% in the written test.

1. Refer to HR department
2. He would be selected
3. Refer to the General Manager
4. Refer to Management

Answer 3) Refer to the General Manager

Question 17: Consider the venn diagram given below:-



The number in the venn diagram indicates the number of the person/people watching the TV programmes. The diagram is drawn after surveying 150 persons in a population of 12000. How many person/people can be expected to watch at least two TV Programs?

1. 3200
2. 2880
3. 4320
4. 2280

Answer 3) 4320

Solution:

$$24 + 4 + 16 + 10 = 54$$

$$\text{Fraction of people who have taken part in survey} = 12000/150 = 80$$

$$\text{Fraction of people expected to watch at least 2 TV programs} = 54 * 80 = 4320$$

Question 18: In a certain code, P+Q means P is the father of Q; P-Q means P is the sister of Q and P/Q means P is the brother of Q.

Which is the following equation, shows that A is the uncle of D ?

1. $(A+B+C-D)$
2. $(A/B+C/D)$
3. $(A+B/C-D)$
4. $(A-B+C/D)$

Answer 2) $(A/B+C/D)$

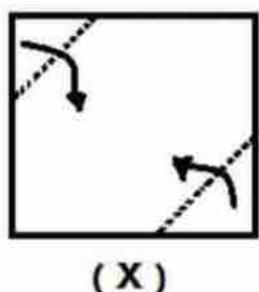
Solution:

A/B means that A is the brother of B

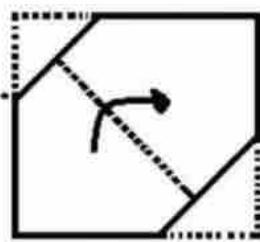
$B+C$ means that B is the father of C, which means that A is the uncle of C

Now, C/D means that C is the brother of D, which means that A will be the uncle of D

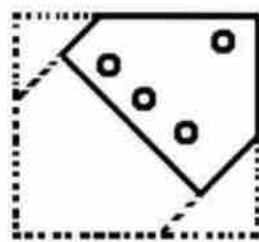
Question 19: The Sequence of folding a piece of square paper and the manner in which the folded paper has been cut is shown in the figures marked X,Y, and Z. How would the paper look when unfolded ?



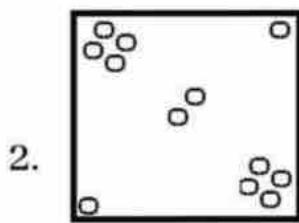
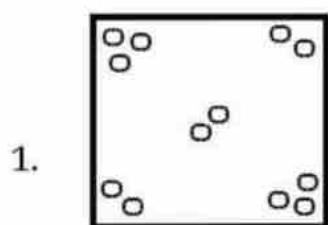
(X)

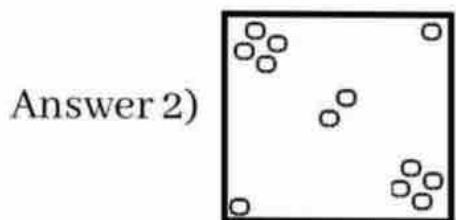
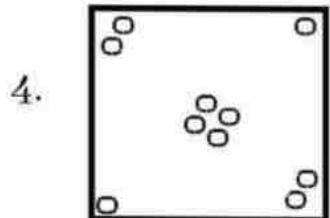
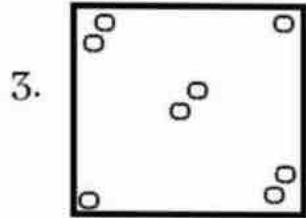


(Y)

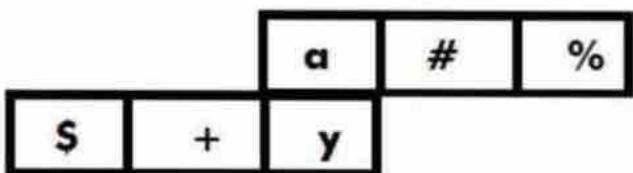


(Z)





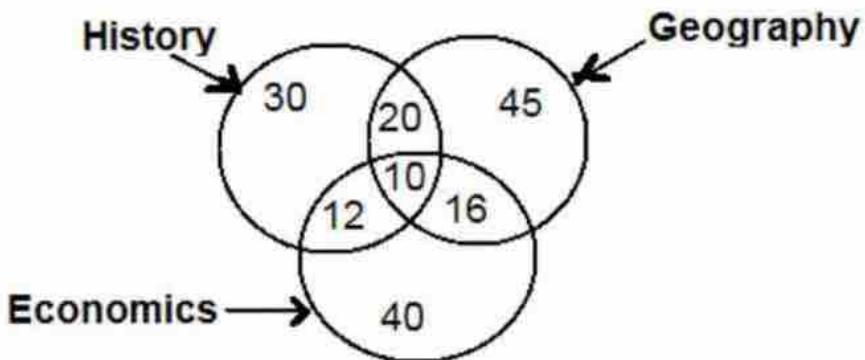
Question 21: A Cube is made by folding the giving sheet, In the cube so formed ,which letter/ symbol will be on the opposite face to the face having symbol ‘%’?



1. (+)
2. (y)
3. (a)
4. (\$)

Answer 3) (a)

Question 22: The diagram given below shows the number of students who got distinction in three subjects out of 320 students. Study the diagram carefully and answer the questions



What is the percentage of students who got distinction only in two subject ?

1. 48
2. 10
3. 25
4. 15

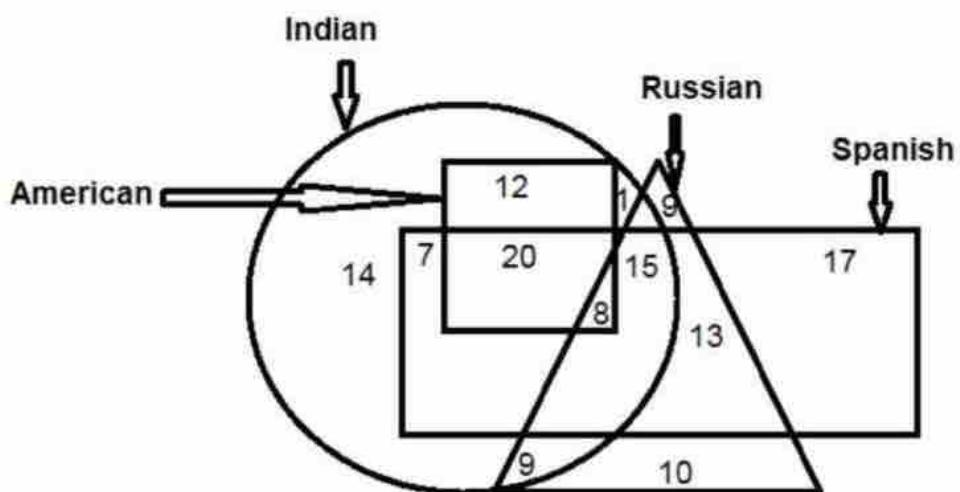
Answer 4) 15

Solution:

$$\frac{20 + 12 + 16}{320} \times 100 = 15\%$$

Question 23:- The following diagram shows the people who can speak various languages, the rectangle stand for “Spanish; the circle stands for “Indian; the triangle stands for “Russian”, and the square stands for “American”. The numbers in different segments show the number of persons.

Answer the question on the basis of the information given in the diagram.



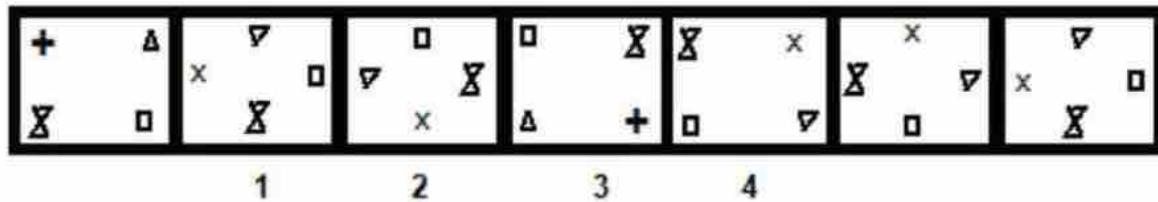
How many people can speak American and Russian languages ?

1. 15
 2. 8
 3. 13
 4. 9

Answer 2) 8

Explanation : There are 8 people who can speak American and Russian

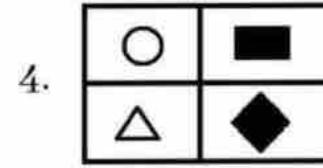
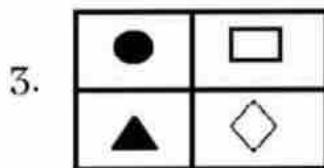
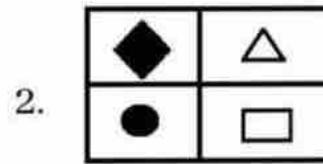
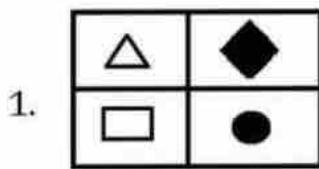
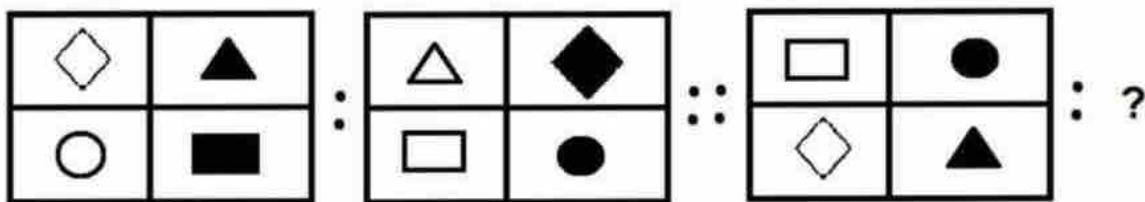
Question 24: These are seven figures, the first and last two of which are unnumbered. One of the numbered figures does not fit into the series. The number of that figure is the answer. Find it out.



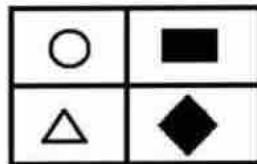
1. 2
2. 3
3. 4
4. 1

Answer 2) 3

Question 25: The Two figures on the left of the sign "::" are related in a certain way. The same relationship holds goods for the second pair of figures on the right of the sign "::" of which ,one figure is missing .Find the missing figure from the alternatives.



Answer 4)



Explanation:

Option 4 is correct as from the starting two image we can see that the position of the diagram in the adjacent column is interchanged but keeping the shading to that part of the image.

Question 26: In a certain code,

P@R means P is the wife of R;
P\$R means P is the husband of R and
P#R means P is the son of R.

Which of the following equations shows that D is the mother in law of A ?

1. A#D@C\$B
2. A\$B#C@D
3. A@B#C\$D
4. A@B\$C#D

Answer 3) A@B#C\$D

Question 27: 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.

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

- (i) Q is wife of P and mother of T. R is grandmother of O and mother of P.
(ii) T is granddaughter of S

1. Both I and II together are not sufficient.
2. Statements II alone is sufficient
3. Statements I alone is sufficient
4. Both I and II together are sufficient.

Answer 1) Both I and II together are not sufficient.

Question 28: Among 5 objects A,B,C,D and E.:

- i. C is twice as heavy as E.
- ii. A and D together are as heavy as B and C together.
- iii. A and C together are as heavy as B and E together.
- iv. A and B together are one and half times as heavy as C and D together.

Which among the five is the heaviest of all ?

1. B
2. A
3. C)
4. D

Answer 4) D

Question 29: In a certain code,

P+R means P is the Son of R; P-R means P is the wife of R and P/R means P is the father of R.

If A+B-Q/S, then which of the following is true ?

-
- 1. A is the sister of S
 - 2. S is the uncle of A
 - 3. A is the brother of S
 - 4. A is the grandson of S

Answer 3) A is the brother of S

Question 30: Among a group of fifteen persons seven people can speak in Hindi, 8 persons can speak Urdu while three of them cannot speak none of both languages.

How many of them can speak both languages ?

- 1. 5
- 2. 0
- 3. 3
- 4. 4

Answer: 3) 3

Programming Logic

Question 1: In a Singly Circular Linked List, how many address fields are there

- 1. 1
- 2. 1+1
- 3. 2
- 4. 2+1

Answer 1) 1

Question 2) Select best suitable answer for below functions

- sizeof()
- strlen

1. sizeOf() - returns size of string including null characters,
 strlen() - Return size of string including null characters

2. sizeOf() - returns size of string excluding null characters,
 strlen() - Return size of string excluding null characters

3. sizeOf() - returns size of string including null characters,
 strlen() - Return size of string excluding null characters

4. sizeOf() - returns size of string excluding null characters,
 strlen() - Return size of string including null characters

Answer 3) sizeOf() - returns size of string including null characters,
 strlen() - Return size of string excluding null characters

Question 3: When we compose a binary tree through the given preorder sequence, what will be left child of 6? (Note: Consider 4 as root node)

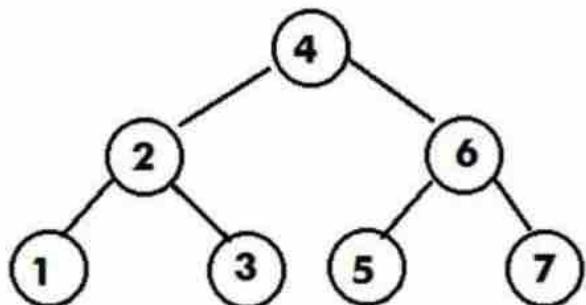
4, 2, 1, 3, 6, 5, 7

1. 5
2. 1
3. 7
4. 3

Answer 1) 5

Solution:

Construct a binary tree, consider 4 as root



Left child of 6 is 5.

Question 4: Which of the following is not a logical operator

1. |
2. &&
3. ||
4. &

Answer 4) &

Question 5: The data modeling phase consists of which of the following?

1. Creation of logical data model
2. Creation of infographics
3. Creation of bigdata analysis model
4. Creation of evaluation tool

Answer 1) Creation of logical data model

Question 6: What will be the output of the given program?

```
void main()
{
    char a[10][10]={"kellos","hellos","fellos"};
    printf("%s",a[1]);
}
```

1. hellos
2. ellos
3. Compile time error
4. ellos hellos fellos

Answer 1) hellos

Question 7:What will be the output?

```
class car
{
    public void Show()
    {
        System.out.println("Brand is not defined yet");
    }
}
class mercedes extends car
{
    public void Show()
    {
```

```
System.out.println("It's mercedes");
}
}
class Benz extends mercedes
{
}
public class Main
{
    public static void main(String[] args)
    {
        car obj = new Benz();
        obj.Show();
    }
}
```

1. Compile Time Error
2. Run Time Error
3. It's mercedes
4. Brand is not defined yet

Answer 3) It's mercedes

Question 8: What will be the output of the following program?

```
public class Main
{
    public static void main(String[] args)
    {
        try
```

```
int[] arr = {10, 25, 2, 6, 8, 9, 7, 32};  
for(int i=0; i<arr.length; i++)  
{  
    System.out.print(arr[i+1]);  
}  
}  
catch(Exception e)  
{  
    System.out.println("Inside Exception");  
}  
}  
}  
}
```

Type your answer here _____

Answer: 252689732Inside Exception

Question 9: What will be the output of the below code?

```
public class Main  
{  
    int x = 10;  
    public static void main(String[] args)  
    {  
        try  
        {  
            Main t1 = new Main();  
            System.out.println(t1.x);  
        }  
    }  
}
```

```
}

catch(Exception e)
{
    System.out.println("Exception caught");
    return;
}

static
{
    int x = 20;
    System.out.print(x + " ");
}
}
```

Enter your answer ONLY as a NUMERAL in the box:

Answer: 20 10

Question 10: Which one is not a type of topology ?

1. Bus Topology
2. Ring Topology
3. Circuit Topology
4. Star Topology

Answer 3) Circuit Topology

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

```
#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");
    }
    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 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

```
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);
}
}
```

Solution in Python

```
interior_walls = int(input())
exterior_walls = int(input())
if interior_walls:
    int_walls = []
    for i in range(interior_walls):
        int_walls.append(float(input()))
if exterior_walls:
    ext_walls = []
    for i in range(exterior_walls):
        ext_walls.append(float(input()))
if exterior_walls < 0 or interior_walls < 0:
```

```
print("Invalid Input")
exit()
if exterior_walls and interior_walls:
    print("Total estimated Cost : ",
          (sum(int_walls)*18+sum(ext_walls)*12),"INR")
else:
    if exterior_walls:
        print("Total estimated Cost : ",sum(ext_walls)*12,"INR")
    elif interior_walls:
        print("Total estimated Cost : ",sum(int_walls)*18,"INR")
    else:
        print("Total estimated Cost : 0.0 INR")
```

Question 2: There are total n number of Monkeys sitting on the branches of a huge Tree. As travelers offer Bananas and Peanuts, the Monkeys jump down the Tree. If every Monkey can eat k Bananas and j Peanuts. If total m number of Bananas and p number of Peanuts are offered by travelers, calculate how many Monkeys remain on the Tree after some of them jumped down to eat.

At a time one Monkey gets down and finishes eating and go to the other side of the road. The Monkey who climbed down does not climb up again after eating until the other Monkeys finish eating.

Monkey can either eat k Bananas or j Peanuts. If for last Monkey there are less than k Bananas left on the ground or less than j Peanuts left on the ground, only that Monkey can eat Bananas($< k$) along with the Peanuts($< j$). Write code to take inputs as n, m, p, k, j and return the number of Monkeys left on the Tree.

Where, n= Total no of Monkeys

k= Number of eatable Bananas by Single Monkey (Monkey that jumped down last may get less than k Bananas)

j = Number of eatable Peanuts by single Monkey(Monkey that jumped down last may get less than j Peanuts).

m = Total number of Bananas

p = Total number of Peanuts

Remember that the Monkeys always eat Bananas and Peanuts, so there is no possibility of k and j having a value zero

Example 1:

Input Values

20

2

3

12

12

Output Values

Number of Monkeys left on the tree:10

Note: Kindly follow the order of inputs as n,k,j,m,p as given in the above example. And output must include the same format as in above example(Number of Monkeys left on the Tree:<Integer>)

For any wrong input display INVALID INPUT

Solution in C

```
#include <stdio.h>
int main()
{
    int n,k,j,m,p;
    float atebanana=0.0,atepeanut=0.0;
    scanf("%d %d %d %d %d",&n,&k,&j,&m,&p);
    if(n<0 || k<0 || j<0 || m<0 || p<0)
    {
        printf("INVALID INPUT");
    }
    else
    {
        if(k>0)
            atebanana =(float)m/k;
        if(j>0)
            atepeanut =(float) p/j;
        n=n-atebanana-atepeanut;
        printf("Number of Monkeys left on the Tree:%d",n);
    }
    return 0;
}
```

Set 3

Numerical Ability

Question 1: A particular distribution is represented by two data points. If the Range and Standard deviation of the distribution are R and S respectively, what is the relation between them?

1. $S = R/2$
2. $S = \sqrt{R}$
3. $S = 2R$
4. $S = R$

Answer 1) $S = R/2$

Question 2: If, $\frac{\sqrt{7} + \sqrt{5}}{\sqrt{7} - \sqrt{5}} = a - b\sqrt{35}$ then the value of $a - 2b$ is?

1. 8
2. 7
3. 4
4. 5

Answer 3) 4

Question 3: A hollow spherical ball of thickness of 1 cm and external radius of 5 cm is melted and then from solid so obtained, without any loss of material, 61 identical spherical balls are obtained. What is the diameter (in cm) of each ball?

-
- 1. 2
 - 2. 1.5
 - 3. 3
 - 4. 1

Answer 1) 2

Explanation: Diameter of small spherical balls is 2 cm

Question 4: Four distribution P, Q, R, S are given below:

$$P = 4, 2, 1, 3, 3, 5, 6, 9, 8, 7$$

$$Q = 4, 5, 6, 7, 8, 9, 10, 11, 12, 13$$

$$R = 5, 6, 4, 5, 7, 5, 8, 1, 5, 2$$

$$S = 2, 6, 6, 11, 10, 9, 10, 8, 10, 7$$

What is the mean of the two modes in the body in the only binomial distribution among the above?

- 1. 8
- 2. 5
- 3. 3
- 4. 6

Answer 2) 5

Question 5: What is the value of:

$$1.59 \times 1.59 + 8.46 \times 0.53 + 9 \times 0.47 \times 0.47$$

1. 6.25
2. 9
3. 9.025
4. 4

Answer 2) 9

Explanation: Solving the given terms, we will get 9

Question 6: Raju lends Rs 3000 to Bharath and a certain sum to Charan at the same time of 6% per annum simple interest. If after 5 years ,Raju altogether receives Rs 1650 as interest from Bharath and Charan, What is the sum lent to charan ?

1. Rs 2500
2. Rs 3300
3. Rs 2750
4. Rs 3250

Answer 1) 2500

Solution:

For Bharath and Charan 6% for 5 year = 30% for each
30% for 3000 = 900

=> total interest - 900 = Charan

$1650 - 900 = 30\% \text{ of } x$ (given to Charan)

$30\% \text{ of } x = 750$

$x = \text{Rs } 2500$

Question 7: In how many ways X give Rs 500 to Y using only Rs 100 and Rs 20 notes, with the condition that she has only 16 notes of Rs 20, and being asked to use the notes of both the denominations?

- 1. 3
- 2. 2
- 3. 6
- 4. 4

Answer 1) 3

Question 8: A train starting from a station X was to arrive at a station Y at 6.06 P.M. It could travel at 62.5% of its usual speed and reach Y at 7 P.M. At what time did it start from X?

- 1. 4:44 PM
- 2. 4:24 PM
- 3. 4:36 PM
- 4. 4:56 PM

Answer 3) 4:36 PM

Question 9: The ratio of incomes of P and Q is 7: 5 and the ratio of their expenditure is 4: 3. If at the end of year, P and Q save Rs 3000 and Rs 2000 respectively, what is Q's income?

- 1.4000
- 2.4500
- 3.7000
- 4.5000

Answer 4) 5000

Question 10: A retailer has fixed the List Price of an article at 20% above the cost price. If he offers a discount of Rs 2 for a purchase of Rs 40, what is his gain or loss percentage?

1. 12% loss
2. 10% gain
3. 14% gain
4. 8% loss

Answer 3) 14% gain

Question 11: The median of the following data is:

Class	0-10	10-20	20-30	30-40	40-50
Frequency	10	15	12	15	8

1. 24.366
2. 24.266
3. 24.123
4. 24.166

Answer 4) 24.166

Question 12: The capacity of three containers X, Y, and Z are 1, 2, and 4 liters respectively. Initially X is empty, while Y and Z are full of water and milk respectively. X is filled from Y, Y is replenished from Z and X is

emptied into Z. If this process is repeated once more, than what will be the ratio of milk in Y to water in Z?

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

Answer 4) 3: 5

Question 13: Four men and two women can do a piece of work together in one day. If a women is twice as efficient as a man, in how many days can a woman working alone do the work?

1. 2
2. 6
3. 4
4. 8

Answer 3) 4

Question 14: If 25% of a number is equal to the three - fifths of another number, what will be the ratio of the first number?

1. 12 : 5
2. 15 : 12
3. 5 : 12
4. 12 : 15

Answer 3) 5 : 12

Question 15: A sales representative commission is 6% on all sales up to Rs 15,000 and 5% on all the sales exceeding this. He remits Rs 47,350 to his company after deducting his commission. What was the total sale?

1. 49000
2. 50500
3. 50000
4. 47500

Answer 2) 50000

Solution:

$$47350 = x - 6\% \text{ of } 15000 - 5\% \text{ of } (x - 15000)$$

$$47350 = x - 900 - 5\% \text{ of } x - 5\% \text{ of } 15000$$

$$47350 + 900 - 750 = x - 5\% \text{ of } x$$

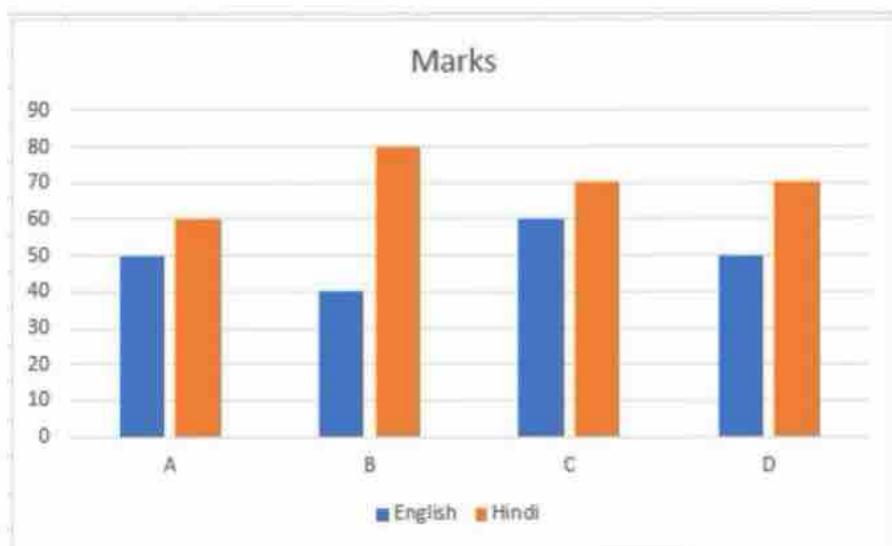
$$47500 = 95\% \text{ of } x$$

$$\Rightarrow x = 47500 \times 100/95$$

$$x = 50000$$

Question 16: The Average marks (out of 100) scored by the students of four towns A, B, C and D of a district in English and Hindi at a secondary level examination held in 2019 are presented through a bar graph shown below.

How much percentage (correct upto 2 decimal places) are the average marks in Hindi above that of the highest marks among the towns in english?



1. 20.67
2. 14.33
3. 18.33
4. 16.67

Answer 4) 16.67

Question 17: What is the simplified value of

$$(7^2 + 24^2) \div \left[20^2 - \frac{1}{2}(5^2 - 1) + 10 \left\{ (0.3)^2 + (0.1)^2 \right\} - 2 \times 7 \right]^2$$

1. 1/225
2. 1/5
3. 1/125
4. 1/25

Answer 1) 1 / 225

Question 18: The sum of two numbers is 2604 and their HCF is 124. Which is smaller between them if their difference is the least possible?

1. 11146
2. 496
3. 1240
4. 620

Answer 3) 1240

Question 19: What will be the percentage increase in the area of a square, if its side is increased by 20%?

1. 20%
2. 44%
3. 36%
4. 40%

Answer 2) 44%

Question 20: Four teams P, Q, R, S played round robin league (each playing against each other) matches , and the points table is as under:

If A is the overall average points scored by four teams per match and B is the points scored by Q if the number of matches it had won, lost and drawn be the same, then what is the difference (correct to two decimal places) between A and B?

Team	Number of Matches played	Number won	Number lost	Number Drawn	Points Scored
P	3	2	0	1	7
Q	3	2	1	0	6
R	3	0	1	0	2
S	3	0	2	1	1

1. 1.33
2. 2.67
3. 1.67
4. 0.33

Answer 2) 2.67

Question 21: If the curved surface area of a cylinder is 1012 cm square and height of the cylinder is 23 cm, what is the volume of the cylinder?

1. 3542 cm square
2. 3602 cm square
3. 3502 cm square
4. 3712 cm square

Answer 1) 3542 cm square

Question 22: A bus travels the first one-fourth distance at a speed 15kmph, the second one-fourth distance at a speed of 20 kmph , the third

one-fourth distance at a speed of 30kmph and the last one-fourth distance at the speed of 40kmph. The average speed of the bus for the whole journey is :

1. 26.250 kmph
2. 34.056 kmph
3. 29.027 kmph
4. 22.857 kmph

Answer 1) 26.250 kmph

Question 23: If mean of 29 observations is 33 and on adding one more observation the new mean becomes 34. What is the value of 30th observation?

1. 63
2. 68
3. 55
4. 34

Answer 1) 63

Question 23: What is the area (in cm square) 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 $\sqrt{3}$ cm?

1. 24.5
2. 17.5
3. 21
4. 28

Answer 3) 21

Question 24: If there is a 45% increase in amount in 3 years at simple interest, what will be the compound interest on 12000 at the same rate after 2 years?

- 1. 15600
- 2. 1800
- 3. 3600
- 4. 3870

Answer 4) 3870

Question 25: What is the mean proportional between the fourth proportionals of (0.03, 5, 0.006) and (0.81, 29.4, 5.4)?

- 1. 1.4
- 2. 14
- 3. 2.8
- 4. 0.28

Answer 1) 1.4

Question 26: A shopkeeper who incurred a loss in a certain deal, finds that the difference between the selling and cost price is $16\frac{2}{3}\%$ of their sum. By what percentage should the selling price have been increased, so that it would have been a break-even deal?

1. 24
2. 36
3. 40
4. 25

Answer 2) 36

Verbal Ability

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

Trans- Saharan railway was a project to build a rail line South through Algeria to sub-saharan Africa.(1) _____ but Algeria's were comparatively near France and possesses moreover as own means of defence, so that if the other parts of French Africa could be firmly knit together by a railroad there would be little to fear from an outside foe (2)_____ such a road would bring the different parts of the country into touch with one another and would greatly facilitate their economic conquest.

- A. Besides the strategic reasons in favour of a Trans- Saharan railroad there were political and economic ones as well.
- B. The southern portions of the French African empire were particularly isolated, the vast interior reasons presenting an almost insurmountable barrier between them and Algiers , so that in case of a

war with a strong Naval power like England, they would be in great danger.

C. As far back as 1880 some preliminary surveys to the south of Algiers were made by exploring parties.

Options:

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

Answer 4) (1)-B, 2-(A)

Question 2: One part of the sentence below may contain a grammatical error. Identify the part if there is No Error choose “No Error”

India's chess Olympiad gold winning team captain Vidit Gujarati says the experience of playing against, and defeating iconic Viswanathan Anand, was the most special moment of his life.

1. says that the experience of playing against and defeating.
2. India's chess Olympiad gold winning team captain.
3. No error
4. was the most special moment of his life

Answer 3) No error

Question 3: 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: US President Donald Trump on Wednesday refused to commit himself to allow a peaceful transfer of power if he lost his November 3 re-election bid, raising the largely unfounded prospect of widespread fraud in mail-in ballots.

S2 :

S3:

S4 : And as a candidate in 2016, he had refused to say he would accept the outcome of the election if he lost.

Options:

P: This is not the first time he was non-committal on the issue, talking the same stance most recently in an interview to Fox News

Q: If it was a fair and free election, Trump claimed, there will be “continuation” of power and not transfer.

R: President trump married to Melania Trump, a former model some years ago.

1. QR
2. PQ
3. QP
4. RQ

Answer 3) QP

Question 4: Read the passage given below and answer questions.

The field of behavioral economics blends ideas from psychology and economics, and it can provide valuable insight that individuals are not behaving in their own best interests.

Behavioral economics provides a framework to understand when and how people make errors. Systematic errors or biases recur predictably in particular circumstances. Lessons from behavioral economics can be used to create environments that nudge people toward wiser decisions and healthier lives.

Behavioral economics emerged against the backdrop of the traditional economic approach known as rational choice model. The rational person is assumed to correctly weigh costs and benefits and calculate the best choices for himself. The rational person is expected to know its preferences (both present and future) and never flip flow between two contradictory desire's. He has perfect self-control and can restrain impulses that may prevent him from achieving his long-term goals.

Traditional economics uses these assumptions to predict real human

behaviour. The standard policy advice that stems from this way of thinking is to give people as many choices as possible, and let them choose the one they like best (with minimum government intervention). Because they knew the preferences better than government officials do. Individuals are in the best position to know what is best for them.

In contrast, behavioral economics shows that actual human beings do not act the way. People have limited cognitive abilities and a great deal of trouble exercising self-control. People often make choices that bear a mixed relationship and do their own preference (happiness). They tend to choose the option that has the greatest immediate appeal at the cost of long-term happiness such as taking drugs or overeating.

Question 4: In the fifth paragraph the writer states, that individual often _____

1. Get carried away by the influence of powerful pressures
2. Are swayed by peer pressure to change their opinions
3. Sacrifice long-term benefits in favour of short-term pleasures
4. Overtake short term benefits for long-term advantages

Answer 3) Sacrifice long-term benefits in favour of short-term pleasures

Que 5. Which statement best summarises what the writer is saying in the passage (passage given in question 4)

Options:

1. People are often confused and irrational in their behaviour when faced with challenges
2. People are guided according to their individual personalities in the choices and decisions
3. People need someone to control them and regulate their public behaviour
4. People make many wrong choices when they are in difficult situation

Answer 1) People are often confused and irrational in their behaviour when faced with challenges

Question 6: What does the writer call the traditional economics model ?

1. Systematic error
2. Mixed preference
3. Rational choice
4. Standard policy

Answer 3) Rational choice

Question 7: Which of the following action words does the writer use to describe the implicit purpose of behavioral economics in human behaviour?

1. To blend
2. To restrain
3. To appear
4. To nudge

Answer 3) To nudge

Question 8: You are going to read a text about glaciers. 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.

Since the early 1900s many glaciers around the world have been rapidly melting. _____ (1) _____ Specially, since the industrial revolution, carbon dioxide and other greenhouse gas emissions have raised temperatures, even higher in the poles _____ (2) _____. Scientists project that if mis emissions continue to rise unchecked, the Arctic could be ice free in the summer as soon as the year 2040 as ocean and air temperatures continue to rise rapidly.

- A. more than a third of remaining glaciers of the world would have melted by 2030
 - B. As a result, glaciers are rapidly melting, calving off into the sea and thread retreating on land
 - C. Human activities are at the root of its phenomenon
-
1. (1)- C, (2)- B
 2. (1)- C, (2)- A
 3. (1)- B, (2)- C
 4. (1)- A, (2)- E

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

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

S1: Since the COVID-19 pandemic has disrupted the normal lifestyle of people across the globe, the virtual world has come to the rescue.

S2:

S3:

S4: Accordingly, various stakeholders such as government and private organizations are trying their best to assist each other by sprucing up their existing online platforms, apps and providing training to teachers to use these apps and platforms to optimum level.

P: Consequently, catering to the needs of all stages of education from pre-primary to university level, online education has emerged as an alternative to ordinary face to face classes.

Q: Amongst many institutions, schools have also shifted their base to virtual platforms to conduct classes online.

R: Apart from upskilling teachers on apps, organising counseling sessions for other stakeholders such as parents and students are some of the important measures taken by these organizations.

Options:

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

Answer 4) QP

Question 10: Read the passage given below and answer questions

Man-made fibres are to be distinguished from natural fibres such as silk, cotton, and wool. Natural fibres also consist of polymers (in the case of biologically produced compounds such as cellulose and protein) but they emerge from the textile manufacturing process in a relatively unaltered state. Some man-made fibres too, are derived from naturally occurring polymers. For instance, Rayon and acetate, two of the first man-made fibres ever to be produced, are made of the same cellulose polymers that make up cotton, hemp, flax and the structural fibres of wood. In the case of rayon and acetate, however, the cellulose is required in a radically altered state (usually from wood pulp operations) and is further modified in order to be regenerated into practical cellulose-based fibres. Rayon and Acetate therefore belong to a group of man-made fibres known as regenerated fibres.

Another group of man-made fibres (and by far the larger group) is the synthetic fibres. Synthetic fibres are made of polymers, like polyester, they do not occur naturally but instead that are produced entirely in the

chemical plant or laboratory almost always from byproduct of petroleum and natural gas. These polymers include nylon and polyethylene Terephthalate-mentioned above, but they also include many other compounds such as acrylics, the Polyurethanes things and polypropylene. Synthetic fibres can be mass-produced to almost any set of required properties. Millions of tons of Synthetic fibres are produced every year.

About which of the following does the writer say that they were the first man-made fibres?

1. Cotton and hemp
2. Acetate and Rayon
3. Flax and Rayon
4. Wool and Silk

Answer 2) Acetate and Rayon

Question 11: What by products are created out of the decimal processing of petroleum or natural gas?

(Refer passage given in Question 10)

1. Rayons
2. Acetate
3. Cellulose
4. Polyester

Answer 4) Polyester

Question 12: The passage is mainly about_____

1. Different types of man-made fibres
2. The difference between man-made and natural fibres
3. The processing of man-made fibres
4. The mass-production of man-made fibres

Answer 4) The mass-production of man-made fibres

Question 13 : Which statement is correct according to the given passage-

1. Synthetic fibres are the smallest group of man-made fibres
2. Natural fibres do not contain any polymers
3. Synthetic fibres are mass produced in millions of tons
4. Wool cannot be considered as natural fibres

Answer 3) Synthetic fibres are mass produced in millions of tons

Question 14: One part of the sentence below may contain a grammatical error. Identify the part if there is an error, or choose 'No error'

The new suspension bridge over the large lake were inaugurated yesterday with great fanfare and illuminations.

1. The new suspension bridge over the large lake
2. were inaugurated yesterday
3. No error
4. with great fanfare and illuminations.

Answer 2) were inaugurated yesterday

Explanation: The correct sentence will be - (was inaugurated yesterday)

Question 15: The following sentence pair can be combined into one better sentence. Choose the option that gives the best combination without changing the meaning.

You did not measure the ingredients correctly. Your cake did not come out well.

1. If you had measured the ingredients correctly your cake would have not come out well.
2. Because you had not measured the ingredients correctly your cake would have come out well.
3. As you have measured the ingredients correctly your cake did not come out well.
4. If you had measured the ingredients correctly your cake would have come out well.

Answer 4) If you had measured the ingredients correctly your cake would have come out well.

Question 16: Select the most appropriate option to fill in the blank.

I've achieved a life goal, a dream for myself _____ I had for many years, the winner said.

1. who
2. whom
3. whose
4. which

Answer 4) which

Question 17: One part of the sentence below may contain a grammatical error. Identify the part if there is an error, or choose 'No error'

While I was working, I have received a call from my sister.

1. I have received
2. a call from my sister
3. While I was working
4. No error

Answer 1) I have received

Question 18: Read the following passage and fill in the blanks by selecting the most appropriate option.

The word "SARI" means 'strip of cloth' in Sanskrit. But for the Indian women ---- and a few men --- who have been (1) _____ themselves in silk, cotton, or linen for millennia, these swaths of fabric are more than just simple garments. They are symbols of national pride, ambassadors for (2) _____ design and craftsmanship, and a prime example of the rich differences in India's 29 states.

Blank 1) A- typing B- binding C- draping D- fastening

Blank 2) A- outdated B- fixed C- habitual D- traditional

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

Answer 4) 1(C), 2 (D)

Question 19: Fill in the blank with the most appropriate set of words from the options given below.

What did the painter do _____ himself from falling?

When he felt the ladder _____ he grabbed the gutter to save himself from falling.

1. To save/ begin to slip
2. To save/ began slipping
3. For saving/ began to slip
4. To save/ beginning to slip

Answer 3) For saving/ began to slip

Question 20: Select the most appropriate option to fill in the blank.

Look carefully, can't you _____ the resemblance between the mother and the daughter.

1. Make off
2. Make up
3. Make away
4. Make out

Answer 4) Make out

Question 21: Read the passage carefully. Then select the words/ options listed A to D with best fill in the blank.

The Moon should give you a feeling of confidence but will affect your temper, and there will be a few mood swings and these in turn will bring (1)_____ self-doubt. However, in the final analysis you should feel hopeful about the future. Optimism breeds success- and attracts (2)_____ employees. Watch out for dictatorial and take evasive action. If you can stay out of their way, then you will end the day much happier.

Blank 1) A- Certainly B- Occasional C- Cowardice D- Many

Blank 2) A- Anger B- Potential C- by law D- Dangerous

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

Answer 4) 1 (D), 2 (B)

Question 22: Which of the following sentences uses formal language?

1. Do not stress yourself, we'll figure it out somehow.
2. This was really cool, keep them coming!
3. You are required to submit the documents for due diligence prior to release of the loan.
4. This just doesn't work for me, you'll have to make another submission of the design.

Answer 3) You are required to submit the documents for due diligence prior to release of the loan.

Question 23: You are going to read a paragraph. Some sentences are missing from the text. Choose the from the list to (A - C) the most appropriate sentence for each gap (1 to 2)for the text. There is one extra sentence that you do not need to use.

Many women in Western society, aware of the power of names to influence identity, are aware that choosing how to identify themselves after marriage can be a significant decision (1)_____ One fascinating survey reveals that a women's choice is likely to reveal a great deal about herself and her relationship with her husband (2)_____ On the other hand, women who keep their birth names put their personal concerns ahead of relationships and social expectations.

A-Women who take their husband's name place the most importance on relationships

B- Female forms of address influence others perceptions as well.

C- They may follow the tradition of taking their husband's last name, hyphenate their own name and their husband's, or keep their birth name.

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

Answer 1) 1(C), 2(A)

Question 24: 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.

1. booking/ to keep
2. To book/ keeping
3. To have booked/ keeping
4. booked/ to keep

Answer 1) booking/ to keep

Reasoning Ability

Question 1: Nehal, Iqbal, Ronit, Malini and Harbhajan participate in any one of the five activities i.e. Quiz, Singing, Dance, Debate and Mimicry. Ronit participates in Singing. Harbhajan does not participate in Debate and Mimicry. Malini does not participate in Mimicry. Iqbal participates in Quiz. Who participates in Debate?

1. Cannot be determined
2. Nehal
3. Malini
4. Nehal or Malini

Answer 3) Malini

Question 2: In a certain code P + Q means P is the father of Q, P - Q means P is the wife of Q, P x Q means P is the daughter of Q and P / Q means P is the brother of Q.

If F x G - H + J - K, which of the following statements may not be true.

1. K is the son of G
2. J is the brother of F
3. F is the sister of K
4. "None of these"

Answer 4) "None of these"

Question 3: Six friends P, Q, R, S, T and U are standing in a queue at a ticket counter. Q is between U and P. S is just before T. R is just before U. U is ahead of S with two persons in between them. Who is standing at the last place in the queue?

1. P
2. U
3. S
4. T

Answer 4) T

Question 4: All the teaching faculties are notified that the University will provide transport facilities at a minimum cost from the nearby residential areas to the University except those who have been provided with travelling allowance.

Assumptions:

1. Most of the teaching faculties will travel by University's bus.
 2. Those teachers who are provided with travelling allowance ignore such notice
-
1. Both I and II are implicit
 2. Only I is implicit
 3. Only II is implicit
 4. Neither I nor II is implicit

Answer 3) Only II is implicit

Question 5: 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, the transformation has been done the same way?

- A. FRESH - SRHFE
- B. CLIMB - BMILC
- C. DOUGH - UODHG
- D. MIXER - XRMIE
- E. CRANK - ACRKN

- 1. C and D
- 2. B and E
- 3. A and D
- 4. Missing

Answer 1) C and D

Question 6: 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 ?

What amount would Mr Anuj need to pay to the taxi company for traveling a distance of 121 km?

- I. The taxi company charges Rs. 11 per km along with a fixed charge applicable on all journeys

II. The taxi company charged Rs. 835 which included the fixed charge for a journey of 35 km.

1. Both the statements I and II together are necessary
2. Both the statements I and II together are not sufficient
3. Statement II alone is sufficient
4. Statement I alone is sufficient

Answer 1) Both the statements I and II together are necessary

Question 7: 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.

Eight friends A, B, C, D, E, F, G and H are sitting around a circular table clockwise in the same sequence around a circular table facing the centre at equal distance between them. Who's sitting in the South East direction?

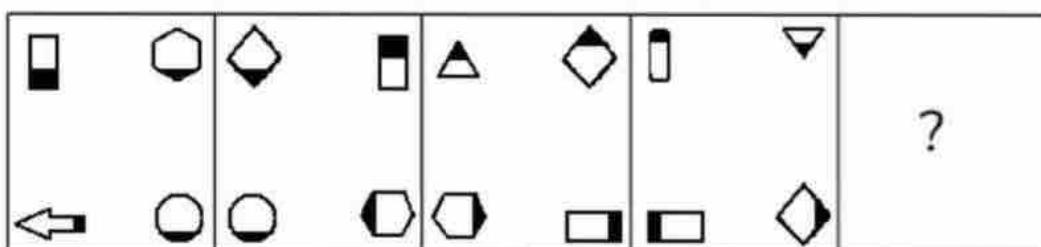
Statements:

- I. C is sitting diagonally opposite to G
- II. B is sitting in West direction

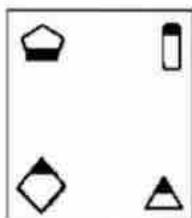
1. Statement I alone is sufficient
2. Statement II alone is sufficient
3. Both the statements I and II together are necessary
4. Both the statements I and II together are not sufficient

Answer 2) Statement II alone is sufficient

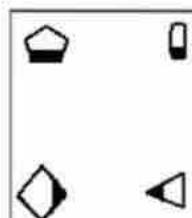
Question 8: Select the figure that will replace the question mark from the following series :



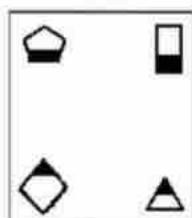
1.



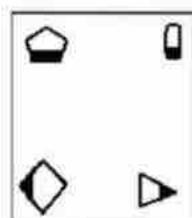
2.



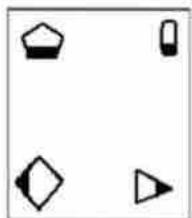
3.



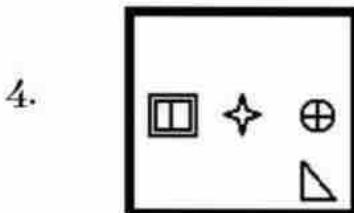
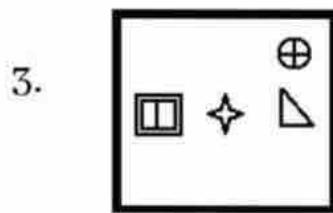
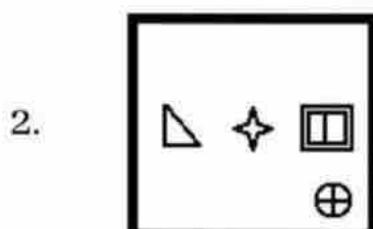
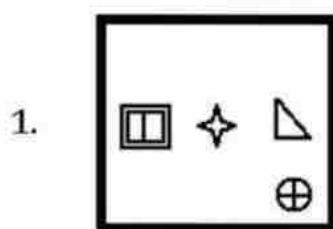
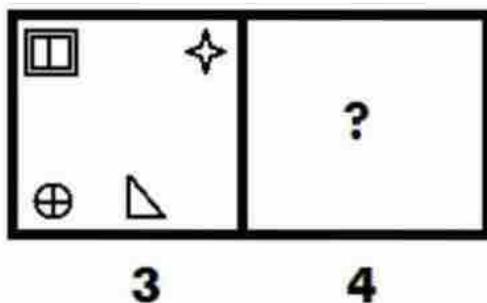
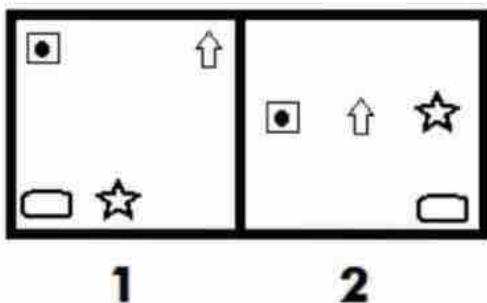
4.



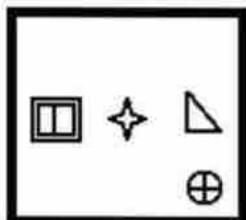
Answer 4)



Question 9: Select the option that is related to the third figure in the same way as the second figure is related to the first figure.



Answer 1)



Question 10: Read the following information carefully and answer the given questions.

A public charitable trust desires to select a Homeopathy doctor for its hospital in a rural area based on the following criteria

The candidate must be:

- (i) holding BHMS degree with minimum 60% marks
- (ii) having 5 years of experience of practice in a rural area
- (iii) having a good knowledge of the local language.

In case of applicant who satisfies all other criteria except-

- at (i) above, but has my minimum 50% marks at BHMS and has completed MD with 55% his/her cases to be referred to the chief Medical Officer
- at (ii) above, but has 3 years full time experience of practice in an urban or rural hospital but spent at least 5 years in a rural area,his/her case is to be referred to the Secretary.
- at (iii) above, but has working knowledge of Hindi, his/ her case to be referred to Hospital Management

Based on these criteria and information provided decide the course of action.

Jasvinder has completed BHMS with a minimum of 52% marks and also has completed MD with a minimum of 55% marks. He has practiced for six years in a remote village. He has a good knowledge of Hindi as well as the local language. What decision would be taken for him?

1. Refer to the hospital management
2. he would be selected
3. refer to the secretary
4. refer to chief medical officer

Answer 4) refer to chief medical officer

Question 11: Three statements are given followed by 4 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.

Statement :

All organizers are participants
Some organizers are managers.
All managers are females.

Conclusion:

- I. Some participants are managers.
- II. Some females are participants.
- III. No female is an organizer
- IV. All participants are female

Options

- 1. Only conclusion II, III and IV follows
- 2. Only conclusion I and IV
- 3. Only conclusion I and II and III follows
- 4. Only conclusion I and II follow

Answer 4) Only conclusion I and II follow

Question 12: 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.

Is the expression “ B>E” correct?

$$\text{I. } B = C > D > F = M$$

$$\text{II. } H = M > T > E = P$$

1. Both statements I and II together are necessary.
2. Statement II alone is sufficient
3. Both the statements I and II together are not sufficient.
4. Statement I alone is sufficient

Answer 1) Both statements I and II together are necessary.

Question 13: The number of students studying in six different disciplines of a college are given below. 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

Which of the following pairs of the name of the discipline and its ratio of boys to girls is not correct?

1. Social Science, 5:2
2. Law, 3:2
3. Commerce, 7:3
4. Science, 2:1
5. Both 1 and 2
6. Both 1 and 3

Answer 6) Both 1 and 3

Question 14: 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 the follow-up/ improvement in regard to the problem) logically follow(s) for pursuing.

Statement:

The management of the organisation has decided to give free lunch from next month to all employees.

Courses of Action:

- I. The organization would appoint Chefs who would prepare healthy and tasty food for the staff
- II. The pantry facilities have to be checked and new purchases have to be made
- III. Funds will have to be allocated to facilitate the new pantry facilities.

1. All of I, II and III follow
2. Only III follows
3. Only I and II follows
4. Only I follows

Answer 1) All of I, II and III follow

Question 15: The following are the criteria of recruitment for the post of Manager at an organization.

The candidate must:

1. have completed graduation from any stream with more than 70%
2. be less than 30 years of age as on June 1, 2020
3. have completed a PG diploma in creative writing with at least 75% marks

However, if the candidate fulfills all the above criteria except

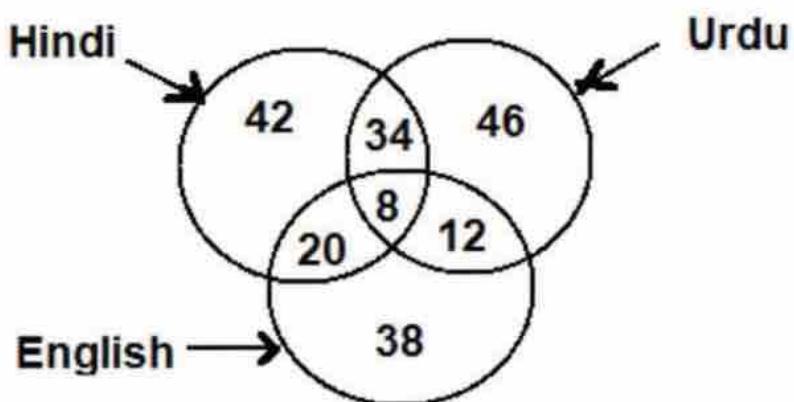
1. at (2), but has done post graduation in journalism, his/ her case to be referred to the vice president.
2. at (3) , but have secured more than 85% marks in graduation in his/her case to be referred to the Senior Creative Manager

Natasha completed her graduation from commerce stream with 70% marks. She completed her post graduation in journalism in 2018 at the age of 29 years. She has completed a PG diploma in creative writing with 75% marks.

1. Her case is to be referred to the vice president
2. She would be selected
3. Her case is to be referred to the Senior Creative Manager
4. She would not be selected

Answer 4) She would not be selected

Question 16: Consider the Venn diagram given below:

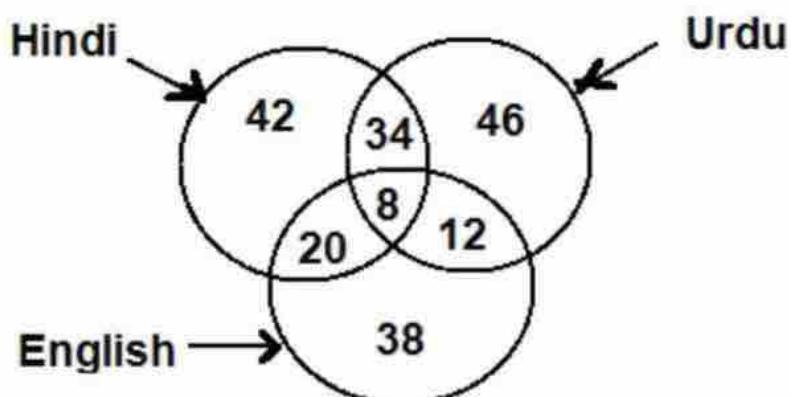


The number in the Venn diagram indicates the number of persons who can speak various languages in a city. The diagram is drawn after surveying 200 persons in a population of 15,000. How many people can be expected to speak just one language?

1. 8400
2. 8750
3. 9600
4. 9450

Answer 4) 9450

Question 17: Consider the venn diagram given below:



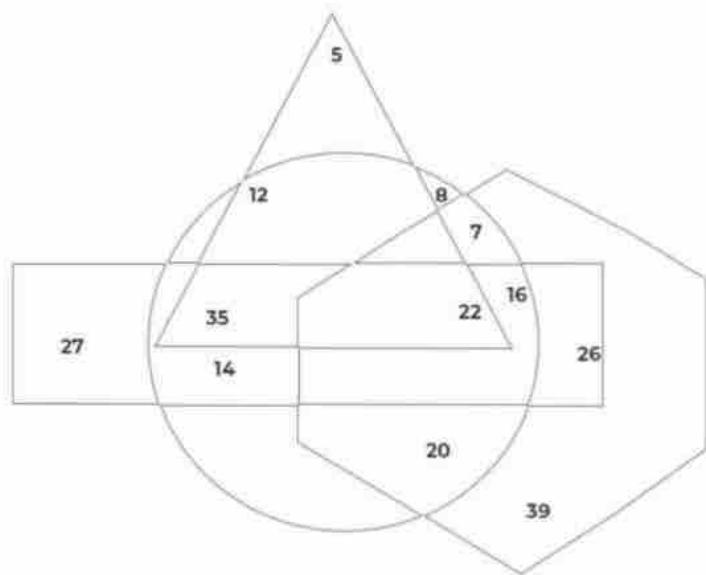
The number in the Venn diagram indicates the number of persons who can speak various languages in a city. The diagram is drawn after surveying 200 persons in a population of 15,000. How many people can be expected to speak at least two languages?

Options

1. 4950
2. 2900
3. 5550
4. 2400

Answer 3) 5550

Question 18 : In the following diagram, the triangle stands for 'males' the circle stands for the 'doctors' rectangle stands for 'government employed' the hexagon stands for 'corona warriors'. The numbers in different segments show the number of persons of that segment.



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

1. 73
2. 22
3. 35
4. 38

Answer 1) 73

Question 19: Two statements are given followed by Three conclusions numbered I, II, and III. 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:

No cylinder is a drum.

All balls are cylinders.

Conclusions:

- I- No drum is a cylinder.
- II- Some cylinders are balls.
- III- No ball is drum.

- 1. Only conclusion I and III follow.
- 2. Only conclusion I and II follow.
- 3. All of the conclusions follow.
- 4. Only conclusion II and III follow.

Answer 3) All of the conclusions follow.

Question 20: In a certain code,

A%B means A is the husband of B,

A&B means A is the son of B,

A#B means A is the wife of B,

A@B means A is the daughter of B,

A\$B means A is the sister of B

If Q \$ M \$ P @ C # H & R % Z then which of the following statements is NOT correct?

- 1. H is father of Q
- 2. Z is mother of H
- 3. Z is mother-in-law of C
- 4. R is maternal grandfather of Q

Answer 4) R is maternal grandfather of Q

Question 21: Which is the wrong term in the following series?

RSPH, UWUN, XAZT, AEEZ, DIKG

1. AEEZ
2. DIKG
3. RSPH
4. UWUN

Answer 2) DIKG

Question 22: The following are the criteria of recruitment for the post of Technical Assistants at an organization.

The candidate must:

- A- have completed B.Tech in Electrical Engineering with more than 80% marks.
- B- be willing to execute a bond of not leaving the job at least for two years.
- C- have secured more than 85% marks in the written test and more than 70% marks in the Personal interview.
- D- be willing to relocate to the head office located at New Delhi.

However, if the candidate fulfils all the above criteria except

E- at (B), but has at least two years work experience as Technical Assistant, his/her case is to be referred to the General Manager.

F- at (C), but has also completed M.tech in Electrical Engineering, his/her case is to be referred to the Head (Operations).

Preksha has completed B.tech and M.tech in Electrical Engineering with 82% marks in both the examinations. She has secured 72% marks in Personal Interview and 88% marks in written test. She is willing to relocate to the head office at New Delhi. She is willing to execute a bond of not leaving the job for one year. She has got three years working experience as Technical Assistant.

1. The candidate would be recruited.
2. Her case is to be referred to the Head (Operations)
3. Her case is to be referred to the General Manager.
4. The candidate would not be recruited.

Answer 4) The candidate would not recruited.

Question 23: Six friends P, Q, R, S, T, and U are in a group.

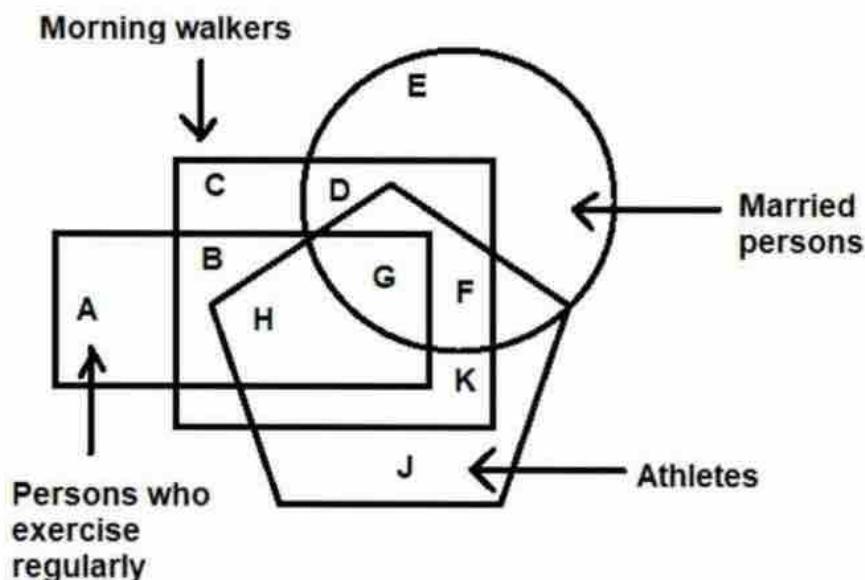
1. Q and R are shorter than U but heavier than P.
2. S is heavier than Q and taller than R.
3. T is shorter than S but taller than U.
4. U is heavier than S.
5. P is shorter than T but taller than U.

Who is fourth from the top when they are arranged in the descending order of their heights in the group?

1. U
2. S
3. P
4. T

Answer 1) U

Question 24 : In the following, the pentagon stands for 'athletes', the circle stands for 'married persons', the rectangle stands for 'person who exercises regularly', the square stands for 'morning walkers'. The different segments are represented through different letters inside the segment.



Which letter represents married athletes who are morning walkers also but do not exercise regularly?

1. K
2. D
3. H
4. F

Answer 4) F

Question 25: Which is the wrong term in the following series ?

JKL, LIN, MHO, OFQ, PER, RDS, SBU

1. sbu
2. ofq
3. per
4. rds

Answer 4) rds

Question 26: A statement is followed by three assumptions numbered I, II and III consider and decide which of the given assumptions is/are implicit in the statement

Statement:

A visit of school children to Zoo to explore their knowledge about Zoo animals.

Assumptions:

- I. There is no full of freedom for animals in the Zoo.

II. Children are likely to learn from their interaction with new environment.

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

Answer 4) Only II is implicit.

Question 27: Eight persons P,Q,R,S,T,U,V and W are sitting around the circular table facing the center. U is sitting between S and W. P is facing W and T is second to the left of W. S is the third to the right of Q. Who is second to the right of V.

Who is sitting between R and V ?

1. Q
2. S
3. T
4. P

Answer 2) S

Question 28: There are five persons in a group Raju, Sanjay, Deepak, Suresh and Mukesh. Deepak is elder to Raju, but not as tall as Suresh. Suresh is younger to Sanjay and taller than Mukesh and Raju. Sanjay is taller than

Mukesh but not younger than Raju. Mukesh is elder to Sanjay but is the shortest of all the friends.

Who among the following is the eldest ?

1. Suresh
2. Deepak
3. Either Deepak or Mukesh
4. Sanjay

Answer 3) Either Deepak or Mukesh

Question 29: There are 160 Students in a college hostel which contributes to three news papers -Hindi,Tamil and English. 15 of them do not read any newspaper. The number of Students reading Hindi paper is half the number of those reading English paper and one-third of the number of those reading Tamil paper. 4 students read all the three newspapers and 8 read only two newspapers- Hindi and Tamil . 5 students read Hindi and English newspapers only. Not the Tamil paper.

The number of students who study Tamil and English newspaper is twice the number of students who study Hindi and English newspapers.

How many students read Tamil newspapers only ?

1. 54
2. 64
3. 37
4. 13

Answer 1) 54

Question 30: In a coded from A+B means A is the daughter of B; A x B means A is the brother of B; A/B means A is the husband of B and A-B means A is the sister of B. Which of the following Shows that P is the niece of T?

1. (T/ S-R+ Q x P)
2. (P+ Q x R- S+T)
3. (P x Q-R/S+T)
4. (T- S+R x Q/P)

Solution 4) (T- S+R x Q/P)

Programming Logic

Question 1: What is the function of rewind()?

1. Setting file pointer at the beginning of the file.
2. Setting file pointer at the end of file
3. Setting file pointer anywhere in file
4. Setting file pointer at the beginning of line

Answer 1) Setting file pointer at the beginning of the file.

Explanation - In the C Programming Language, the rewind function sets the file position to the beginning of the file for the stream pointed to by stream. It also clears the error and end-of-file indicators for stream.

Question 2: Select the precise options for the below scenarios-

Expression 1: cout << end;

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

1. Both expression will give different results
2. Both expression will give same results
3. Second expression will not insert new line
4. First expression will not insert new line

Answer 1) Both expression will give different results

Explanation: The first expression will print end in the same line

And the second expression will print flush in the new line

Question 3: Consider the following variables declarations:

```
float num1;  
short num2;  
long num3;
```

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

1. float
2. None of the above
3. short
4. double

Answer 1) float

Explanation :

The result of num3/num2 will be in long(integer) and when that result will be subtracted from num1 which is a float data, the resulting answer will be in decimal and hence the correct answer will be option 1

Question 4:

float(*p)[5];

Here , p is_____.

1. Pointer
2. Array of pointer
3. Float
4. Pointer to array of float

Answer 4) Pointer to array of float

Question 5: What will be the output of the following program?

```
import java.util.*;
public class Main
{
    public static void main(String[] args)
    {
        ArrayList <Integer> TempArrayList = new ArrayList <Integer> ();
        TempArrayList.add(30);
        TempArrayList.add(20);
        TempArrayList.add(10);
        TempArrayList.add(40);
```

```
TempArrayList.add(50);
Collections.sort(TempArrayList, Collections.reverseOrder());
Collections.sort(TempArrayList, Collections.reverseOrder());
System.out.println(TempArrayList);
}
}
```

Enter your answer into the BOX.

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

Question 6: The type of software testing you can do when you have both the source code and the executable code in hand is called as

1. Black box testing
2. Red box testing
3. White box testing
4. Grey box testing

Answer 4) Grey box testing

Question 7: What will be the output of the below program?

```
public class Main
{
    public static void main(String[] args)
    {
```

```
int x=10,y,z;  
z=y=x;  
y-= x--;  
z=-x;  
x=--x - x--;  
System.out.println(x+"-"+y+"-"+z);  
}  
}
```

Type your answer into the BOX only.

Answer: 8-0-2

Question 8: What will be the output of the following program

```
abstract class Shape  
{  
    public abstract void Disp();  
}  
  
class Triangle extends Shape  
{  
    public final void Disp()  
    {  
        System.out.println("Triangle");  
    }  
}
```

```
class Rectangle extends Triangle
{
    public void Disp()
    {
        System.out.println("It's Rectangle");
    }
}

public class Main
{
    public static void main(String[] args)
    {
        Rectangle obj = new Rectangle();
        obj.Disp();
    }
}
```

1. Runtime Error
2. Triangle
3. Compile time Error
4. It's Rectangle

Answer 1) Runtime Error

Question 9: Construct Post Order Traversal 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

-
- 1. 9 10 7 8 6
 - 2. 8 9 10 7 6
 - 3. 9 8 10 7 6
 - 4. 9 7 6 10 8

Answer 1) 9 10 7 8 9

Question 10: What will be the output of the below code ?

```
#include<iostream>
using namespace std;
int main()
{
    int a[]={92,-94,96,-98};
    cout <<-1[a];
    return 0;
}
```

Enter your answer ONLY as NUMERAL in the box

Answer: 94

Coding

Question 1) FULLY AUTOMATIC VENDING MACHINE

dispenses your cuppa on just press of button. A vending machine can serve range of products as follows:

Coffee

1. Espresso Coffee
2. Cappuccino Coffee
3. Latte Coffee

Tea

1. Plain Tea
2. Assam Tea
3. Ginger Tea
4. Cardamom Tea
5. Masala Tea
6. Lemon Tea
7. Green Tea
8. Organic Darjeeling Tea

Soups

1. Hot and Sour Soup
2. Veg Corn Soup
3. Tomato Soup
4. Spicy Tomato Soup

Beverages

1. Hot Chocolate Drink
2. Badam Drink
3. Badam-Pista Drink

Write a program to take input for main menu & sub menu and display the name of sub menu selected in the following format (enter the first letter to

select main menu):
Welcome to CCD
Enjoy your <name of sub menu>

Example 1:

Input
c
1

Output
Welcome to CCD!
Enjoy your Espresso Coffee!

Example 2:

Input
t
9

Output
INVALID OUTPUT!

Solution in C

```
#include <stdio.h>
int main()
{
    char c[3][20]={"Espresso Coffee","Cappuccino Coffee","Latte Coffee"};
```

```
char t[8][30]={"Plain Tea","Assam Tea","Ginger Tea","Cardamom  
Tea","Masala Tea","Lemon Tea","Green Tea","Organic Darjeeling Tea"};  
char s[4][20]={"Hot and Sour Soup","Veg Corn Soup","Tomato  
Soup","Spicy Tomato Soup"};  
char b[3][20]={"Hot Chocolate Drink","Badam Drink","Badam-Pista  
Drink"};
```

```
char str[]="Welcome to CCD!\nEnjoy your ";  
char ch;  
int item, i;  
scanf("%c",&ch);  
scanf("%d",&item);  
if(ch=='c')  
{  
    for(i=0; i<3; i++)  
    {  
        if(item==i+1)  
        {  
            printf("Welcome to CCD!\nEnjoy your %s!",c[i]);  
            break;  
        }  
    }  
    if(i==3)  
    {  
        printf("INVALID OPTION!");  
    }  
}
```

```
else if(ch=='t')
{
for(i=0; i<8; i++)
{
if(item==i+1)
{
printf("Welcome to CCD!\nEnjoy your %s!",t[i]);
break;
}
}
if(i==8)
{
printf("INVALID OPTION!");
}
}
else if(ch=='s')
{
for(i=0; i<4; i++)
{
if(item==i+1)
{
printf("Welcome to CCD!\nEnjoy your %s!",s[i]);
break;
}
}
if(i==4)
{
```

```
printf("INVALID OPTION!");
}
}
else if(ch=='b')
{
    for(i=0; i<3; i++)
    {
        if(item==i+1)
        {
            printf("Welcome to CCD!\nEnjoy your %s!",b[i]);
            break;
        }
    }
    if(i==3)
    {
        printf("INVALID OPTION!");
    }
}
else
{
    printf("INVALID INPUT!");
}
return 0;
}
```

Question 2: 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, fees is 200 INR. If the patient's age is between 17 and 40, fees is 400 INR. If patient's age is above 40, fees is 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
- Doctor consults a maximum of 20 patients a day
- Enter age value (press Enter without a value to stop):

Example 1:

Input

20

30

40

50

2

3

14

Output

Total Income 2000 INR

Note: Input and Output Format should be same as given in the above example.

For any wrong input display INVALID INPUT

Output Format

Total Income <Integer> INR

Solution in Python

```
age = []
for i in range(20):
    m = input()
    if m == "":
        break
    elif int(m) in range(0,120):
        age.append(int(m))
    else:
        print("INVALID INPUT")
        exit()
fees = 0
for i in age:
    if i < 17:
        fees+=200
    elif i <40:
        fees+=400
    else:
        fees+=300
print("Total Income {} INR".format(fees))
```

Set 4

Numerical Ability

Question 1: In a competitive exam, 5 marks are awarded for every correct answer and for every wrong answer, 2 marks are deducted. Sathwik scores 32 marks in the examination. If 4 marks had 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 ?

- 1. 14
- 2. 12
- 3. 20
- 4. 26

Answer 4) 26

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

- 1. 70 Kmph
- 2. 60 Kmph
- 3. 80 Kmph
- 4. 50 Kmph

Answer 2) 60 Kmph

Question 3: 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	105	4	80	2.1
2016	198.7	72.70	4.25	75.5	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?

1. 52.06%
2. 52.7%
3. 50.7%
4. 56.2%

Answer 1) 52.06%

Question 4: 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 in the above data?

1. 11.517
2. 11.747
3. 11.143
4. 11.983

Answer 4) 11.983

Question 5: If $\frac{1}{6} : \frac{1}{x} :: \frac{1}{x} : \frac{1}{2.16}$, the value of x is:

1. 6
2. 3.6
3. 1.6
4. 2.6

Answer 2) 3.6

Question 6: 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%?

1. Rs. 4.5
2. Rs. 2.5
3. Rs. 3.5
4. Rs. 1.5

Answer 4) Rs. 1.5

Question 7: The difference between the simple interest and 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?

1. 6205
2. 6002
3. 6022.5
4. 6202.5

Answer 1) 6205

Question 8: 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

1. 98
2. 27
3. 90
4. 91

Answer 4) 91

Question 9: If mean of 29 observations is 33 and on adding one more observation the new mean becomes 34. What is the value of 30th observation?

1. 68
2. 63
3. 34
4. 55

Answer 2) 63

Question 10: A sales representative's commission is 6% on all sales upto 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?

-
- 1. Rs. 50000
 - 2. Rs. 49000
 - 3. Rs. 50500
 - 4. Rs. 47500

Answer 1) Rs. 50000

Question 11: If the perimeter of a rectangle is 82cm and its diagonal is 29cm long, what is the area of the rectangle?

- 1. 420 cm sq
- 2. 441 cm sq
- 3. 400 cm sq
- 4. 900 cm sq

Answer 1) 420 cm sq

Question 12: If a motor bike starts at a speed of 60kmph with its speed increasing by 12 kmph every three hours.In how many hours will it cover 480 km?

- 1. 6 hours 30 minutes
- 2. 7 hours
- 3. 6 hours
- 4. 8 hours

Answer 2) 7 hours

Question 13 : If $\sqrt[3]{\frac{4913}{4096}} = 1 + \frac{a}{16}$, what is the value of a?

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

Answer 3) 1

Question 14 : If a number is divisible by 7, the remainder is 4. What will be the remainder when the square of the same number is divided by 7?

- 1. 4
- 2. 6
- 3. 3
- 4. 2

Answer 4) 2

Question 15: 10% of the voters did not cast their votes in an election between two candidates. 20% of the voters 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?

- 1. 18,000
- 2. 25,000
- 3. 20,000
- 4. 24,000

Answer 3) 20,000

Question 16: If $\sqrt{2} = 1.414$ and $\sqrt{3} = 1.732$, the value of $\frac{1}{3\sqrt{2} - 2\sqrt{3}}$?

1. 1.2813
2. 1.2803
3. 1.75
4. 1.2843

Answer 4) 1.2843

Question 17: The value of $\frac{7.6 \times 3.8 \times 15.28 + 1.8 \times 5.4 \times 16.2}{(7.6)^2 + (5.4)^2 - 41.04} + \sqrt[3]{\frac{343}{512}}$ lies between

1. 16 and 17
2. 13 and 14
3. 12 and 13
4. 15 and 16

Answer 2) 13 and 14

Question 18 :A can do a piece of work in 72 days. He works 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?

1. $30\frac{5}{7}$
2. $30\frac{1}{7}$
3. $30\frac{6}{7}$
4. $30\frac{2}{7}$

Answer 3) $30\frac{6}{7}$

Question 19: 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 to work in 6 days, what should be the C's share of the money earned.

1. Rs. 270
2. Rs. 360
3. Rs. 80
4. Rs. 90

Answer 4) Rs. 90

Question 20: 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?

1. 700
2. 690
3. 575
4. 500

Answer 4) 500

Question 21: A, B and C enter into a partnership and their shares are in the ratio $(1/3) : (1/4) : (1/6)$. After 3 months , A withdraws one-fourth of his

capital and after 9 months a profit of Rs. 582 is divided among them. What is C's share in profit.?

- 1. 144
- 2. 200
- 3. 141.1
- 4. 216

Answer 3) 141.1

Question 22 : If the area of the base of a right circular cone is 9856 cm sq and it's height is 33 cm, what is the curved surface area of the cone?

- 1. 21040 cm sq
- 2. 11440 cm sq
- 3. 12420cm sq
- 4. 12000 cm sq

Answer 2) 11440 cm sq

Question 25: If $x + y = 45$ and $x - y = 11$, what is the ratio of $x:y$?

- 1. 28 : 17
- 2. 25 : 24
- 3. 17 : 28
- 4. 23 : 26

Answer 1) 28 : 17

Question 26: The perimeter of a rectangular plot is 36 m, if the length is increased by 6 m and the breadth is decreased by 3 m, and the area of the plot remains the same, what is the length of the plot?

1. 20 m
2. 12 m
3. 6 m
4. 8 m

Answer 3) 6 m

Verbal Ability

Question 1: Fill in the blanks with the most appropriate set of words from the options given below.

What did the painter do _____ himself from falling?

When he felt the ladder _____ he grabbed the gutter to save himself from falling.

1. To save/began slipping
2. To save/ beginning to slip
3. To save/begin to slip
4. For saving/began to slip

Answer 4) For saving/began to slip

Question 2: 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.

1. my grandmother would sit by her wheel,
2. Since sunrise to sunset
3. spinning and reciting prayers
4. No error

Answer 2) Since sunrise to sunset

Explanation: It should be (from sunrise to sunset)

Question 3: 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.

1. I am lost at the fair so i am too scared
2. I am scared after i am lost in the fair
3. I went to fair and got scared as I was lost.
4. I got lost at the fair and was scared

Answer 4) I got lost at the fair and was scared

Question 4: Choose the most appropriate word to complete this sentence correctly.

The psychic made many _____ about the future, but none of them came to pass.

1. Predictions
2. sooth-sayings
3. sayings
4. Mutterings

Answer 1) Predictions

Question 5: Which of the following sentences uses informal language?

1. The candidate whom she had approved appeared in an interview before the hospital board.
2. The candidate she picked turned up to meet the hospital board.
3. The candidate whom she had finalized was ultimately rejected by the hospital board.
4. The candidate whom she had rejected was ultimately chosen by the hospital board.

Answer 2) The candidate she picked turned up to meet the hospital board.

Question :Read the Passage and answer the following question:

Today, more than ever silent reading is the norm. The majority of us bottle the words in our heads, as if sitting in an imaginary library. Reading out loud is largely reserved for bedtime stories and performances.

Now research, however, suggests that we may be missing out by reading only 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 text 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 adjust not aware of it.

Cal MacLeod, a psychologist at the university of Waterloo in Canada, has made extensive research on the impact of reading aloud on memory. He and his collaborations have shown that people consistently remember words and text 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.

Question 6: Which of the following is a by-product of reading silently?

1. Having poor recall
2. Having a prodigious intellect
3. Developing verbal ability
4. Having conflicts with people.

Answer 1) Having poor recall

Question 7: Which option is closest in meaning to the word: intuitively

1. Naturally
2. Magically
3. Systematically
4. Truthfully

Answer 1) Naturally

Question 8: Which of the following statements is TRUE?

1. Reading aloud makes one establish better relationship with people
2. Reading aloud scrambles signals in our brain
3. Reading aloud makes it difficult to understand difficult texts
4. Reading aloud is not as good as reading silently.

Answer 1) Reading aloud makes one establish better relationship with people

Question 9: With reference to the passage above, which option is closest in meaning to following sentence segment-

“Bottle the words in our head as if sitting in an imaginary library”

1. To behave like head librarian and ask everyone to maintain silence
2. To magically be able to stop talking once and for all
3. To visualise that one is sitting in a public library and reading books silently
4. To manage to hold one's tongue especially when one is angry

Answer 4) To manage to hold one's tongue especially when one is angry

Question 10 : 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 temperate 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

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

Answer 1) 1-A , 2-B

Question 11: 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.

1. Out why the
2. He could not figure
3. Such a bad reputation
4. Neighbourhood had get

Answer 4) Neighbourhood had get

Question 12: For the four sentences (S1 to S4) paragraph below, sentences S1 and S4 are given. From the option P, Q, R, choose the appropriate sentences to fill up S2 and S3.

S1: There are three amazing plants that work in every single climate

S2:

S3:

S4: But perhaps the best are tomatoes, which too have many varieties and are ot temperamental vegetables.

P: There is spinach, which is very easy to grow because it handles water well and can stand different levels of heat.

Q: Then come carrots, of which there are many varieties, most of which grow in all types of climate

R: Indians usually grow their own vegetables

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

Answer 1) PQ

Question 13: For the four sentences (S1 to S4) paragraph below, sentences S1 and S4 are given. From the option P, Q, R, choose the appropriate sentences to fill up S2 and S3.

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 not zero ?

P: But how does London, a city choked with traffic and 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: The UK became net-zero carbon 20 years ago and is the biggest proponent of reversing climate change and saving the planet.

1. RQ
2. RP
3. PR
4. QP

Answer 4) QP

Question 14: Complete the following sentence by filling in the blanks (1 and 2) with the right word from the list given below

Experts suggest that it may take the development of multiple vaccines to begin the process of protecting the world's population from Covid- 19. Most of the current vaccine front-runners require two ____ (1) ____ that could possibly be administered annually. No vaccine is 100 percent effective, and once a vaccine is approved, there are still many ____ (2) ____ to overcome before a shot can be made widely available.

Blank 1: A- doses B- bouts C- spells D- circles

Blank 2: A- tracks B- jumps C- hurdles D- snags

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

Answer 4) 1(A), 2(C)

Question 15; Complete the following sentence by filling in the blanks (1 and 2) with the right word from the list given below

Dias, who knew farming intimately, came up with the ambitious goal of planting one million jackfruit trees across Sri Lanka.

_____ (1) _____ He visited villages to distribute the jackfruit seedlings and mailed seeds to far-flung corners in the country

_____ (2) _____ Today Dias is considered a national hero and like most Sri Lankan children, I first learned about Dias in a Sri Lankan textbook. His jackfruit campaign also helped establish food security in Sri Lanka during World War II, while nearby places such as Bengal and Vietnam experienced horrific famines in the 1940s.

Options:

P: The English rulers planned to kill Dias by poisoning him.

Q: A planter by trade, Dias imported jackfruit seeds from Malaysia and gathered healthy seeds for generations.

R: My parents had a nickname for me but I was too embarrassed to use it.

S: Over time, Dias' campaign paved the way to many successful jackfruit plantations across the country and earned him the heroic nickname of Kos Mama, or Uncle Jack.

1. QP
2. RP
3. SR
4. QS

Answer 4) QS

Question 16: Choose the most APPROPRIATE word to complete this sentence correctly :

The doctor vowed to continue his research despite his earlier efforts being _____ by the senior management by the research facility.

1. Supported
2. Favored
3. Encouraged
4. Discouraged

Answer 4) Discouraged

Question 17: One part of the sentence below may contain an error, Identify the error. Choose no error if there is No Error.

The rein of the king was clearly coming to an end

Options :

1. The King
2. The rein of
3. To an end
4. Was clearly coming

Answer 2) The rein of

Question 18: One part of the sentence below may contain an error. Identify the part. If there's no error, mark 'No Error'

The challenge, after COVID - 19 vaccine is developed, will be to find a simplistic method of distribution that will benefit the largest number.

1. No Error
2. The challenge, after COVID - 19 vaccine is developed,
3. that will benefit the largest number.
4. will be to find a simplistic method of distribution

Answer 1) No Error

Question 19: The following three sentences can be revised into a better sentence. Choose the sentence that is the best revision:

He told us that he had read Milton. He had read it in a prose translation. He had read it when he was fourteen.

1. He was fourteen when Milton's prose translation he had read.
2. He told us he had read Milton in a prose translation when he was fourteen
3. When he read Milton prose translation, he told us he was fourteen
4. He has read Milton at fourteen in a prose translation.

Answer 2) He told us he had read Milton in a prose translation when he was fourteen

Question 20: You are going to read the text about glaciers. 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.

Since the early 1900s, many glaciers around the world have been rapidly melting. ____ (1) _____. Specifically, since the industrial revolution, carbon dioxide and other greenhouse gas emissions have raised temperatures, even higher in the poles, ____ (2) _____. Scientists project that if emissions continue to rise unchecked, the Arctic could be ice free in the summer as soon as the year 2040 as ocean and air temperatures continue to rise rapidly.

A. More than a third of the remaining glaciers of the world would have melted by 2030.

B. As a result, glaciers are rapidly melting, calving off into the sea and retreating on land.

C. Human activities are at the root of this phenomenon.

1. 1 (B), 2 (C)

2. 1 (A), 2 (B)

3. 1 (C), 2 (A)

4. 1 (C), 2 (B)

Answer 4) 1 (C), 2 (B)

Question 21: One part of the sentence may contain error. Identify the part.

He realized he had to undergo an MRI test but was too frighten.

1. He realized he
2. Had to undergo
3. An MRI test
4. But was too frighten

Answer 4) But was too frighten

Question 22: Choose the appropriate option to complete the sentence:

_____ , but could not get it to start this morning.

1. I have the car serviced yesterday
2. I got the car serviced yesterday
3. I get the car serviced yesterday
4. I having the car serviced yesterday

Answer 2) I got the car serviced yesterday

Question 23: You are going to read a text about Mark Twain. Some sentences are missing from the text. Choose from the list (A-C) the most appropriate sentence for each gap (1-2).

When Mark Twain proposed to Olivia Langdon, her father wanted to be sure of his good character. Since they had no friends in common, Twain

offered the names of several friends he had made out west. All voted back condemning Twain as a louse and a freeloader , two predicted that he would fill a drunkard's grave. (2) _____ "Then I'll be your friend myself". Langdon said. Langdon was right, for Twain proved to be a faithful and loving husband to Olivia.

- A. Langdon wrote to ask them what they thought of the match
 - B. Twain took his pen name from an alert cry used on his steamboat - "by the mark, twain".
 - C. Twain bitterly remarked that apparently he didn't have any friends
- 1. (1)-C, (2)-B
 - 2. (1)-A, (2)-C
 - 3. (1)-B, (2)-A
 - 4. (1)-C, (2)-A

Answer 2) (1)-A, (2)-C

Question 24: For the four sentences (S1 to S4) paragraph below, sentences S1 and S4 are given. From the options P Q and R, choose the appropriate sentence. There will be one sentence which you do not need to use.

S1: Sleeping all night is great for most of our body--but not for your joints

S2:

S3:

S4: Rheumatologists recommend warming yourself with the heating pad, raising your home thermostat, or doing gentle hand exercise as soon as you can

P: Lack of movement during the night can have a walking up as a stiff as steel

Q: Keeping pills by your bed so you can take the morning medications immediately also helps.

R: Fortunately, there are ways to combat this problem

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

Answer 2) PQ

Reasoning Ability

Question 1: 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 department which is made for social services.

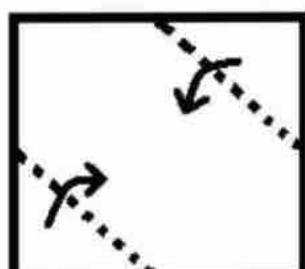
II, Yes. Private sector will handle all departments better than the government.

III. Argument III was not provided

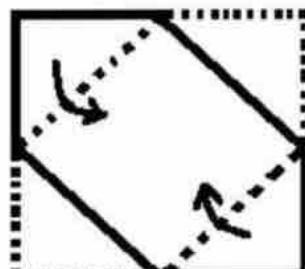
1. All of I, II ,III are strong.
2. Only argument I is strong
3. Only argument II is strong
4. Both I and II are strong.

Answer 3) Only argument II is strong

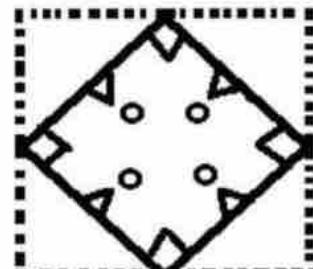
Question 2: The Sequence of folding a piece of square paper and the manner in which the folded paper has been cut is shown in the figures marked X,Y, and Z. How would the paper look when unfolded ?



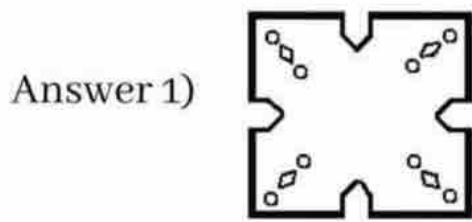
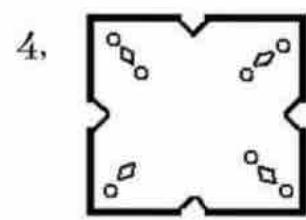
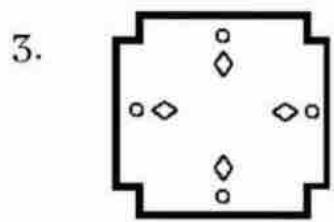
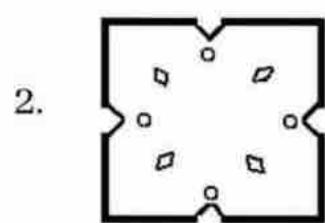
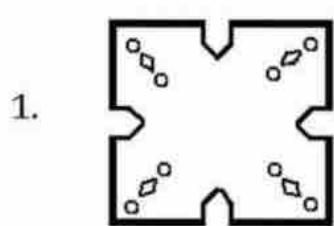
(X)



(Y)



(Z)



Question 3: Determine the wrong term in the series

CZE, ETG, HOJ, LKM, QLS, WFY

1. WFY
2. LKM
3. QLS
4. HOJ

Answer 2) LKM

Question 4: 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?

1. Either B or C
2. Either A or E
3. B
4. C

Answer 1) Either B or C

Question 5: A statement is followed by two assumptions numbered I and II. Consider the statement and decide which of the given assumption(s) is/are implicit in the statement.

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 the last 10 years.
- II . Many areas in the city got flooded due to such heavy rainfall.

Options:

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

Answer 3) Neither I nor II is implicit

Question 6: Six friends A,B,C,D,E,F are standing in a row facing the East.

- I. C is between B and D.
- II. E is between D and F.
- III. D is right to E and left to C.
- IV. If A is standing extreme right in the row

Who is in the Extreme Left?

- 1. C
- 2. D
- 3. F
- 4. B

Answer 3)F

Question 7:

The candidate must be:

- 1. Holding BHMS degree with minimum 60% marks
- 2. Having five years of experience of practice in rural area
- 3. Having a good knowledge of the local language

In case the applicant who satisfies all other criteria except-

- I. At (1) above, but has minimum 50% marks at BHMS and has completed MD with 55%, his/her case is to be referred to the Chief Medical Officer

II. At (2) above, but has 3 years full time experience of practice in an urban or a rural hospital but spent at least 5 years in a rural area, his/her case to be referred to the Secretary.

III. At (3) above, but has working knowledge of hindi , his/her case is to be referred to the Hospital Management.

Based on the criteria and information provided, decide the course of action.

Jasvinder has completed BHMS with a minimum of 61% marks and has practiced for 4 years in an urban hospital. He speaks the local language. What decision would be taken for him.

1. He would be selected
2. Refer to the Chief Medical Officer
3. Refer to the secretary
4. Refer to the Hospital Management.

Answer 1) He would be selected

Question 8: Given below is a question followed by 2 statements, I and II each containing some information decide which of the statement(s) is suitable

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
1. Either the statement I and II are sufficient
2. Statement II alone is sufficient
3. Statement I alone is sufficient
4. Both the statement I and II are necessary

Answer 1) Either the statement I and II are sufficient

Question 9: The number of students studying in six different disciplines of a college are given below. 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

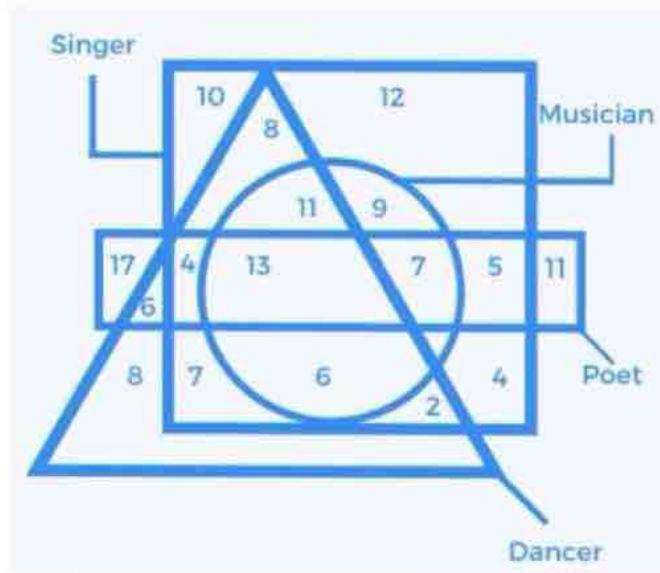
Which of the following pairs of the name of the discipline and its ratio of boys to girls is not correct?

1. Social Science, 5:2
2. Law, 3:2
3. Commerce, 7:3
4. Science, 2:1
5. Both 1 and 2
6. Both 1 and 3

Answer 6) Both 1 and 3 (Social Science, 5:2, Commerce 7:3)

Question 10: In the following diagram the rectangle stands for "Poet", the circle stands for "Musician" and the triangle stands for "Dancer", and the square stands for "Singer".The number in the different segments shows the number of persons

Answer the following on the basis of information given in the diagram



How many singers are neither Poets nor Dancers?

1. 12
2. 36
3. 7
4. 4

Answer 2) 36

Question 11: Given below is a question followed by statements I and II each containing some information. Decide which of the following is sufficient to answer the question.

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

Options:

1. Statement II alone is sufficient.
2. Both the statements I and II together are not sufficient
3. Both the statements I and II together are necessary
4. Statement I is alone sufficient

Answer 2) Both the statements I and II together are not sufficient

Explanation: Gender of O is unknown

Questions 12: 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?

1. 18 and 20
2. 17 and 20
3. 19 and 18
4. 19 and 21

Answer 4) 19 and 21

Question 13: Seven friends O, P, Q, R, S, T and U are standing in a row.

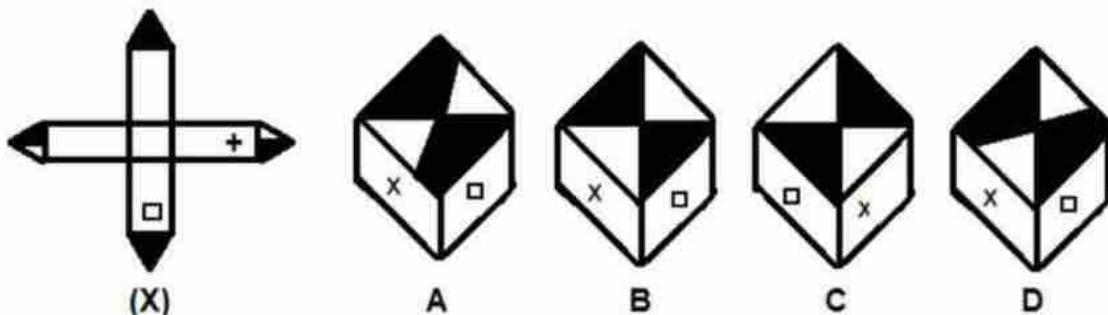
- I. Q is the right of U
- II. P is between T and S.
- III, U is between Q and R
- IV. O is right of Q who is left of S

Who is exactly in the middle of the row?

1. O
2. U
3. R
4. S

Answer 1) O

Question 14: The Figure marked 'X' is folded to form a box. Four possible A,B,C and D are given below some of which can be formed and some cannot be formed .Choose from the alternatives the boxes that can be formed.



1. (A and C only)
2. (A only)
3. (B only)
4. (B and C only)

Answer 2) (A only)

Question 15: Three statements are given followed by two conclusions.
Consider the statements to be true events if they seem to be at variance

from commonly known facts and decide which of the given conclusion(s) logically follow(s) from the given statements.

Statement:

1. Some doctors are musicians.
2. Some dancers are signers
3. All singers are musicians

Conclusion:

- I. All dancers are musicians
 - II. Some singers are doctors
-
1. Only conclusion II follows
 2. Only conclusion I follows
 3. Both conclusions I and II follows
 4. Both conclusion I and II do not follows

Answer 4) Both conclusion I and II do not follows

Question 16: Select the correct option based on the following statements

- A. If data in statement I alone is sufficient to answer the question
- B. If data in statement II alone is sufficient to answer the question
- C. If data of both either statement I alone or statement II alone are sufficient to answer the question.
- D. If data in both statements I and II together are necessary to answer the question.

- I. X is older than Y, Z is younger than W
- II. W is older than Z, X is younger than Z.

Who is younger among W, X, and Z?

- 1. C
- 2. B
- 3. D
- 4. A

Answer 3) D

Question 17: Select the correct option based on the following statements

- A. If data in statement I alone is sufficient to answer the question
- B. If data in statement II alone is sufficient to answer the question
- C. If data of both either statement I alone or statement II alone are sufficient to answer the question.
- D. If data in both statements I and II together are necessary to answer the question.

- I. Point S is towards north of point T and point U is 20 m east of point S.
- II. Point V is towards south-west of point S and point S is 10 m from point T

What is the distance between point T and U?

-
- 1. D
 - 2. C
 - 3. A
 - 4. B

Answer 1) D

Question 18: If ‘AxB’ means ‘A’ is the grandfather of ‘B’, ‘A-B’ means ‘A’ is the son of ‘B’, ‘A/B’ means ‘A’ is the wife of ‘B’, ‘A+B’ means ‘A’ is the father of ‘B’ and ‘A*B’ means ‘A’ is the brother of ‘B’ then how is ‘A’ related to ‘G’ in A / B x D - C * F + G ?

- 1. Grand-Mother
- 2. Grand-son
- 3. Grand-father
- 4. Grand-daughter

Answer 1) Grand-Mother

Question 19: Based on the following data, answer the questions.

Amisha wanted to throw a reception party. The expenditure distribution of the party was 30% on Catering, 25% on Decoration, 20% on Music System, 15% on Photography & Videography and 10% on Invitations.

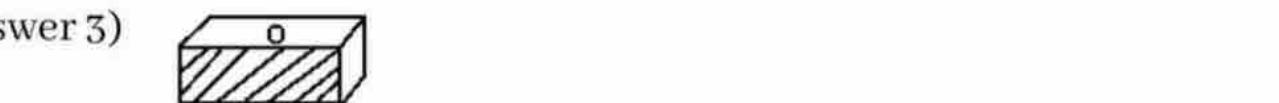
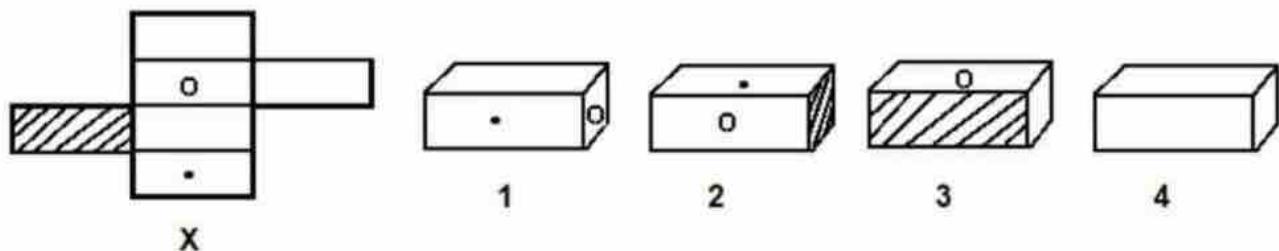
The total expenditure was Rs. 10,59,600

How much money was spent on the music system?

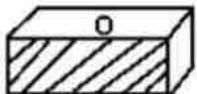
1. Rs. 211,920
2. Rs. 27,830
3. Rs. 105,960
4. Rs. 264,900

Answer 1) Rs. 211,920

Question 20: Choose the box that is similar to the box formed by the given sheet of paper(X).



Answer 3)



Question 21: Based on the following data, answer the questions:

Amisha wanted to throw a reception party. The expenditure percentage distribution of the party was 30% on Catering, 25% on Decoration, 20% on music system, 15% on photography & Videography and 10% on invitations. The total expenditure was Rs. 1,059,600.

How much money was spent on decoration in the party ?

1. Rs.27830
2. Rs.264,900
3. Rs.158,940
4. Rs.42,384

Answer 2) Rs.264,900

Question 22: Complete the given puzzle.

Which of the given options will replace the question mark below?

10, 14, 19, 26, 35, 48,?

1. 57
2. 69
3. 55
4. 63

Answer 4) 63

Question 23: If 'AxB' means 'A' is the daughter of 'B','A-B' means 'A' is the mother of 'B','A/B' means 'A' is the wife of 'B','A+B' means 'A' is the father of 'B' and 'A*B' means 'A' is the brother of 'B' then how is F related to 'D' in $FxE*B+C*D$?

1. Uncle
2. Cousin brother
3. Cousin sister
4. Aunt

Answer 3) Cousin sister

Question 24: Two statements are given followed by two conclusions I,II and III. Consider the statements to be true events if they seem to be at variance from commonly known facts and decide which of the given conclusion(s) logically follow(s) from the given statements provided that Amit likes Apples.

Statements:

1. Amit likes apples,then Anu likes apples.
2. Anu likes apples then simran likes mangoes.

Conclusion:

- I. Anu likes apples.
- II. Simran likes apples.
- III. Simran likes mangoes.

1. Only conclusion I & II follows.
2. Only conclusion I & III follows.
3. Only conclusion II follows.
4. Only conclusion I follows.

Answer 2) Only conclusion I & III follows.

Question 25 : Choose the pair similar to the following:

MDXF: OBZD

1. CLPQ: MXCF
2. BMXT: COZW
3. ILPR: KNRT
4. SGFN: UEHL

Answer 4) SGFN: UEHL

Question 26: Find the wrong term in the given series -

CIDJ, EKFL, GMHO, IOJP, KQLR

1. EKFL
2. KQLR
3. IOJP
4. GMHO

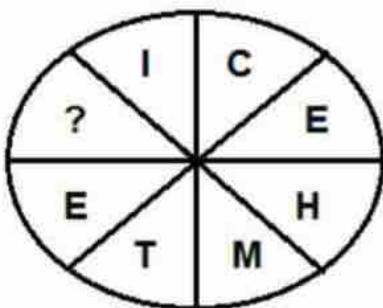
Answer 4) GMHO

Question 27: P, Q, R, S, T, U & V are sitting in a line facing north but not in the same order. Two persons are sitting between P and Q. U is sitting between Q and S. V is at the west end. T is in the middle and S is at the east end. P is sitting just right of V. What is the position of R from left?

1. Sixth
2. First
3. Third
4. Fourth

Answer : 3) Third

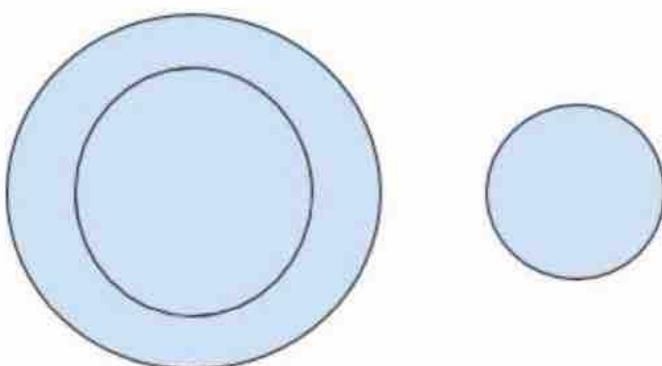
Question 28: Which letter will come in the place of question mark?



1. N
2. P
3. R
4. U

Answer 3) R

Question 29: Which of the following elements satisfies the Venn diagram?



1. Quadrilaterals, Square, Triangle
2. Colour, Plate, Fork
3. Doctor, Patient, Nurse
4. Transport, Bus, Cycle

Answer 2) Colour, Plate, Fork

Question 30: Given below is a question followed by two statements, I and II each containing _____

What is the age of Sumit? Statement:

- 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.

1. The combination of both the statements I and II are necessary.
2. Statement II alone is sufficient
3. Statement I alone is sufficient
4. The combination of both the statements I and II are not sufficient.

Answer 1) The combination of both the statements I and II are necessary.

Programming Logic

Question 1: In hashing technique, hash function takes a _____ as input and returns the _____ value of that key in order to identify the index of array

-
- 1. Null, Hash
 - 2. Hash, key
 - 3. Key, Null
 - 4. Key, Hash

Answer: 4) Key, Hash

Question 2: What will be the output of the following program?

```
public class Main
{
    public static void Check(int[] a, int[] b)
    {
        if(a.equals(b))
            System.out.println("equal");
        else
            System.out.println("Not equal");
    }

    public static void main(String args[])
    {
        int a[]={5,6,7,8};
        int b[]={5,6,7,8};
        Check(a,b);
    }
}
```

Type your answer here:

Answer: Not Equal

Question 3: We can't overload _____ operator.

1. = (assignment operator)
2. . (dot operator)
3. () (parenthesis)
4. [] (subscript operator)

Answer 4) Subscript operator

Question 4: What would be the output of the snippet below?

```
#include<iostream>
using namespace std;
int main()
{
    int chArr[]={91, 93, 95};
    cout<< *chArr+1;
    return 0;
}
```

Type your answer here :

Answer: 92

Question 5: What would be the output of the code below?

```
public class Main
{
    final int a= null;
    public static void main(String args[])
    {
        Main obj= new Main();
        System.out.println(obj.a);
    }
}
```

1. NULL
2. 0
3. Error: incompatible types: <null> cannot be converted to int
4. Error: variable a wrongly initialized in the default constructor.

Answer 3) Error: incompatible types: <null> cannot be converted to int

Question 6: The process of calling function in that function itself is called _____.

1. Nested function
2. Recursive function
3. Repetitive function
4. Function definition

Answer 2) Recursive function.

Question 7: Which of the function below is used to convert double value 8.93 to 9?

1. ceil()
2. top()
3. floor()
4. fabs()

Answer 1) ceil()

Question 8: Which of the following is not a technique of dynamic memory allocations?

1. realloc()
2. calloc()
3. malloc()
4. dmalloc()

Answer 4) dmalloc()

Question 9 : What is the full form of ROI in context of Software Development ?

1. Rate of Integration
2. Rationality of internet
3. Reduction of investment
4. Return on investment

Answer 4) Return on investment

Question 10: Glass box testing is also known as _____

1. Black Box Testing
2. White Box Testing
3. Sanity Testing
4. Smoke Testing

Answer 2) White Box Testing

Coding

Question 1: Display sequence of Fibonacci series until the number given by user and count total even number and odd numbers in that series expect zero. Fibonacci series should start with 1.

Total count of even numbers should be displayed in the first row and odd numbers should be displayed in next row

Number given by user for Fibonacci series should be greater than 5 and less than or equal to 20, Otherwise display "INVALID INPUT"

If number given by user is space, character or empty display "INVALID INPUT" The text message should be displayed in exact format as it is case sensitive.

Example:

Input:

7

Output:

1 1 2 3 5 8 13

2

5

Explanation:

In above example 2 is for count of even numbers that is (2,8) and 4 is count of odd number that is (1,1,3,5,13).

Solution in C

```
#include <stdio.h>
int main()
{
    int num;
    int a=1, b=1, c;
    int odd = 2, even = 0;
    int i;
    scanf("%d",&num);
    if(num>=5 && num<=20)
    {
        printf("%d %d ",a,b);
        for(i=1; i<=num-2; i++)
    }
```

```
{  
c = a + b;  
a = b;  
b = c;  
printf("%d ",c);  
if(c%2==0)  
{  
even++;  
}  
else  
{  
odd++;  
}  
}  
printf("\n%d\n%d",even,odd);  
}  
else  
{  
printf("INVALID INPUT");  
}  
return 0;  
}
```

Question 2: Take a single line text message from user. Separated the vowels from the text. Find the repeating occurrences of vowels from the text message.

Display count of which vowel has repeated how many times.

Display a new Text message by removing the vowel characters as output.
Display the output in exact format shown below in example, after
displaying count of characters on the next lines display the new text
message on next line.

"Hll wlcm" is the new text message if text message entered by user does not contain any numeric value then display 0 as output.

If user entered blank or empty text message display "INVALID INPUT" as output. Message "INVALID INPUT" is case sensitive. Display it in exact format given .

Example:

Input :

Hello Welcome

Output :

a:0

e:3

i:0

o:2

u:0

Hll Wlcm

Example 2:

Input :

Hll wlcm

Output:

0

Solution in C

```
#include <stdio.h>
#include <string.h>

int main(){
    char v[]={‘a’,’e’,’i’,’o’,’u’};
    int count[]={0,0,0,0,0};
    char ch[100];
    char temp[100];
    int i=0,j=0;
    gets(ch);
    int flag=0;

    for(i=0;i<strlen(ch);i++){
        if(ch[i]==‘a’ || ch[i]==‘A’)
            count[0]++;
        else if(ch[i]==‘e’ || ch[i]==‘E’)
            count[1]++;
        else if(ch[i]==‘i’ || ch[i]==‘I’)
            count[2]++;
        else if(ch[i]==‘o’ || ch[i]==‘O’)
            count[3]++;
        else if(ch[i]==‘u’ || ch[i]==‘U’)
            count[4]++;
        else{
            flag=1;
            break;
        }
    }

    if(flag==0)
        printf(“%d”,count[v]);
    else
        printf(“%d”,-1);
}
```

```
temp[j]=ch[i];
j++;
}
}

temp[j]='\0';

for(i=0;i<5;i++){
if(count[i]!=0)
{
flag=1;
break;
}
}

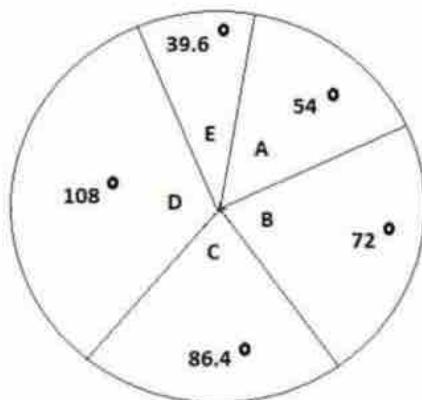
if(flag==1)
{
for(i=0;i<5;i++){
printf("\n%c:%d",v[i],count[i]);
}
printf("\n%s",temp);
}
else{
printf("0");
}
return 0;
}
```

Set 5

Numerical Ability

Question 1: Study the graph and answer the question:

Breakup (degree wise) of the total number of students in schools A, B, C, D, & E



Total number of students = 4800

The ratio of boys and girls in school A and E is 11: 13 and 6: 5 respectively and 55% of the number of students in school D are boys. Then the difference between the total number of boys in A and E, and the number of girls in D is?

1. 36
2. 24
3. 30
4. 32

Answer 2) 24

Question 2: The mean of the median, the mode and the range of the data:

15, 10, 17, 13, 25, 17, 11, 18, 14, 19, 12, 20 is:

1. 15
2. $16\left(\frac{2}{3}\right)$
3. 16
4. $15\left(\frac{1}{3}\right)$

Answer 3) 16

Question 3: Sarita Wants to gift the stationary kit. Which includes a pencil, an eraser and a sharpener to some kids in her village. She went to a wholesaler for purchase these items. The seller sells pencils in packing of 12. Erasers in a packing 18 and Sharpener in a packing of 10. She purchases the minimum number of packet of pencils, eraser and sharpener so that affix number of kits can be prepared without any item being unused or short. What is the number of packet of pencils purchased by her ?

1. 10
2. 12
3. 15
4. 18

Answer 4) 18

Question 4: The ratio of alcohol and water in vessels A and B are 3:7 and

4:1.respectively. Five liters and $7\frac{1}{2}$ liters solutions from vessels A and B respectively are mixed in vessels in C. What is the ratio and alcohol in solution in C ?

1. 18:7
2. 20:7
3. 7:18
4. 3:2

Answer 4) 3:2

Question 5: The value of $\frac{(2.4)^2 + (1.5)^2 + 3.6}{(2.4)^4 + (1.5)^4 (3.6)^2}$ lies between?

1. 0.1 and 0.3
2. 0.3 and 0.5
3. 0.7 and 0.9
4. 0.5 and 0.7

Answer 1) 0.1 and 0.3

Question 6: A trader sells articles X and Y for INR 480 each with no loss or profit in the whole transaction. If A sold at 16 $\frac{2}{3}\%$ loss, then B sold at a profit of

1. 20%
2. 25%
3. 16 $\frac{2}{3}\%$
4. 24 $\frac{2}{3}\%$

Answer 2) 25%

Question 7: Pipes A and B can fill a tank in 10 minutes and 20 minutes respectively. Whereas pipe C alone can empty a full tank in $12\frac{1}{2}$ minutes. A and C are opened together at 8:00 am. After half an hour , A is turned off and B is opened, while C remains open right from 8 am. When will the tank be emptied

1. 9:10am
2. 8:45 am
3. 9:00 am
4. 8:50 am

Answer 4) 8:50 am

Question 8: What is the mean marks of students for the following data? (Nearest to an integer)

Marks	0 and above	10 and above	20 and above	30 and above	40 and above	50 and above
No. of Students	37	34	29	22	12	0

1. 23
2. 24
3. 27
4. 31

Answer 4) 31

Question 9: Let x be the upper limit of the modal class and y be the class mark of the median class of the following data:

Class	10-15	15-20	20-25	25-30	30-35	35-40
Frequency	8	12	10	11	13	6

What is the value ($x - y$)?

1. 10.5
2. 12.5
3. 7.5
4. 15.5

Answer 2) 12.5

Question 10: The speed of a boat in still water 9 times the speed of the stream. The boat travels a distance of 54km upstream and the same distance downstream and it takes 4 hours 3 minutes for the whole journey. The speed of the boat in km/hr while going upstream is,

1. 20
2. 27
3. 24
4. 18

Answer 3) 24

Question 11: If A is 20% less than B,C is 20% more than D and D is 25% less than A, Then,

1. $27B = 40C$
2. $25C = 18B$
3. $19C = 25B$
4. $35B = 27C$

Answer 2) $25C = 18B$

Question 12: The value of is $(\frac{3}{4} \div 2 \text{ of } \frac{2}{31} - \frac{5}{7} \div 2\frac{2}{3} \times 7\frac{3}{10}) * (3\frac{1}{5} \div 4\frac{1}{2} \text{ of } 5\frac{1}{3})$

1. $18/35$
2. $9/7$
3. $2/15$
4. $7/10$

Answer 1) $18/35$

Question 13: If $(x + 10)\%$ of 240 is 60% more than $x\%$ of 180, then 15% of $(x+20)$ is what percent less than 25% of x ?

1. $19\frac{1}{21}$
2. $15\frac{21}{21}$
3. $15\frac{1}{15}$
4. $16\frac{1}{2}$

Answer 4) 16

Solution: $(x+10)\% \text{ of } 240 = x\% \text{ of } 180 + \{60 \% \text{ of } 180x/100\}$

Solving this to get,

$$x = 50$$

$$15\% \text{ of } (x+20) = 25\% \text{ of } x - \{y \% \text{ of } 25x/100\}$$

Apply x value here, to get y value

$$15\% \text{ of } (50+20) = 25\% \text{ of } 50 - \{y \% \text{ of } (25 * 50)/100\}$$

$$10.5 = 12.5 - \{y \% \text{ of } 12.5\}$$

$$\{y \% \text{ of } 12.5\} = 2$$

$$y * 12.5/100 = 2$$

$$y = 200/12.5$$

$$y = 16$$

Question 14: Study the table and answer the question.

Number of cars sold by dealers A, B, C, D, & E in the first 5 months of 2019.

Month/ Dealer	A	B	C	D	E
January	396	309	386	400	389
February	405	402	388	395	384
March	403	395	424	387	396
April	398	398	480	378	482
May	382	404	394	405	400

The total number of cars sold by dealer A in April and May and by dealer C in January and March is what percent more than the total number of cars sold by dealer B in February and April and by dealer E in May?

1. 24.5
2. 30.6
3. 40.8
4. 32.5

Answer 4) 32.5

Question 15: A and B can complete a certain task in 45 days and 60 days, respectively. Both worked together for 15 days, then B left. The remaining task was completed by A and C together in next $7\frac{1}{2}$ days. In how many days can C alone do 50% of the same task?

1. 30
2. 20
3. 15
4. 40

Answer 2) 20

Question 16: A certain loan was returned in two equal annual installments of INR 8820 each and the rate of interest was 5% compounded annually. The interest (in rupees) paid in this scheme was?

1. 1260
2. 1200
3. 1320
4. 1240

Answer 4) 1240

Question 17 : A circle is inscribed in an equilateral triangle of side 12 cm. What is the area (in cm square) of the square inscribed in the circle?

1. $30\sqrt{3}$
2. 30
3. $24\sqrt{3}$
4. 24

Answer 4) 24

Question 18: Three years ago, the ratio of ages of A and B was 7:1, After three years from now, the ratio of their ages will be: 4:1. What is the difference between their ages (in years) after seven years from now?

1. 28
2. 42
3. 36
4. 32

Answer 3) 36

Question 19: A train travelling at 79 km/h crosses a man, going in the same direction at 7 km/h, in 12 seconds. If the same train crosses a woman coming from the opposite direction, in 10 seconds then the speed (in km/h) of the woman is?

1. 7.4
2. 6.6
3. 5.8
4. 5.2

Answer 1) 7.4

Question 20: A shopkeeper buys goods at 30% discount on the marked price. He resets the marked price and sells them at $21\frac{1}{4}\%$ discount on the new marked price and gains 25% profit. By what percent is the new marked price more than the original marked price?

1. $11\frac{1}{9}$
2. $11\frac{1}{4}$
3. $9\frac{3}{4}$
4. $10\frac{5}{3}$

Answer 1) $11\frac{1}{9}$

Question 21: The sum of the height and the radius of a solid right circular cylinder is 41 cm. If its total surface area is 2706 cm square, then its volume (in cm square) is closest to (Take $\pi = \frac{22}{7}$)

1. 10584
2. 10568
3. 9568
4. 9584

Answer 2) 10568

Question 22: The ratio of incomes of X and Y in 2018 was 3:4. The ratio of their individual incomes in 2018 and 2019 were 4:5 and 5:8 respectively. If their total income in 2019 was INR 657720, then the income (in rupees) of X in 2019 was?

1. 254000
2. 245000
3. 194400
4. 243000

Answer 4) 243000

Question 23: In a competitive exam, 5 marks are awarded for every correct answer and for every wrong answer, 2 marks are deducted. Sathwik scores 32 marks in the examination. If 4 marks had 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 ?

1. 14
2. 12
3. 20
4. 26

Answer 2) 26

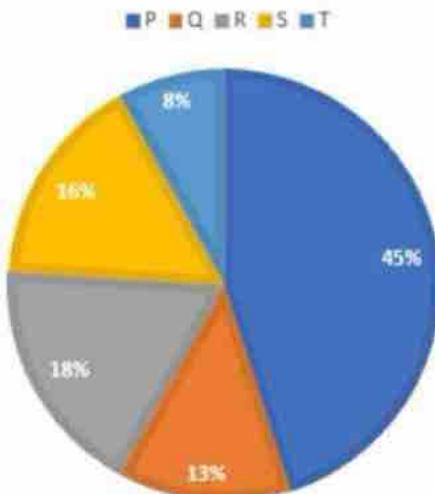
Question 24 : If $\left[\sqrt{1 + \frac{\sqrt{3}}{2}} + \sqrt{1 - \frac{\sqrt{3}}{2}} \right] \times \frac{5 + 2\sqrt{3}}{7 + 4\sqrt{3}} = a + b\sqrt{3}$

, then what is the value of (a + 2b)?

1. 4
2. 13
3. -1
4. 9

Answer 3) -1

Question 25 : Study the following pie chart and answer the following question



If the number of total valid votes were 15000, the number of valid votes obtained by T was

1. 1200
2. 1800
3. 1600
4. 1400

Answer 1) 1200

Question 26: Find the Variance of the following data:

12, 22, 28, 24, 21, 16, 31, 14

Options:

1. 25.33
2. 41.54
3. 39.25
4. 45.63

Answer 1) 25.33

Verbal Ability

Question 1. Read the following passage and fill in the blanks by selecting the most appropriate option

The most important things are hardest to say. They are the things you get (1) _____ of, because words diminish them. Words shrink things that seemed (2) _____ when they are in your head, to no more than a living size when they are brought out.

Options

Blank 1: A. Ashamed B. Sly C. Secret D. Massive

Blank 2: A. Negligible B. Limitless C. Supporting D. Vast

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

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

Question 2: One part of the sentence below may contain an error. Identify the part:

She soon realize / that cycling up the hill / needed tremendous / strength in the upper and lower legs.

1. Strength in the upper and lower legs.
2. She soon realize
3. That cycling up the hill
4. Needed tremendous

Answer 2) She soon realize

Question 3: Identify the segment in the given sentence that contains a grammatical error/

Around / twelve hundreds / families live / in this residential complex.

1. Families live
2. Twelve hundreds
3. Around
4. In this residential complex

Answer 2) Twelve hundreds

Question 4: For the four sentences (S1 to S4) in the paragraph below, sentences S1 and S4 are given. From the options P,Q, R, choose the appropriate sentences for S2 and S3.

S1: Media has now reincarnated itself into a 'public court' and started interfering with court proceedings.

S2:

S3:

S4: Thus, building public prejudices that can sometimes influence the process of justice and deprive an accused the rights to a free and fair trial.

P: Media trial is basically adjudication by media before or after the verdict of the court that has become a trend to increase circulation or TRPs of newspapers and news channels

Q: Media trials are common place now, with journalists conducting separate investigations and building opinion for or against an accused even before the court takes cognizance

R: It completely overlooks the vital gap between an accused and a convict, putting at stake the principles of 'innocent until proven guilty'

1. RP
2. PR
3. RQ
4. QP

Answer 3) RQ

Question 5: You are going to read a text about telecommuting. Some sentences are missing from the text. Choose from the list (A - C) the most appropriate sentence for each gap. There is one extra sentence that you do not need to use.

When you telecommute, you work outside of an organization's brick and mortar location. _____ 1 _____ Many industries - including sales, publishing, customer service and marketing --- offer telecommuting jobs. Today even doctors and lawyers have begun working from home.

_____ 2 _____ while others may work remotely for part of the week and go into the office for the remainder of the week.

- A. Access to Wi-Fi can help make communications virtually seamless
- B. You usually use technology to help you do your job and connect with your employer and employees
- C. However, there are some offices where employees telecommute full time.

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

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

Question : Read the passage and answer the questions:

"He no longer dreamed of storms, not of women, nor of great occurrences, nor of great fish, nor lights, nor contests of strength, nor of his wife. He only dreamed of places now and of the lions on the beach." They played like young cats in the dusk and he loved them as he loved the boy." - The old Man and the Sea.

Since the publication of The Old Man and the Sea, there has been much debate surrounding the story's symbols. Does the old man represent the author nearing the end of his career? Do the vicious sharks stand for cruel literary critics for the inevitably destructive forces of nature? While most readers agree that, as a parable, The Old Man and the Sea addresses universal life, the image of the lions playing on the African beach, which is presented three times in the novel, remains something of an enigma. Like poetry, the lions are supremely suggestive without being tethered to a single meaning. Indeed, the only certainty about the image is that it serves as a source of comfort and renewal for Santiago.

This passage, which describes Santiago's dreams on the night before he

sets out for his fishing expedition (the first day that the narrative covers), simultaneously confirms and moves beyond Hemingway's immediately recognizable vision of the universe. Hemingway made his career telling stories about 'great occurrences' "great fish" and "contest of strength". The fact that Santiago no longer dreams of any of these makes him unique among Hemingway's heroes. Of course, by dreaming of lions he is still in a recognizably 'Hemingway - esque' world, but the lions here are at play and thus suggest a time of youth and ease. They are also linked explicitly to Manolin, a connection that is made apparent at the end of the novel as the boy watches over his aged Friend as Santiago's dream of the lions returns.

Question 6: What kind of allegory does "the Old Man and the Sea" address?

1. It describes the spare story of the trajectory of the life of a man who does not receive God's blessing
2. It address universal truths of life through symbolic representation
3. It expresses Ernest Hemingway's personality as a believer
4. It tells the story f a poor fisherman's life in Africa

Answer 2) It address universal truths of life through symbolic representation

Question 7: Which imagery/ description in the book is inexplicable, according to many readers?

1. The description of African lions playing on the beach
2. The description of rabid sharks
3. The descriptions of Santiago's sailing
4. The description of the boat

Answer 1) The description of African lions playing on the beach

Question 8: Which themes were Hemingway's favourites?

1. Moral science, animal life and nature.
2. Great science, huge fish and challenges of might.
3. History, adventure and exploration
4. Love, relationships and tragedy

Answer 2) Great science, huge fish and challenges of might.

Question 9: What characteristic makes Santiago an atypical hero of Hemingway's?

1. Santiago is only thinking of great occurrences
2. Santiago is only thinking of women and huge tests of strength
3. Santiago is only thinking of great fishing and expeditions
4. Santiago only dreams of a softer and gentler past, which was of youthful play.

Answer 4) Santiago only dreams of a softer and gentler past, which was of youthful play.

Question 10: Identify the segment in the sentence that contains a grammatical error.

Thanks God, / no one / was seriously hurt/ in the accident.

1. Thanks God,
2. Was seriously hurt
3. No one
4. In the accident

Answer 1) Thanks God

Question 11: For the four sentences (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: Proofreading is the final step of the writing process.

S2:

S3:

S4: If you jump right into proofreading, you will tend to read what intended to write but not what actually appears on the page.

Options:

P: We encourage you to never proofread right after you complete a draft.

Q: My sister used to read physics texts.

R: Give yourself some time to clear your hand.

-
- 1. QP
 - 2. RP
 - 3. RQ
 - 4. PR

Answer 1) QP

Question 12: Choose the most appropriate word to complete this sentence correctly.

The TV show ‘The Good Doctor’ is about an autistic surgeon, who is a wizard at surgery and _____ solving all difficult medical crises within minutes.

- 1. Is expert for
- 2. Is capable of
- 3. Has mastery to
- 4. Incapable of

Answer 2) Is capable of

Question 13: Fill in the blanks in the sentences below with suitable options.

It’s no longer clothes and or books or makeup items that people want to buy online. Even when it comes to buying the everyday groceries, people are _____ turning online amid the pandemic. A recent study

indicates that online grocery is likely to ____ 2 ____ more than two-fold as more shoppers are now ordering items online.

Blank 1) A- occasional B- increasingly C- rare D- excessively

Blank 2) A- flourishing B- expansion C- reduce D- grow

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

Answer 1) 1(B), 2(D)

Question 14: Choose the most appropriate words to complete this sentence correctly.

If I had seen the painting on display before the auction, I would,
_____ have bid for it.

1. Without a doubt
2. Most unlikely
3. Refused to
4. Definitely thinking

Answer 1) Without a doubt

Question 15 : For the four sentences (S1 to S4) paragraph below, sentences

(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: INS Vikrant is the first artifact carrier to be designed by the Directorate of Naval Design of the Indian Navy.

S2:

S3:

S4: Due to this, it became the first ship to be built completely using domestically produced steel.

Options:

P: The keel for Vikrant was laid by the Defence Minister at the Cochin Shipyard on 28th February 2009.

Q: It took a long time to build this warship which was indigenously built by the Cochin Shipyard.

R: About 26000 tons of different types of steel were manufactured at the Bhilai Steel plant, Chhattisgarh and Rourkela Steel plant, Odisha

1. QP
2. RQ
3. QR
4. PR

Answer 4) PR

Question 16: One sentence has been removed from the text below. Read the text and then match the missing sentence to fill up the blank.

The history of cartography traces the development of cartography, mapmaking technology, in human history. Maps have been the most important human inventions for millenia, allowing humans to explain and navigate their way through the world. _____

In their most simple form, maps are two dimensional constructs, however since the age of Classical Greece maps have also been projected onto a three-dimensional sphere known as a globe. In the 21st century, with the onset of the Information age and the subsequent increase corrupting power. Maps can now be digitized in a numerical form, transmitted and updated via satellite GPS.

1. Schools in Greece still teach the ancient methods of map-making.
2. The earliest archaeological maps include cave paintings and ancient maps of Babylon, Greece, China, and India.
3. Many children dislike geography and memorizing names of countries.
4. After Eratosthenes Ptolemy came to India

Answer 1) Schools in Greece still teach the ancient methods of map-making.

Question 17 : Choose the most appropriate to complete this sentence correctly

My boss thinks that she is the _____.

Options:

1. Best efficient
2. Beautiful officer
3. Best dedicated
4. Acme of prediction

Answer 4) Acme of prediction

Questions 18 : 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

1. I am lost at the fair so I am too scared.
2. I went to fair and got scared as I was lost
3. I am scared after I am lost at the fair
4. I got lost at the fair and was scared

Answer 2) I went to fair and got scared as I was lost

Questions 19 : The following two sentences can be revised into one better sentence.

Choose the sentence that is the best revision

There are two main warring factions. Their violent methods are not different enough

1. The two warring factions have too small a difference in violent methods
2. The differences are the same between the two warring factions
3. The two main warring factions have the same violence
4. The violent methods of the two main warring factions are not sufficiently different.

Answer 4) The violent methods of the two main warring factions are not sufficiently different

Question 20 : Aisha had been very successful managing her team in Edinburgh and was asked by the company to lead a remote team for an important two- year project. Keen to demonstrate her leadership abilities to the head office. Aisha got her team members together for a remote meeting. But right from that first meeting , she realized that this was going to be a different challenge.

1. _____ Lucia kept asking about really specific details while Aisha was hoping to use the meeting to get to know the team members and identify priorities. Archies and Lucia kept accidentally talking at the same time, and when they didn't speak, there was an uncomfortable silence. Valentina hardly said a word. _____(2) _____ Without these visual clues, Aisha had no idea whether people were interested, lost, confused or bored.

Options:

-
- A. No one had their cameras on, so there was none of the usual communication through body language and facial expressions.
 - B. Compared to a face-to-face meeting the remote team is not preferred by all the managers
 - C. For a start, Archie was late for the meeting by about 15 minutes because of the 'technical problems'.

- 1. A,C
- 2. B,A
- 3. A,B
- 4. C,A

Answer 4) C, A

Question: Read the passage and answer the following questions:

"Sometimes fate is like a small sandstorm that keeps changing directions. You change direction but the sandstorm chases you. You turn again, but the storm adjusts. Over and over you play this out, like some ominous dance with death just before dawn. Why? Because this storm isn't something that blew in from far away, something that has nothing to do with you. This storm is you. Something inside of you. So all you can do is give in to it, step right inside the storm, closing your eyes and plugging up your ears so the sand doesn't get in, and walk through it, step by step. There's no sun there, no moon, no direction, no sense of time. Just fine white sand swirling up into the sky like pulverized bones. That's the kind of sandstorm you need to imagine."

And you really will have to make it through that violent, metaphysical, symbolic storm. No matter how metaphysical or symbolic it might be, make no mistake about it: it will cut through flesh like a thousand razor blades. People will bleed there, and you will bleed too. Hot, red blood. You'll catch that blood in your hands, your own blood and the blood of others.

And once the storm is over you won't remember how you made it through, how you managed to survive. You won't even be sure, in fact, whether the storm is really over. But one thing is certain. When you come out of the storm you won't be the same person who walked in. That's what this storm's all about."

Question 21: Which word is closest in meaning to the below word?

SYMBOLIC

1. Significant
2. Copycat
3. Emblematic
4. Thematic

Answer 1) Significant

Question 22: What is the best advice given, that can help human beings to tackle the life storms that knock us about?

-
1. That man should negotiate with Fate to not trouble him continuously and with such cruelty.
 2. That man should fight with all his strength to overcome the trials and be victorious.
 3. That man should pray and plead with God to deliver us from our problems
 4. That man should bend to the will of fate and submit to the storm, accept the destruction but also slowly walk through the storm.

Answer 4) That man should bend to the will of fate and submit to the storm, accept the destruction but also slowly walk through the storm.

Question 23: So what does the author compare the trials that fate throws at the human beings?

1. The trials seem like a desert tempest which attacks us from all sides
2. The trials seem like climbing up a mountain but always slipping down
3. The trials seem like we are drowning in a flood
4. The trials seem like we are blown away in a tornado

Answer 1) The trials seem like a desert tempest which attacks us from all sides

Question 24 :What is the theme of the passage?

1. It is about the imaginary problems that humans think they have, which in turn destroy the simple trajectory of a person's life

-
2. It is about the many internal and external challenges that destiny throws at human beings through life.
 3. It is about the sand storms that overcome human beings who live in remote and tough terrains
 4. It is about the horrific effects of climate change and its effects on human lives.

Answer 2) It is about the many internal and external challenges that destiny throws at human beings through life.

Reasoning Ability

Question 1. Sam, Vicky, Rohan, Nanny and Jimmy are five friends. Vicky is good at English, Mathematics and Chemistry. Nainy is good at Chemistry and Statistics. Jimmy is good at Statistics, Chemistry and English. Rohan and Sam are good at English and Physics, who are good at Chemistry and English but not Physics

1. Nainy and Jimmy
2. Jimmy and Sam
3. Jimmy and Vicky
4. Vicky and Nainy

Answer 3) Jimmy and Vicky

Question 2. Three statements are given followed by three conclusions I, II and III. Consider the statement to be true even if they seem to be at

variance from commonly known facts and decide which of the given conclusion(s) logically follow(s) from the given statement

Statements:

1. Some medicines are alcohols.
2. All medicines are syrups.
3. Some syrups are sweet.

Conclusions:

- I. Some medicines are sweet.
- II. Some alcohols are sweet.
- III. All syrups are medicines.

1. Only conclusions I and III follows
2. All conclusions I, II and III follows
3. None of the conclusions follow
4. Only conclusions I and II follows

Answer 3) None of the conclusions follow

Question 3: Given below is a question followed by two statements, 1 and 0 , each containing some information. Decide which of the statement(s) 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.

1. Statement II is sufficient alone.
2. The combination of both the statements I and II are necessary
3. Statement I alone is sufficient
4. The combination of both the statements I and II are not sufficient.

Answer 2) The combination of both the statements I and II are necessary

Question 4: Six boxes K,L,M,N,O and P are painted with either blue or black color. K, N and L are painted in blue while the rest are black O and P are big while other are small, P, K and N are empty while the rest are filled. Which black box is small and filled

1. L
2. O
3. N
4. M

Answer 4) M

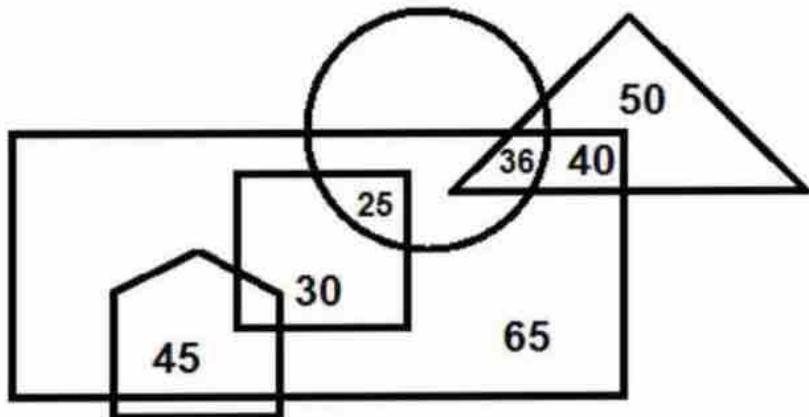
Question 5: The pair of letters given below has a certain relationship. Select the pair of letters from the given alternatives that have the similar relationship.

BLV : HRB

1. UOV : RZS
2. KTV : HIT
3. HQR : SCW
4. EOY : KUE

Answer 4) EOY : KUE

Question 6: In the following figure, the pentagon represent seeds, the triangle represent red, the rectangle represents chlorophyll, the circle represents leaves and the square represents green.



Find the number which represents the green leaves with chlorophyll.

1. 30
2. 45
3. 25
4. 36

Answer 3) 25

Question 7: Find the wrong term in the given series.

KBCL, NEFO, QHIS, TBCU, WEFX

1. KBCL
2. QHIS
3. TBCU
4. WEFX

Answer 2) QHIS

Question 8: 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.

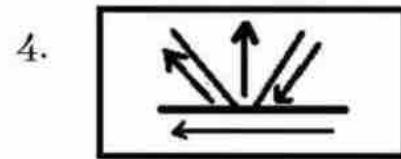
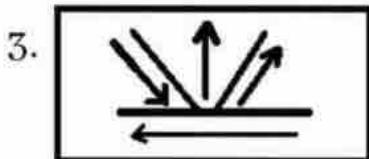
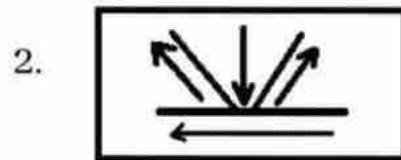
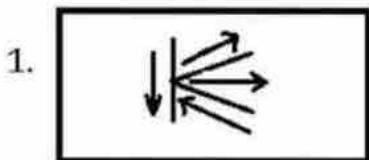
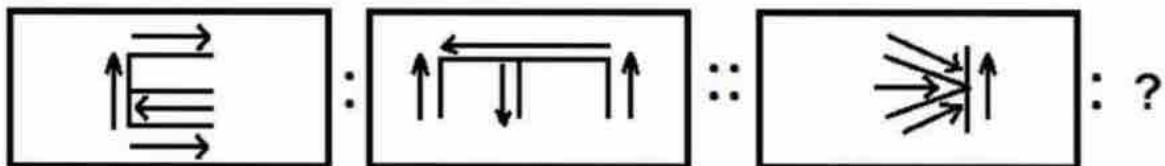
In a group of six friends, Saras Pawan, Sunil, Neha, Naman and Sara, each a different height, who is the third tallest?

- I. Pawan is taller than Sunil and Neha, Naman is shorter than Pawan but not Sunil.
 - II. Neha is taller than Saras, Sara is the tallest girl and Saras is the smallest girl among the group.
1. The data in both statements I and II is insufficient to answer the question
 2. The data in statement I alone is sufficient to answer the question

3. The data in statement II alone is sufficient to answer the question
4. The data of both statement I alone and statement II alone are sufficient to answer the question

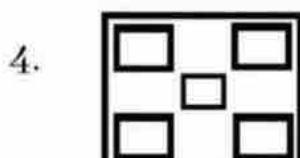
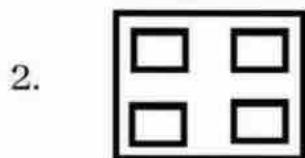
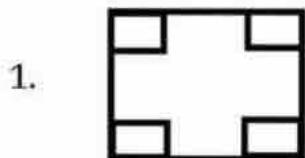
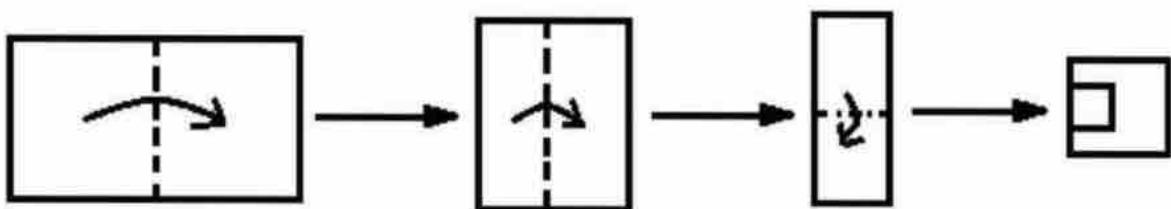
Answer 1) The data in both statements I and II is insufficient to answer the question

Question 9: Which of the figure option will come in place of the question mark ?

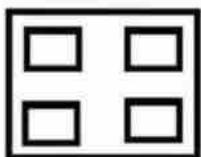


Answer 3)

Question 10: A square sheet of paper has been folded and cut as shown in the following series of figures . How will it appear when unfolded ?



Answer 2)



Question 11: A family spends 25% on food ,20% on education ,15% on clothes ,12% on parties ,10% on travelling and saves the remaining 18%. If they save Rs. 11,430, then how much money was spent on education ,clothes and food together ?

1. Rs 35,500
2. Rs 40,600
3. Rs 42100
4. Rs 38,100

Answer 4) Rs 38,100

Question 12: Study the given information carefully.

Following are the criteria for admitting a student in post- graduation course in a reputed college.

The Student must:

- (i) have passed the XII standard with more than 50% marks.
- (ii) have secured at least 60% marks at graduation level.
- (iii) be of at least 21 years of age or more as on 01.01.2020
- (iv) have secured more than 55% marks in the entrance test.

In case of the student, who satisfies all other criteria except:

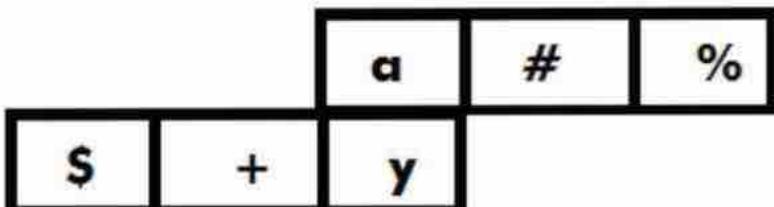
- a)(ii) above, but has obtained at least 70% marks in entrance test, should be referred to the HOD.
- b)(i) above, but has obtained at least 80% marks at graduation level, should be referred to the Dean.

Seema was born on 15.11.1999 She has succeeded 65% marks in XII standard. She secured 60% marks in the entrance test and 62% marks in her graduation course.

1. The student to be referred to the Dean
2. The student is not to be admitted.
3. The student is to be admitted.
4. The student is to be referred to the HOD.

Answer 2) The student is not to be admitted.

Question 13: A cube is made by folding the given sheet , in the cube so formed ,which letter/symbol will be on the opposite face to face having the symbol ‘%’ ?



1. (y)
2. (\$)
3. (a)
4. (+)

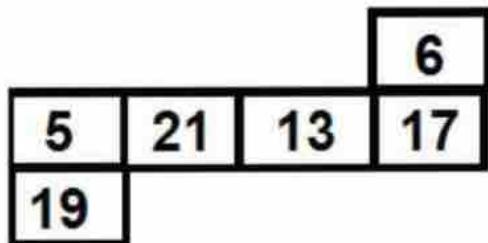
Answer 1) (y)

Question 14: P,R,Q,O,S,M and T are sitting in a line facing North but not necessarily in the same order P is sitting between R and S,T is to the immediate left of O. There are only two persons between M and S ,R is sitting between P and Q,S is to the immediate right of P. What is the Position of T with respect to R ?

1. Fourth to the right
2. Third to the left
3. Third to the right
4. Fourth to the left

Answer 3) Third to the right

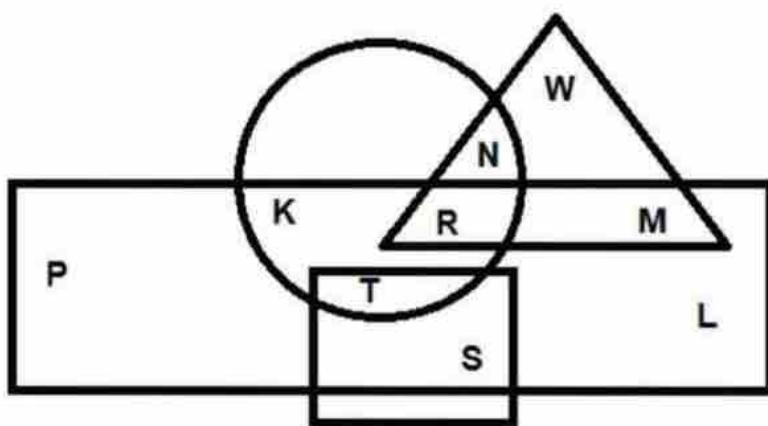
Question 16: What number will be opposite to 13, when the given figure is folded into a box?



1. 6
2. 21
3. 19
4. 5

Answer 4) 5

Question 17: In the following figure, the triangle represents researchers, the square represents historians, the rectangle represents lectures and the circle represents singers. Find the researcher who is neither historian nor lecturer but singer and the lecturer who is researcher and singer but not historian.



-
- 1. R,T
 - 2. W,M
 - 3. N,R
 - 4. K,P

Solution 3) N,R

Question 18: The age of the mother is twice of her son. If the sum of their ages is 60, what is the age of the mother?

- 1. 30 years
- 2. 40 years
- 3. 36 years
- 4. 48 years

Answer 2) 40 years

Question 19: Two statements are given followed by three conclusions, I II and III. Consider the statements to be true even if they seem to be at variance from commonly known facts and decide which of the given conclusion(s) logically follow(s) from the given statements.

Statements:

- 1. Some clocks have numbers.
- 2. All clocks have needles

Conclusion:

- I. Some clocks have needles.
- II. All needles are clocks.
- III. Some numbers are needles.

Options:

- 1. Only conclusions I & III follows.
- 2. Only conclusions I follow.
- 3. All conclusions I, II & III follows.
- 4. Only conclusions II & III follows.

Answer 1) Only conclusions I & III follows.

Question 20:K is the mother of N and P is the father of L.N is the maternal uncle of G and O.L is the only sister of N.E is the father of O.

How is K related to E?

- 1. Son-in-law
- 2. Sister-in-law
- 3. Mother-in-law
- 4. Mother

Answer 3) Mother-in-law

Question 21:A builder constructed a building.The expenditure percentage was 20% on cement,15% on bricks,18% on iron,10% on electricity,25% on decoration and 12% on plumbing works.The total expenditure was Rs. 20,65,500.

How much money was spent on electricity and plumbing works together?

1. Rs. 4,58,400
2. Rs. 4,50,500
3. Rs. 4,54,410
4. Rs. 4,45,500

Answer 3) Rs. 4,54,410

Question 22: Read the following instruction carefully and answer the question.

- i. 'A&B' means 'A' is sister of 'B'
- ii. 'A\\$B' means 'A' is daughter of 'B'
- iii. 'A#B' means 'A' is brother of 'B'
- iv. 'A*B' means 'A' is father of 'B'

Which of the following options means 'M' is the sister-in-law of 'S' ?

1. S#R*M&N\$O
2. N\$R&S*M#O
3. M&N#O*R\$S
4. R*S#M\$O&N

Answer 3) M&N#O*R\$S

Question 23: Two statements are given followed by three conclusions, I II

and III. Consider the statements to be true even if they seem to be at variance from commonly known facts and decide which of the given conclusion(s) logically follow(s) from the given statements.

Statements:

1. Some birds are sparrows.
2. All eagles are birds.
3. All sparrows have wings

Conclusion:

- I. Some birds have wings.
- II. Some sparrows are eagles.
- III. All eagles are sparrows.

Options:

1. Only conclusion I & III follows.
2. Only conclusion II follows.
3. All conclusion I,II & III follows.
4. Only conclusion I follow.

Answer 4) Only conclusion I follow.

Question 24: Two statements are given followed by three conclusions, I II and III. Consider the statements to be true even if they seem to be at variance from commonly known facts and decide which of the given conclusion(s) logically follow(s) from the given statements.

Statements:

1. If Priya likes singing, Madhu likes dancing.
2. If Madhu likes dancing, madhu likes music.

Conclusion:

- I. Priya likes music.
- II. Madhu likes dancing.
- III. Megha likes singing.

Options:

1. Only conclusion II follows.
2. All conclusions I, II & III follow.
3. Only conclusion I follow.
4. Only conclusion I & III follows.

Answer 1) Only conclusion II follows.

Question 25: Given below is a question followed by two statements, I, II, each containing some information. Decide which of the statement(s) is/are sufficient to answer the question.

How Far is Janny from her starting point? If

- I. Janny moves 4km towards south, then 3 km towards right, 5km towards left, 3 km towards left and 3 km towards right and stops.
- II. Janny moves 7km towards south, then 4 km towards left, 2km towards right, 4 km towards right and 3 km towards left and stops.

-
1. The data of both statements I alone and statement II alone are sufficient to answer the questions
 2. The data in both statements I and II together are necessary to answer the questions
 3. The data in statement I alone is sufficient to answer the questions
 4. The data in statement II alone is sufficient to answer the questions

Answer 1) The data of both statements I alone and statement II alone are sufficient to answer the questions

Question 26: Two statements are given followed by three conclusions numbered I,II and III.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 animals are plants
2. All plants are shrubs

Conclusions:

- I. Some shrubs are plants
- II. Some animals are not shrubs
- III. All animals are shrubs

Options:

1. Only conclusion I & III follows.
2. Only conclusion I & II follows.
3. Only conclusion II follows.
4. None of the conclusions follows.

Answer 1) Only conclusion I & III follows.

Question 27: A builder constructed a building. The expenditure percentage was 20% on cement, 15% on bricks, 18% on iron, 10% on electricity, 25% on decoration and 12% on plumbing works. The total expenditure was Rs. 20,65,500.

How much money was spent on bricks in the construction of the building?

1. Rs. 2,50,750
2. Rs. 3,45,500
3. Rs. 2,65,500
4. Rs. 3,09,825

Answer 4) Rs. 3,09,825

Question 28: The percentage distribution of the students in different activities is as follows:

25% in essay writing, 19% in drawing, 14% in rangoli making, 17% in dancing and 25% in singing. Total participants are 800 students.

How many students participated in Rangoli and dancing taken Together ?

1. 112
2. 248
3. 136
4. 372

Answer 2) 248

Question 29 : Choose the pair similar to the following:

ITWN : LQZK

1. IJSX: LWBJ
2. FGMO:PLKE
3. JZFY : MWIV
4. MBTX : OLQS

Answer 3) JZFY : MWIV

Question 30: Solve the following puzzle:

3, 21, 5, 19, 8, 16, 12, 12, 17, ?

1. 9
2. 7
3. 18
4. 17

Answer 2) 7

Programming Logic

Question 1: If a user wants to store data in linear data structure then which one is not suitable to implant this logic?

1. String
2. Graph
3. Queue
4. Array

Answer 2) Graph

Question 2: Match the following:

	Functions		Significance
A	abs()	1	Get the absolute value of float
B	ceil()	2	Computes the nearest integer greater than the argument passed.
C	fabs()	3	Get the absolute value of integer
D	floor()	4	The largest integer that is smaller than or equal to given value

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

Answer 3) A-1, B-2, C-3, D-4

Question 3: Identify the significant term which deserves “C language is a platform dependent language”

1. Modularity
2. Flexibility
3. Portability
4. Extensibility

Answer 4) Extensible

Question 4: In a double circular linked list what will be the contents of right address field of last node?

1. NULL
2. Address of first node
3. Garbage Value
4. Depends on user

Answer 2) Address of first node

Question 5: What is the correct full-form of SPRAE - a generic structured testing approach ?

1. Specification-Premeditation-Repeatability-Accountability-Evaluation
2. Specification-Programming-Randomization-Accountability-Economy
3. Specification-Programming-Repeatability-Accountability-Economy
4. Specification-Premeditation-Repeatability-Accountability-Economy

Answer:4)Specification-Premeditation-Repeatability-Accountability-Economy

Question 6: Consider the given code. What will be the output when it is executed ?

```
#include<string.h>
#include<stdio.h>
int main()
{
    int i= -1;
    do
    {
        printf("HelloC")
    }
    while(i++);
    return 0;
}
```

Type Answer in the Box:

Answer: HelloCHelloC

Question 7: What will be the output of the following pseudo code, if x=10, y=12, z=8, num = 0 ?

Integer x,y,z,num

If $x < y$ and $x < z$

 num = x

end if

If $y < z$ and $y < x$

 num = y

End if

If $z < x$ and $z < y$

 Num = z

End if

Print num

1. 10

2. 8

3. 12

4. 0

Answer 2) 8

Question 8: What will be the output of the following program?

Type your answer below

```
#include<stdio.h>
void calculate(int *x, int *y)
{
    *x = *x + *y;
    *y = *x - *y;
    *x = *x-*y;
}
```

```
int main()
{
    int num1=6, num2=12;
    calculate(&num1,&num2);
    printf("%d %d\n", num1, num2);
    return 0;
}
```

Answer: 12 6

Question 9: What will be the output of the following program?

```
import java.util.*;
class Main
{
    public static void main(String args[])
    {
        BitSet bs= new BitSet(3);
        for(int i=0; i<3 ; ++i)
        {
            bs.set(i);
            bs.set(++i);
        }
        bs.clear(1);
        System.out.println(bs);
    }
}
```

1. {0,1,2,3}
2. {0,1,2,3,4}
3. {0,2,3}
4. {0,2,4}

Answer 3) {0,2,3}

Question 10: Testing of software in client/user environment with actual data is called as:

1. Re-testing
2. Beta-testing
3. Alpha testing
4. Smoke testing

Answer 2) Beta testing

Coding

Question 1 : A food court facilitates their customers with a featured App where the customers can view the Menu Card and place their order. The order may be delivered on-premises as per policies. Write a code to take the order from the customers by pressing menu number, Quantity

After one customer completes the process of placing the order by pressing the Menu number and Quantity. Your code should accept y to continue taking order or n for stopping the process of order taking

Final output should be the calculated total amount.

Menu card is given as

Number	Name	Price
1.	Veg sandwich	80.0
2.	Cheese sandwich	130.0
3.	Veg Grilled sandwich	100.0
4.	Sada Dosa	80.0
5.	Masala Dosa	90.0
6.	Onion Rava Sada Dosa	110.0
7.	Onion Rava Masala Dosa	120.0
8.	Spring Dosa	140.0
9.	Plain Uttapam	70.0
10.	Onion Uttapam	80.0

You can use any suitable data structure to hold the menu card items with price.

Inputs for Menu Number and Quantity should be integers greater than 0 and less than 21.

For any other input, return as output: INVALID INPUT

Example 1:

INPUT VALUES

1 //for enter menu number

2 //for enter quantity

Y //Do you want to order

More Items? (y/n)

2 //for enter menu number

3 //for enter quantity

N //Do you want to order

More items? (y/n)

Output values

Total Amount : 550.0 INR

Note: Input prompt should not be the part of code

(Only accept values as input in order as given above)

Output should be in the format given above.

Solution in C

```
#include <stdio.h>
int main()
{
    float price[10] = {80.0, 130.0, 100.0, 80.0, 90.0, 110.0, 120.0, 140.0, 70.0, 80.0};
    float total = 0;
    int num, quantity;
    char choice;
```

```
int i;
start:
scanf("%d",&num);
scanf("%d",&quantity);
if(quantity<0 || quantity>21)
{
printf("INVALID INPUT");
}
else
{
for(i=0; i<10; i++)
{
if(num==i+1)
{
total = total + (price[i] * quantity);
}
}
scanf(" %c",&choice);
if(choice=='y' || choice=='Y')
{
goto start;
}
else if(choice=='n' || choice == 'N')
{
printf("Total Amount : %.1f INR",total);
}
else
```

```
{  
printf("INVALID INPUT");  
}  
}  
return 0;  
}
```

Question 2 : A customer has a choice to buy TV from set of 3 company models provided by store.

If customer take an exchange offer.

- Then customer get discount of 2% if old TV is not in working condition
- Customer gets discount of 20% if old TV is in working condition

If customer do not opt for exchange offer then, he has to pay MRP of TV as amount

Display the amount of customer has to pay.

Menu for TV condition should be displayed only if customer choose for exchange offer

When user enters invalid option then code should stop with message "INVALID INPUT", it should be displayed in same format as it is case sensitive.

Make sure output text should be in exact format mentioned above

Assume following List is already seen by customer, There should be 3 inputs for each question whose answer should be a number given with that choice.

First input choice

Display List (Select TV Model)

- Samsung 10000
- Onida 7000
- HDLC 6000

Second Input Choice

Want to take Exchange Offer

- Yes
- No

Third Input Choice

Current Condition of customer's old TV

- Working
- Not Working

For example, if customer want TV HDLC and he want to opt exchange offer for his old TV which is in working condition then output will be 4800.0 INR
All input values should be entered in Following Format

3

1

1

Output 4800.0 INR

Note that when customer do not opt for exchange offer, there will be only 2 inputs.

Solution in C

```
#include <stdio.h>
int main()
{
    int price[3] = {10000, 7000, 6000};
    int num, exchange, working;
    float discount;
    float total;
    scanf("%d",&num);
    if(num>=1 && num<=3)
    {
        scanf("%d",&exchange);
        if(exchange==1)
        {
            scanf("%d",&working);
            {
                if(working == 1)
                {
                    discount = (20*price[num-1])/100;
                    total = price[num-1] - discount;
                }
                else if(discount == 2)
                {
                    discount = (2*price[num-1])/100;
                    total = price[num-1] - discount;
                }
            }
        }
    }
}
```

```
else
{
printf("INVALID INPUT");
}
}
}

else if(exchange == 2)
{
total = price[num-1];
}
printf("%.1f INR",total);
}
else
{
printf("INVALID INPUT");
}
return 0;
}
```

Set 6

Numerical Ability

Question 1: There are three buckets X,Y and Z. X contains a mixture of liquids A and B in the ratio 3:2, Y contains a mixture of liquids B and C in the ratio 5:3 and Z contains a mixture of liquid A and C in the ratio 2:3 Now 2 liters of mixture from X. 4 liters of mixture from Y and 2 liters of mixture from Z are mixed in a new bucket. If one liter of this new mixture is taken out, the amount of A in it will be-

1. 200 ml
2. 150 ml
3. 250 ml
4. 350ml

Answer 1) 200 ml

Question 2 : The variance of the following data

29, 35, 38, 28, 36, 26, is.....(correct to two decimal places)

1. 24.54
2. 20.33
3. 23.45
4. 25.65

Answer 2) 20.33

Question 3 : Two money lenders A and B lent Rajesh an equal amount with rate of interest 6% per annum. But A charges compound interest and B charges simple interest to return the amount. Find the ratio of the amounts Rajesh needs to pay after two years, to B and A respectively.

1. 110: 100
2. 101: 100
3. 112.36:112
4. 107: 100

Answer: 3) 112.36:112

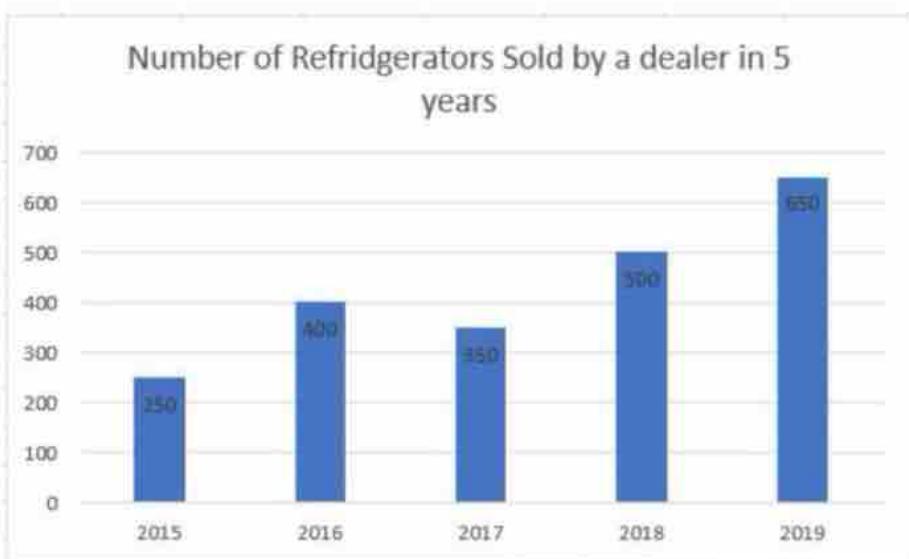
Question 4 : If $(x + 10)\%$ of 240 is 60% more than $x\%$ of 180, then 15% of $(x + 20)$ is what percent less than 25% of x ?

1. $19(1/21)$
2. $15(1/2)$
3. 16
4. 15

Answer: 3) 16

Question 5: Look at the bar graph below and answer the following question.

In which year was the highest percent increase in the sale of refrigerators recorded in comparison to its previous year?



1. Same in 2016, 2018 and 2019
2. 2018
3. 2016
4. 2019

Answer 3) 2016

Question 6: Find the standard deviation of the following distribution:

Class interval	Frequency
10-20	4
20-30	6
30-40	8
40-50	2

1. $3\sqrt{17}$
2. $5\sqrt{19}$
3. $2\sqrt{21}$
4. 16

Answer 3) $2\sqrt{21}$

Question 7: Three numbers P,Q and R are in the ratio 3:4:5. If 15 is subtracted from P, 5 is added to Q and 10 is added to R, the ratio between new numbers becomes 1:3:4. What is the value of Q?

- 1. 40
- 2. 30
- 3. 25
- 4. 20

Answer 1) 40

Question 8: 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 ?

- 1. Rs. 50500
- 2. Rs. 50000
- 3. Rs. 49000
- 4. Rs. 47500

Answer 2) Rs. 50000

Question 9: There are 96 girls and 120 boys in a sports event. The sports teacher wants to arrange them in rows in such a way that each row contains an equal number of students and each row should have either girls or boys in it, not both. What is the Greatest number of students that

can be arranged in each row?

1. 26
2. 24
3. 20
4. 22

Answer 2) 24

Question 10 : The value of $\frac{2.66 * 2.66 * 2.66 - 1.82 * 1.82 * 1.82}{2.66 * 2.66 + 2.66 * 1.82 + 1.82 * 1.82}$ is

1. 2.03
2. 0.84
3. 1.75
4. 0.68

Answer 2) 0.84

Question 11: A bookseller marks 40% more than the cost price on a copy. If he gives a discount of 25% on this marked price, what will be the loss or profit percent on selling it ?

1. Loss , 10%
2. Loss, 2%
3. Profit, 1.5%
4. Profit, 5%

Answer 4) Profit, 5%

Question 12: Study the following table to answer the given question:
The table depicts the number of students of different classes of a school
practicing on different musical instruments:

Class	VI	VII	VIII
Musical Instruments			
Drum	10	13	14
Flute	12	22	11
Piano	15	9	8
Harmonica	25	18	17

By what percent is the total number of students who practice Harmonica
in all three classes greater than the total number of students who practice
flute in all three classes? (correct to two decimal places)

1. 45.25%
2. 15%
3. 50%
4. 33.33%

Answer 4) 33.33%

Question 13 : In 50 numbers 10 are threes, 15 are fours, 18 are fives and
remaining are sixes. If a, b and c respectively represent the mean, mode and
median of data, what is the value of $a+2b-c$?

-
- 1. 9.44
 - 2. 10.94
 - 3. 5.56
 - 4. 12.5

Answer 1) 9.44

Question 14 : 8000 tiles of size 15 cm by 15 cm are required to cover the entire floor of a hall length 15m. What is the breadth (in m) of the hall

- 1. 15
- 2. 10
- 3. 20
- 4. 12

Answer 4) 12

Question 15 : The difference between the simple interest on a sum for four years at the rate of 11 % per annum and the compound interest of the same amount at a different rate in two years is zero, interest compounded yearly. What is the rate of compound interest per annum?

- 1. 8%
- 2. 6%
- 3. 20%
- 4. 15%

Answer 3) 20%

Question 16 : A can do a work in double the time than what B takes to do it and B can do the same work in double the time than what C takes to do it. If A and B together can complete the work in 4 days, then in how many days can C alone complete the same work ?

1. 7 days
2. 2 days
3. 3 days
4. 5 days

Answer 3) 3 days

Question 17: Rahul went to meet his sister in a nearby district. While going, he covered one-third of the distance at an average speed of 12 km/h and two-third at an average speed of 18 km/h. During the return journey his average speed was 36/h. If he spent 10 hour in his total journey, excluding the time of stay, the total distance of his sister's house from the starting point is-

1. 95 km
2. 103 km
3. 108 km
4. 115k m

Answer 3) 108 km

Question 18 : A can do 25% of work in 4 days and B can do one-third of the

same work in 4 days. C can complete the work in the same time as A and B would take working together, How long will it take to complete the same work?

Options:

1. 24/7
2. 17/5
3. 19/3
4. 27/8

Answer 1) 24/7

Question 19 : In a competitive exam, 5 marks are awarded for every correct answer and for every wrong answer, 2 marks are deducted. Sathwik scores 32 marks in the examination. If 4 marks had 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 ?

1. 14
2. 12
3. 20
4. 26

Answer 4) 26

Question 20 :If $4\sqrt{2\sqrt{3\sqrt{729}}}=P$, then the value of $\frac{P^{20}}{162} + \frac{5}{2}$ is

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

Answer 4) 2

Question 21 :Rahim purchased a used car and sold it on 5% profit to Sarvesh,Sarvesh spent Rs 6500 on repairing it and then sold it on 10% profit to Mohan.Mohan sold it to Rita at 6% loss.Rita spent Rs 1280 on repairing and sold it to her relatives without any profit or loss in Rs 84000. What was the cost price of the car when Rahim bought it?

1. Rs. 66,000
2. Rs. 70,000
3. Rs. 68,000
4. Rs. 65,000

Answer 2) Rs. 70,000

Question 22: The surface area of two cubes are in the ratio of 1:9. What will be the ratio of their volumes?

1. 1:27
2. 1:81
3. 1:9
4. 1:3

Answer 1) 1:27

Question 23: Three numbers A, B and C are such that A : B = 2 : 3 and B : C = 4 : 5. The ratio between A:B:C is?

1. 8:12:15
2. 5:10:15
3. 3:5:8
4. 2:4:15

Answer 1) 8:12:15

Question 24 : If mean of a distribution is 10 and the standard deviation is 4. What is the value of the coefficient of variation?

1. 14%
2. 40%
3. 6%
4. 10%

Solution 2) 40%

Question 25 : The value of $1 + \frac{1}{1 + \frac{1}{3 + \frac{2}{3}}} \div \frac{6}{7} + \frac{1}{3}$ of $\left(\frac{1 + \frac{1}{3 + \frac{3}{5}}}{\frac{2}{3}} \right)$

1. $2\frac{5}{9}$
2. $5\frac{2}{9}$
3. $4\frac{3}{7}$
4. $3\frac{4}{7}$

Answer 1) $2\frac{5}{9}$

Verbal Ability

Question 1: Read the passage carefully. Then select the words/options listed A to D which best fill in the blanks:

In Summer people _____ 1 _____ to grill meats and vegetables because the sun is high and the days are much longer. Grill safety is a critical element while having a grill party. There are many important _____ 2 _____ to remember. The first is _____ 3 _____ a grill that is safe and long lasting. There are gas grills as well. Since gas grills _____ 4 _____ cost more money over time.you need to buy more gas.

Options:

Blank 1: A. Try B. Know C. Love D. Are

Blank 2: A. Stries B. warnings C. Factors D. Incidents, usually many

Blank 3: A. That B. Safety C. Getting D. Whether

Blank 4: A. Known B. Certainly C. Normally D. Usually

1. BADC

2. CCCC

3. DCBA

4. ABCD

Answer 2) CCCC

Question 2: 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 wheels / spinning and reciting prayers.

1. Since sunrise to sunset
2. my grandmother would sit by her wheels
3. spinning and reciting prayers
4. No error

Answer 1) Since sunrise to sunset

Question 3: Two sentences have been removed from the text below. Read the text and then match the missing sentences to fill Blank 1 and Blank 2. You will need to choose two options out of four P , Q, R and S provided.

Dolphins are regarded as the friendliest creatures in the sea and stories of them helping drowning sailors have been common since Roman times. The more we learn about dolphins, the more we realize that their society is more complex than previously imagined.

(1) _____ Some scientists have suggested that dolphins have a language but it is much more probable that they communicate with each other without words.

(2) _____ Certainly the most common argument in favor of man's superiority over them that we can kill them more easily than they can kill us is the least satisfactory.

On the contrary, the more we discover about these remarkable creatures, the less we appear superior when we destroy them.

Options:

P: Scientists believe that dolphins once walked on Earth.

Q: But man is by far God's most amazing creation, mainly because we can think and speak.

R: They look after other dolphins when they are ill, care for pregnant mothers and protect the weakest in the community, as we do.

S: Could any of these mammals be more intelligent than man?

1. 1-Q, 2-P
2. 1-R, 2-P
3. 1-R, 2-S
4. 1-P, 2-Q

Answer 3) 1-R, 2-S

Question 4: Choose the most appropriate word/words to complete the sentence.

I cannot _____ agree with your opinion.

1. Completing
2. Complete
3. Completely
4. Completed

Answer 3) Completely

Question 5: Two sentences have been removed from the text below. Read the text and then match the missing sentences to fill Blank 1 and Blank 2. You will need to choose two options out of four P , Q, R and S provided.

In Siberia, the temperature can fall as low as seventy degree centigrade below zero. The intense cold makes it immensely difficult and dangerous for anyone unaccustomed to it.

1. _____ When this happens, the topsoil thaws to a depth of about 2 metres and can support rich vegetation.
2. _____

Options:

P: The Siberian Husky is a hardy and compact dog, and is known to be friendly, fastidious and dignified.

Q: Though parts of the region are colder than the North Pole itself, the temperature in summer may reach 40 degree centigrade.

R: The summer days are so long that the earth stores enough heat to bear a variety of flowers which blossom between the trees.

S: As many as 2,500 inmates considered enemies of the state per executed here during the Soviet Union's political repression campaign of 1937, 1938 and it's believed no one ever escaped.

1. 1-P, 2-Q
2. 1-Q, 2-R
3. 1-P, 2-S
4. 1-Q, 2-S

Answer 2) 1-Q, 2-R

Question 6: For the four sentences (S1 to S4) paragraph below, sentences S1 and S4 are given. From the options P Q and R, choose appropriate sentences for S2 and S3 respectively.

S1: Naval architects never claim that a ship is unsinkable, but the sinking of the passenger and car ferry, Estonia and the Baltic surely should have never happened.

S2:

S3:

S4: The final death toll amounted to 912 resource

Options

P: Yet hours later, The Estonia rolled over and sank in a cold, stormy night, going down so quickly most of those on board caught the dark, flooding cabins, had no chance to save themselves

Q: It was well-designed, carefully maintained, had requisite lifeboats and had regular inspections

R: Sailing on a ship is one of the most pleasurable activities, yet fraught with risk

1. QP
2. QR
3. PQ
4. PR

Answer 1) QP

Question : Read the following passage and answer the questions.

The growing chatter about the ill-effects of social media is packaged together, dramatised and heavily underlined in the Social Dilemma. Directed by Jeff Orlowski, the 93 minutes film begins with the sense of ominous statements. A range of technology experts allude to the flip side of social media and the way a tool that was meant to connect people has gradually become a curse akin to an existential threat. The interviewees include former employees of Google, Facebook, Pinterest, Twitter and other internet giants who talk about the monster they helped create.

Together, these experts explain how humans have become a pawn in the game between social media and advertisers. Their dire warning culminates in the lesson that social media companies are in a tussle for the attention of users and ultimately in the business of facilitating behaviour role change to favour advertisements.

The film blames the anarchy of technology, but also underlines that it is humans who unknowingly created this monster. It also examines how human vulnerabilities and predispositions are tapped into through the very design of these platforms, which is meant to grab attention and prolong engagement.

The film proves to be an engaging watch because of how it successfully underlines a threat that has been extensively written about. While there

are the usual suspects- surveillance, data collection, fake news, the creation of a post truth world-the documentary expands upon the extent to which human psychology is being exploited through algorithms and artificial intelligence.

AI is already running our lives, the film proposes in ways that are subtle and have escaped our attention. Human beings are lab rats and are being moulded, manipulated and indoctrinated everyday in ways that we do not even realise, the documentary warns Compelling and taut. The Social Dilemma ensures that at the very least, viewers won't look at notifications in constantly refreshing news feeds the same way again.

Question 7: In which way is “free-will” being destroyed by Social Media algorithms?

1. Social media does not allow man to think his own thoughts and make his own decisions----his friends and family and even the government are constantly monitoring his movements.
2. Humans waste valuable time on useless social media platforms, without realising that their lives are passing by
3. Artificial intelligence is controlling our minds and responses, the data we consume, the things we buy and the thoughts we have---- we are no longer free.
4. Social media makes it easy for man to forget the basic principles or exaggerate his worst qualities.

Answer 3) Artificial intelligence is controlling our minds and responses, the data we consume, the things we buy and the thoughts we have- ----

Question 8: What according to the author, will the film “Social Dilemma” help us with?

1. It is a warning that we are already behaving like robots and filtrate looks grim
2. It is a wake-up call for people, asking them to reduce use of social media and take control of their lives.
3. It will help us to be resigned the fact that technology is running mankind, and that we must bow to it
4. It will start a civil disobedience movement, revolt of people, who want to lead saner lives henceforth.

Answer 2) It is a wake-up call for people, asking them to reduce use of social media and take control of their lives.

Question 9: What is the theme of the docu-drama The Social Dilemma?

1. That the addiction of social medias is more dangerous than the addiction of narcotics or other substances
2. That social media will completely take over the minds and brains of generations born post 1995
3. The social media is the only platform on which humans will stay connected with each other and the commercial world from now on
4. The humans have become a pawn in the game between social media companies at advertisers they will ultimately facilitate behavioural change to favour advertisers.

Answer 4) The humans have become a pawn in the game between social media companies at advertisers they will ultimately facilitate behavioural change to favour advertisers

Question 10) In the phrase, “The film blames this anarchy on technology”, the word opposite to the meaning in ‘anarchy’ is :

1. Lawlessness
2. Leadership
3. Harmony
4. Revolt

Answer 2) Leadership

Question 11 :For the four sentences S1 to S4 paragraph below, sentences S1 and S4 are given. From the options P Q and R, choose appropriate sentences for the following

S1: It's nearly spring and it's time to grow plants

S2:

S3:

S4: It's true that some plants are picky, but most are super flexible and only require water, dirt and ofcourse sun.

P: Of course, not all plants are currently in season.

Q : The children love to play in the water, dirt and sun.

R : This makes it very difficult to pick the best plants to grow, though plants can grow in nearly every environment.

1. QP
2. PR
3. RQ
4. PQ

Answer 4) PQ

Question 12: For the four sentences S1 to S4 paragraph below, sentences S1 and S4 are given. From the options P Q and R, choose appropriate sentences for the following

S1: You will usually encounter new words when you start reading books

S2:

S3:

S4: You may not even need to use a dictionary because you can guess the meaning from the rest of the text(from the context).

P: But if there are, say a maximum of five new words per page, you will learn this vocabulary easily.

Q: a student's best friend

R: then the level is too high and you should read something simpler

Options

1. QR
2. PR
3. QP
4. RP

Answer 4) RP

Question 13 : Choose the appropriate pair of options that complete the sentence.

Had I _____ about the plans you are sharing with me now, I would not have come to visit you at this _____ hour.

Blank 1- A: seen. B: known. C: understand. D: know

Blank 2- A: odd. B: middle. C: officious. D: dusk

1. AB
2. BA
3. BB
4. DC

Answer 2) BA

Question 14 - Read the passage carefully, Then select the words/ options listed A to D which best fill in the blanks.

Opera refers to a _____ 1 _____ art form, originating in Europe, in which the emotional content is conveyed to the audience as much through music, both vocal and _____ 2 _____ as it is through lyrics. By contrast in musical theater an actor's dramatic performance is _____ 3 _____, and the music plays a lesser role. The drama in opera is presented using _____ 4 _____ the primary elements of theatre such as scenery, costumes, and acting. However, the words of the opera, or libretto, are sung rather than spoken. The singers are accompanied by a musical ensemble ranging from a small instrumental ensemble to a full _____ 4 _____ orchestra.

Blank1 : A. dramatic B. medical C. mysterious D. spun

Blank2: A. violin B. poems C. instrumental D. action

Blank3: A. stylish B. primary C. supporting D. primal

Blank4: A. classical B. Street C. banjo D. symphonic

Options

1. ACBD
2. CDAB
3. DABC
4. ADCS

Answer 1) ACBD

Question 15: Choose the most appropriate word/words to complete the sentence correctly

My sister has _____ the rights to our ancestral property in my favour.

Options

1. Signed away
2. Sign into
3. Sign for
4. Signed

Answer 4) Signed

Question 16: One part of the sentence below may contain an error. Identify the part.

Had she become a doctor/ as her mother had wished/ she will have earn/ a lot of money.

Options:

1. as her mother had wished
2. a lot of money
3. had she become a doctor
4. she will have earn

Answer 4) she will have earn

Question 17: Read the passage and answer the questions

A great epic book needs to be retold, afresh for each generation. The Mahabharata is one of those books, known as the fifth Veda, it is quite unlike the first four Vedas which are difficult to comprehend. It is an

extensive book, seven times longer than the *Odyssey* and *Iliad* combined. An epic of ancient India, *Mahabharata* teaches the most abstract ideas indirectly through stories. It highlights the most complex ethical dilemmas to take the reader to the deepest level of spiritual wisdom.

The underlining contest in the book between the Pandavas and the Kaurwas, who are cousins, is like that between the good and evil. Its Central event is the battle that takes place on the holy ground at Kurukshetra, but this battle also represents the living struggle within each individual's heart. As do the Greek philosophers, *Mahabharat* extolls examinations of one's life, and it gives us the most uncommon wisdom to do so. The *Bhagavad Gita*, a jewel of world signature, is a part of it.

The *Mahabharata* is a living document of Indian and Southeast Asian culture, and beyond that, it has influenced literature. The story continues to be relevant to contemporary issues and concerns, especially in showing the havoc that blind ambition, greed, and hubris can bring upon society. There are those who argue that selfless action and protection of Dharma, the moral law, taught by Krishna to Arjun, should be somehow incorporated in our business environment in the *Bhagavad-Gita*, Lord Krishna said, "The meaning of Karma is the intention. The intention behind action is what matters, The *Mahabharata* inspires and provides strength as we go through the tribulations of like to do our duty and not to be attached to the fruits of the labour. It teaches fearlessness and detachment, as in the final analysis, Lord Krishna reminds us that our essence is immortal.

Question 17: What is the common thread that runs through ancient epics like Odyssey and the Iliad or the Mahabharata?

1. Humans are frail in their beliefs this is what the epics teach us in no uncertain terms
2. All the epics reveal eternal truth about existence and in the process gifts as exceptional knowledge about moral dilemmas
3. All epics extol the necessity of valour, the beauty of woman and the lure of money and property that is the bane of humankind
4. All epics teach us that the most common man has to learn about the right and wrong of life only through the stories of the rich and famous.

Answer 2) All the epics reveal eternal truth about existence and in the process gifts as exceptional knowledge about moral dilemmas

Question 18: What does the epic text consist of ?

1. A song of recounting of the life stories of kings, Queens and their children, a folk tale that is set in all South Asian countries and thus popular.
2. Consists of Greek and Iranian characters from history books who die for their country or kingdom's, often in the pursuit of beautiful women.
3. It consists of a staged dance drama about fairy tales, where heroes and heroines dance and sing, performed in some villages.
4. A long dramatic narrative in words from the recounts the heroic and combative journey of legendary characters teaches universal truths.

Answer 4) A long dramatic narrative in words from the recounts the heroic and combative journey of legendary characters teaches universal truths.

Question 19: What is the theme of the passage?

1. The epic works as a tale of good versus evil in the battle between Pandavas and Kauravas, and also highlights the internal struggle in all of us, which leads to spiritual wisdom.
2. The Mahabharata is not as powerful or multi-layered an epic as Ramayana, which upholds truth, justice and morally and can be applied to our lives even today.
3. The Mahabharata teaches readers about the finest aspects of warfare and martial struggle and how man's ambition can make or break him in the final race.
4. The Mahabharata is simply a history of old, ancient India, where small clans fought amongst each other for land, cattle, women and gold. Thus it reflects old Indian regit traditions

Answer 1) The epic works as a tale of good versus evil in the battle between Pandavas and Kauravas, and also highlights the internal struggle in all of us, which leads to spiritual wisdom.

Question 20: Which one of the following sentences uses formal language?

1. I apologize for the technical glitch that occurred during our webinar yesterday.
2. This presentation takes the cake!

3. I'm disappointed with the sales figure, they need to look up!
4. Shall we put this on our agenda for the next-meet?

Answer 4) I apologize for the technical glitch that occurred during our webinar yesterday.

Question 21: Choose the appropriate pair of options that complete the sentence.

Since the early 1900s, many glaciers around the world have been rapidly melting ____1____ Specifically, since the industrial revolution, carbon dioxide, greenhouse gas emissions have raised temperatures, even larger in the poles. _____2_____ Scientists project that if emissions continue to rise unchecked, the Arctic could be ice free in the summer as soon as the year 2040 as ocean and air temperatures continue to rise rapidly.

- A- More than a third of the remaining glaciers of the world would have melted by 2030.
- B- As a result, glaciers are rapidly melting, calving off into the sea and retreating on land.
- C- Human activities are the root of this phenomenon.

1. 1C, 2A
2. 1B, 2C
3. 1A, 2B
4. 1C, 2B

Answer 4) 1C, 2B

Question 22: Select the most appropriate meaning of the phrase underlined below:

After working through the day, and half the night, the doctors decided to call it a day.

1. Phone their families
2. Check their time
3. Stop working
4. Call other doctors for the day.

Answer 3) Stop working

Question 23: One part of the sentence may contain an error. Identify the part.

My lemon trees are being / destroyed by Aphids / where eggs are burrowed / into the bark of the tree.

1. destroyed by Aphids
2. where eggs are burrowed
3. My lemon trees are being
4. into the bark of the tree.

Answer 4) into the bark of the tree.

Question 24: One part of the sentence below may contain a grammatical error. Identify the part if there is No Error choose "No Error"

India's chess Olympiad gold winning team captain Vidit Gujarati says the experience of playing against, and defeating iconic Viswanathan Anand, was the most special moment of his life.

1. says that the experience of playing against and defeating.
2. India's chess Olympiad gold winning team captain.
3. No error
4. was the most special moment of his life

Answer 3) 'No error'

Reasoning Ability

Question 1 : In a certain code A%B means A is the brother of B, A&B means A is the mother of B, A@B means A is the daughter of B, A\$B means A is the father of B, A#B means A is the sister of B.

If K \$ Z % U & H # N @ T, how T is related to U?

1. Sister
2. Brother
3. Husband
4. Wife

Answer 1) Sister

Explanation:

K \$ Z = K is the father of Z (1)

Z % U = Z is the brother of U (2)

U & H = U is the mother of H (3)

H # N = H is the sister of N (4)

N @ T = N is the daughter of T (5)

From statement 3, 4, and 5

As U is the mother of H, H is the sister of N and N is the daughter of T complies that U and T are sisters

Question 2: Five teachers P, Q, R, S, and T teach a group of students in a sequence between 9 a.m. and 2 p.m. Each teacher teaches for one hour Q takes the first class, S teaches just after T. R teaches before P and T. Who takes the second class from 10 am to 11 am?

1. P
2. T
3. R
4. S

Answer 3) R

Explanation:

- Q takes the first class
- S teaches just after T
- R teaches before P and T

As Q is taking the first class (10 - 11 am) and R teaches before P and T, also S is teaching after T.

Hence R is taking the second class.

Question 3: A statement is followed by two assumptions numbered I and II. Consider the statement and decide which of the given assumption(s) is/are implicit in the statement.

Statement-

Various governments across the world have issued strict guidelines for the public to wear masks and wash hands regularly to safeguard their health during covid-19 pandemic.

Assumptions:

1. Covid-19 Pandemic is a serious health issue.
2. There are ways by which people can save themselves from Covid-19 pandemic.

Options:

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

Answer 2) Both I and II are implicit.

Question 4: Four Statements are followed by four conclusion numbered conclusions(s) logically follows/follow from the statements.

Statements.

- All vegetables are fruit.
- No Carrot is fruit.

- Some roots are carrot
- All roots are eatables

Conclusion

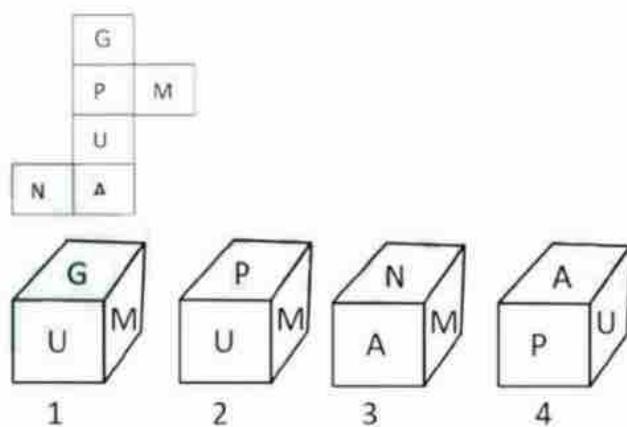
- I. Some fruits are eatables.
- II. No root is vegetable
- III. Some eatables are carrot
- IV. Some roots are vegetables

Options:

1. Only III and IV follow.
2. Only I and either II or IV follow
3. Only III and either II or IV follow
4. Only II , III and IV follow

Answer 3) Only III and either II or IV follow

Question 5: Which of the following patterns of the boxes can be formed when the sheet given below is folded? (the letters are shown to indicates the sides only)



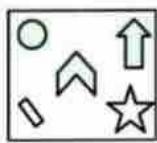
1. Only 1, 2, and 4
2. Only 2
3. Only 2 and 3
4. Only 1 and 2

Answer 2) Only 2

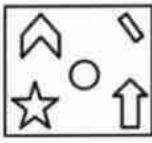
Question 6. Select the figure that will replace the question mark in the following figure series.



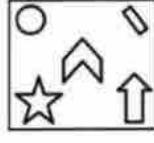
A



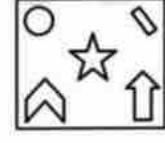
B



C



D



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

Answer: 3) C

Question 7: Which is the wrong term in the following series ?

AXC, CVE, FSH, JPM, OYQ, UDW

-
- 1. UDW
 - 2. OJQ
 - 3. JPM
 - 4. FSH

Answer 3) JPM

Solution :

AXC = 1 letter gap between 1st and 3rd letter

CVE = 1 letter gap between 1st and 3rd letter

FSH = 1 letter gap between 1st and 3rd letter

OYQ = 1 letter gap between 1st and 3rd letter

UDW = 1 letter gap between 1st and 3rd letter

JPM= no pattern like above words.

Hence JPM is the wrong term in the series.

Question 8: There are five person in a family A, B,C,D and E. In which, one is working as a doctor; one is an engineer. Both A and C are unmarried ladies, who are not working. None of the ladies is working as a doctor and a lawyer in the family.E is the husband of the only one married couple in the family. B is the brother of C and neither a lawyer and nor an engineer.

Who is the doctor in the family ?

- 1. A
- 2. E
- 3. B
- 4. D

Answer 3) B

Question 9: In a certain code, $a+b$ means a is the wife of b; $a*b$ means a is the brother of b and a/b means a is the son of b.

If $T/z * U+W$, then which of the following is true ?

1. U is the aunt of T
2. W is the wife of Z
3. T is the daughter of Z
4. U is the uncle of T

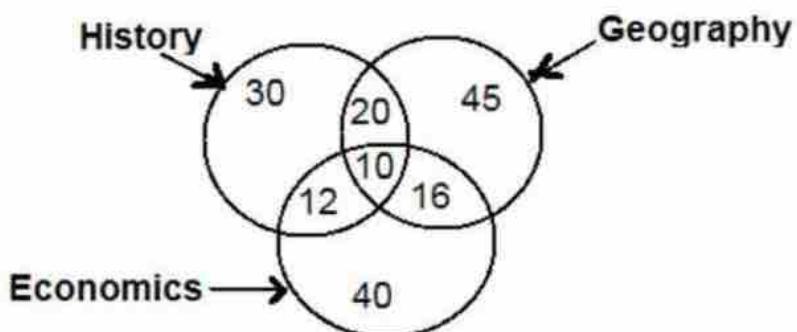
Answer 1) U is the aunt of T

Solution :

T is the son of Z , Z is the brother of U and U is the wife of W

So, U is the aunt of T

Question 10: The diagram given below shows the number of students who got distinction in three subjects out of 320 students. Study the diagram carefully and answer the questions



What is the percentage of students who got distinction only in two subject ?

- 1. 48
- 2. 10
- 3. 25
- 4. 15

Answer 4) 15

Question 11: Among 5 object A,B,C,D and E.:

- i. C is twice as heavy as E.
- ii. A and D together are as heavy as B and C together.
- iii. A and C together are as heavy as B and E together.
- iv. A and B together are one and half time as heavy C and D together.

Which among the five is the heaviest of all ?

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

Answer 4) D

Question 12: Among a group of fifteen persons seven people can speak in Hindi, 8 persons can speak Urdu while three of them cannot speak none of both languages.

How many of them can speak both languages ?

- 1. 5
- 2. 0
- 3. 3
- 4. 4

Answer: 3) 3

Question 13: 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, the transformation has been done the same way?

- A. FRESH - SRHFE
- B. CLIMB - BMILC
- C. DOUGH - UODHG
- D. MIXER - XRMIE
- E. CRANK - ACRKN

- 1. C and D
- 2. B and E
- 3. A and D
- 4. Missing

Answer 1) C and D

Question 14: 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.

Eight friends A, B, C, D, E, F, G and H are sitting around a circular table clockwise in the same sequence around a circular table facing the centre at equal distance between them. Who's sitting in the South East direction?

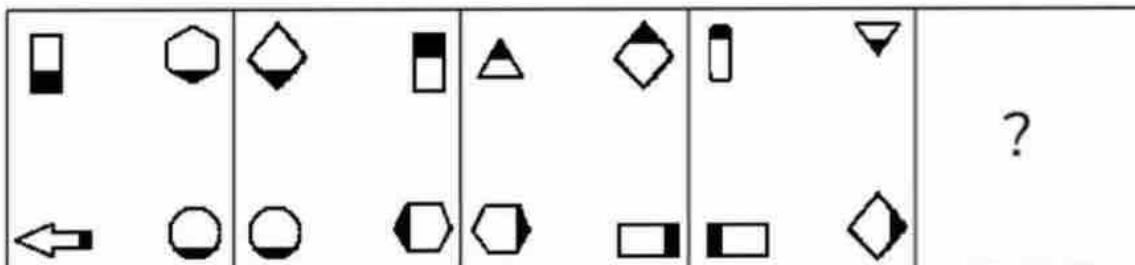
Statements:

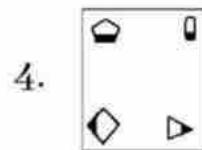
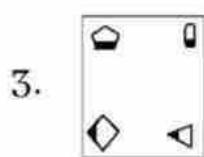
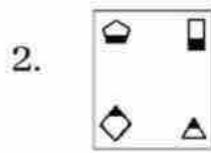
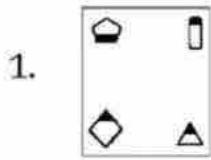
- I. C is sitting diagonally opposite to G
- II. B is sitting in West direction

- 1. Statement I alone is sufficient
- 2. Statement II alone is sufficient
- 3. Both the statements I and II together are necessary
- 4. Both the statements I and II together are not sufficient

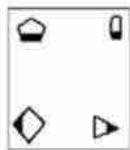
Answer 2) Statement II alone is sufficient

Question 15: Select the figure that will replace the question mark from the following series :





Answer 4)



Question 16: Three statements are given followed by 4 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.

Statement :

- All organizers are participants
- Some organizers are managers.
- All managers are females.

Conclusion:

- I. Some participants are managers.
- II. Some females are participants.
- III. No female is an organizer
- IV. All participants are female

Options

1. Only conclusion II, III and IV follows
2. Only conclusion I and IV
3. Only conclusion I and II and III follows
4. Only conclusion I and II follow

Answer 4) Only conclusion I and II follow

Question 17: The following are the criteria of recruitment for the post of Manager at an organization.

The candidate must:

1. have completed graduation from any stream with more than 70%
2. be less than 30 years of age as on June 1, 2020
3. have completed a PG diploma in creative writing with at least 75% marks

However, if the candidate fulfills all the above criteria except

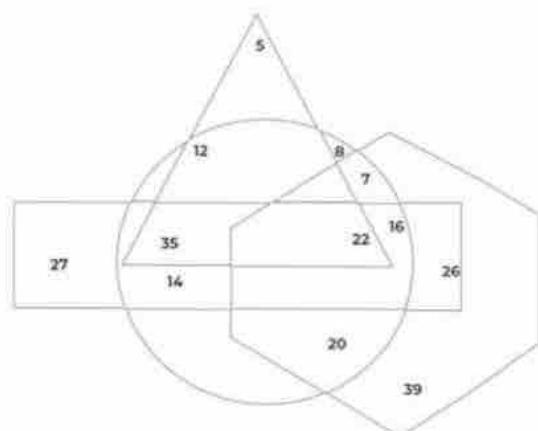
1. at (2), but has done post graduation in journalism, his/ her case to be referred to the vice president.
2. at (3) , but have secured more than 85% marks in graduation in his/her case to be referred to the Senior Creative Manager

Natasha completed her graduation from commerce stream with 70% marks. She completed her post graduation in journalism in 2018 at the age of 29 years. She has completed a PG diploma in creative writing with 75% marks.

1. Her case is to be referred to the vice president
2. She would be selected
3. Her case is to be referred to the Senior Creative Manager
4. She would not be selected

Answer 4) She would not be selected

Question 18 : In the following diagram, the triangle stands for 'males' the circle stands for the 'doctors' rectangle stands for 'government employed' the hexagon stands for 'corona warriors'. The numbers in different segments show the number of persons of that segment.



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

1. 73
2. 22
3. 35
4. 38

Answer 1) 73

Question 19: If 'AxB' means 'A' is the grandfather of 'B', 'A-B' means 'A' is the son of 'B', 'A/B' means 'A' is the wife of 'B', 'A+B' means 'A' is the father of 'B' and 'A*B' means 'A' is the brother of 'B' then how is 'A' related to 'G' in A / B x D - C * F + G ?

1. Grand-Mother
2. Grand-son
3. Grand-father
4. Grand-daughter

Answer 1) Grand-Mother

Question 20: Complete the given puzzle.

Which of the given options will replace the question mark below?

10, 14, 19, 26, 35, 48,?

1. 57
2. 69
3. 55
4. 63

Answer 4) 63

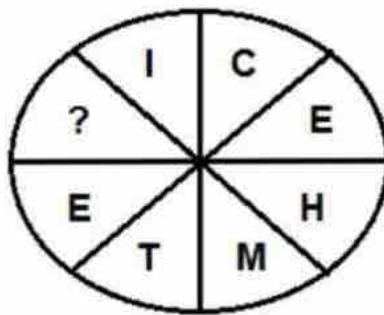
Question 21 : Choose the pair similar to the following:

MDXF: OBZD

1. CLPQ: MXCF
2. BMXT: COZW
3. ILPR: KNRT
4. SGFN: UEHL

Answer 4) SGFN: UEHL

Question 22: Which letter will come in the place of question mark?



1. N
2. P
3. R
4. U

Answer 3) R

Question 23: 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 department which is made for social services.

II, Yes. Private sector will handle all departments better than the government.

III. Argument III was not provided

- All of I, II ,III are strong.
- Only argument I is strong
- Only argument II is strong
- Both I and II are strong.

Answer 3) Only argument II is strong

Question 24: Determine the wrong term in the series

CZE, ETG HOJ, LKM, QLS, WFY

- WFY
- LKM
- QLS
- HOJ

Answer 2) LKM

Question 25: Given below is a question followed by two statements, 1 and 0

each containing some information. Decide which of the statement(s) is / are sufficient to answer the question. What is the age of Sumit?

Statements:

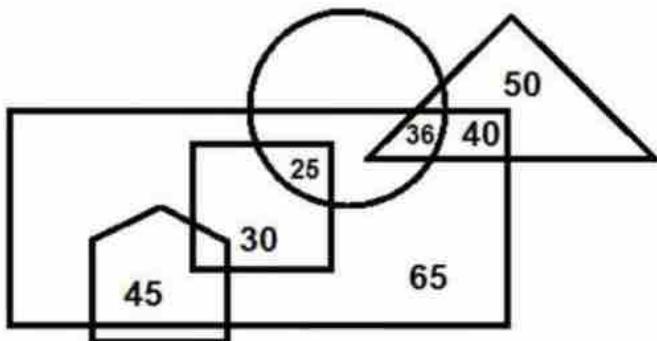
I. Sumit is five years younger than Amit, who is double the age of Prateek.

II. Prateek is 10 years older than Ravi whose age is 22 years.

1. Statement II is sufficient alone.
2. The combination of both the statements I and II are necessary
3. Statement I alone is sufficient
4. The combination of both the statements I and II are not sufficient.

Answer 2) The combination of both the statements I and II are necessary

Question 26: In the following figure, the pentagon represent seeds, the triangle represent red, the rectangle represents chlorophyll, the circle represents leaves and the square represents green.



Find the number which represents the green leaves with chlorophyll.

1. 30
2. 45
3. 25
4. 36

Answer 3) 25

Question 27: P,R,Q,O,S,M and T are sitting in a line facing North but not necessarily in the same order P is sitting between R and S,T is to the immediate left of O.There are only two persons between M and S ,R is sitting between P and Q,S is to the immediate right of P. What is the Position of T with respect to R ?

1. Fourth to the right
2. Third to the left
3. Third to the right
4. Fourth to the left

Answer 3) Third to the right

Question 28: The age of the mother is twice of her son. If the sum of their ages is 60, what is the age of the mother?

1. 30 years
2. 40 years
3. 36 years
4. 48 years

Answer 2) 40 years

Question 29: Read the following instruction carefully and answer the question.

- i. 'A&B' means 'A' is sister of 'B'
- ii. 'A\\$B' means 'A' is daughter of 'B'
- iii. 'A#B' means 'A' is brother of 'B'
- iv. 'A*B' means 'A' is father of 'B'

Which of the following options means 'M' is the sister-in-law of 'S' ?

- 1. S#R*M&N\$O
- 2. N\$R&S*M#O
- 3. M&N#O*R\$S
- 4. R*S#M\$O&N

Answer 3) M&N#O*R\$S

Question 30: A builder constructed a building. The expenditure percentage was 20% on cement, 15% on bricks, 18% on iron, 10% on electricity, 25% on decoration and 12% on plumbing works. The total expenditure was Rs. 20,65,500.

How much money was spent on bricks in the construction of the building?

- 1. Rs. 2,50,750

-
- 2. Rs. 3,45,500
 - 3. Rs. 2,65,500
 - 4. Rs. 3,09,825

Answer 4) Rs. 3,09,825

Programming Logic

Question 1: What will be the output of the below code ?

```
#include<iostream>
using namespace std;
int main()
{
    int a[]={92,-94.96,-98};
    cout <<-1[a];
    return 0;
}
```

Enter your answer ONLY as NUMERAL in the box

Answer: 94

Question 2: What will be the output of the below code ?

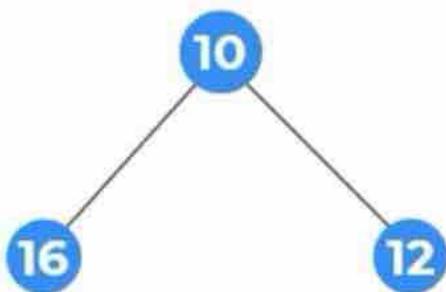
```
#include<iostream>
```

```
using namespace std;  
int main()  
{  
    int a[]={92,-94,96,-98};  
    cout <<-1[a];  
    return 0;  
}
```

1. Null Pointer Exception
2. String matches
3. Compilation Error
4. Nothing prints

Answer 4) Nothing prints

Question 3: The following diagram is an example of which tree?



1. Binary Search Tree
2. Fibonacci tree
3. AVL tree
4. Binary tree

Answer 4) Binary tree

Question 4: If the size of an integer is 4 bytes then what will be the output of the given program ?

```
#include<stdio.h>
int main()
{
    int a[] = {10,20,30,40,50};
    int *p1, *p2;
    p1 = &a[4];
    p2 = &a[2];
    printf("%d%d", p1-p2, *p1-*p2);
    return 0;
}
```

Enter your answer ONLY as NUMERAL in the box

Answer: 220

Question 5: Identify infix based on the given expressions below

Postfix Expressions: A B C * + D E / - * F G H

Prefix Expression: A - * B C + / D E - * F G H

1. $B + C + A - (F * G - H) + (D / E)$
2. $A + B * C - D(E / D) + (H * G - F)$
3. $A + B * C - (D / E) + F * G - H$
4. $(F * G - H) + A + B * C - (D / E)$

Answer 3) $A + B * C - (D / E) + F * G - H$

Question 6: When we declare constant pointer to integer, we CANNOT change:

1. Value pointed by pointer
2. Either addressing pointer variable or value at that address
3. Changes are not permitted
4. Address in pointer variable.

Answer 4) Address in the pointer variable.

Question 7: What will be the output of the given program?

```
void main()
{
    char a[10][10]={"kellos","hellos","fellos"};
    printf("%s",a[1]);
}
```

1. hellos
2. ellos

3. Compile time error
4. ellos hellos fellos

Answer 1) hellos

Question 8: The type of software testing you can do when you have both the source code and the executable code in hand is called as

1. Black box testing
2. Red box testing
3. White box testing
4. Grey box testing

Answer 4) Grey box testing

Question 9 : What is the full form of ROI in context of Software Development ?

1. Rate of Integration
2. Rationality of internet
3. Reduction of investment
4. Return on investment

Answer 4) Return on investment

Question 10: Consider the given code. What will be the output when it is executed ?

```
#include<string.h>
#include<stdio.h>
int main()
{
    int i= -1;
    do
    {
        printf("HelloC")
    }
    while(i++);
    return 0;
}
```

Type Answer in the Box:

Answer: HelloCHelloC

Coding

Question 1 : Matthieu is an expert in Mathematics. He is performing arithmetic operations and wants to find all the divisors of P number.

Note: Divisors should be separated by space and increasing order should be maintained.

Input format

Input containing a non-negative integer 'P' denoting the number

Violation of input criteria: System should display message as “Wrong Input”

Output Format

All divisors should be separated by space and increasing order must be maintained

Constraints

$1 \leq P \leq 10^8$

Sample 1

Input

10

Output

1 2 5 10

Sample 2

Input

18

Output

1 2 3 6 9 18

Solution in C

```
#include <stdio.h>
int main()
{
```

```
int num, i;
scanf("%d",&num);
if(num<0)
{
    printf("Wrong Input");
}
else
{
    for(i=1; i<=num; i++)
    {
        if(num%i==0)
        {
            printf("%d ",i);
        }
    }
}
return 0;
}
```

Question 2 : Alex has been preparing a box for handicraft. The box consists of N pieces of stones with each stone having a certain weight assigned to it. Each stone in the box will carry a different weight. This means no two stones can have the same weight

Alex wants to do this by making minimal changes in the original weight at least as much as its original weight

Find the minimum total weight that he can set for the box.

Note: Stone weight are not in float value.

Input

1. First input contains N, the total number of stones in the box
2. Second Input contains N sorted integers separated by newline A₁, A₂...A_n, representing the original weights assigned to each stone
violation of input criteria: System should display message as "Wrong Input".

Output

The minimum total stone weights Alex can set the box for

Constraints

1<=N<=100000

1<=A[i]<=100000

Example 1:

Input

3

2

2

4

Output

9

Explanation

As two stones have the same weight; the max weight for one of them need to be incremented to 3.

Alex can ste the box with $2+3+4 = 9$ weights.

Example 2:

Input

2
3
4
5

Output

Wrong Input

Explanation

Here N=2, so we need to provide weight of only two stones but, we are providing weight of three stones. So result is “Wrong Input”

Solution in C

```
#include <stdio.h>
int main()
{
    int n;
    scanf("%d",&n);
    int weight[n];
    int i, sum = 0, count = 0;
    for(i=0; i<n; i++)
    {
        scanf("%d",&weight[i]);
    }
    for(i=0; i<n; i++)
```

```
{  
if(weight[i]!=0)  
count++;  
}  
if(count==n)  
{  
for(i=0; i<n; i++)  
{  
if(weight[i]==weight[i+1])  
{  
weight[i+1]++;  
}  
sum = sum + weight[i];  
}  
printf("%d",sum);  
}  
else  
{  
printf("Wrong Input");  
}  
return 0;  
}
```

Technical Interview Questions

Question 1: Differences between C and Java?

Answer:

1. JAVA is Object-Oriented while C is procedural.
2. Java is an Interpreted language while C is a compiled language.
3. C is a low-level language while JAVA is a high-level language.
4. C uses the top-down approach while JAVA uses the bottom-up approach.
5. Pointer go backstage in JAVA while C requires explicit handling of pointers.
6. The Behind-the-scenes Memory Management with JAVA & The User-Based Memory Management in C.
7. JAVA supports Method Overloading while C does not support overloading at all.

Question 2: What are the four basic principles of OOPS?

Answer: The four basic principles of Object-Oriented Programming are:

- Abstraction: Abstraction is a process of hiding the implementation details and showing only functionality to the user.
- Inheritance: Inheritance in Java is a mechanism in which one object acquires all the properties and behaviors of a parent object.
- Encapsulation: Encapsulation in Java is a process of wrapping code and data together into a single unit, for example, a capsule which is mixed of several medicines.

- Polymorphism: Polymorphism in Java is a concept by which we can perform a single action in different ways. Polymorphism is derived from 2 Greek words: poly and morphs. The word "poly" means many and "morphs" means forms. So polymorphism means many forms.

Question 3: What are macros? what are its advantages and disadvantages?

Answer: Macros are processor directive which will be replaced at compile time. The disadvantage with macros is that they just replace the code they are not function calls. similarly the advantage is they can reduce time for replacing the same values.

Question 4: What is Database Management System?

Answer : A Database Management System is a software system used for creating and managing databases. DBMS make it possible for the end user to build and maintain databases. DBMS provides an interface between the end user/application and the databases.

Question 5: What is a dangling pointer?

Answer: A pointer that points to a free or deleted memory location is called dangling pointer.

Question 6: What do you mean by the 'size of' operator?

Answer: Size of operator returns the size of an operand. The operand can be a data type or an expression. For example, sizeof(int) will return 4, which is the memory allocated to integer data type.

Same way sizeof(array)/sizeof(int) will return the length of the elements in an integer array.

Question 7: What is the difference and similarity between C and C++?

Answer: C++ has classes whereas C did not have classes.

C does not support function overloading. In C, for input or output, we use functions like gets(), puts(), scanf(), printf(), etc

C does not support exception handling.

Question 8: What is modularity? How is it done in C++?

Answer: A modular program is one which has been split into smaller modules, and each module performs only one task (function) or a set of small functions/tasks. We can implement modularity using OOPS concepts like encapsulation.

Question 9: What is an array?

Answer: An array is a collection of similar elements. For an array, the necessary condition is that the data type of all the elements in the array must be same.

The declaration of an array in C++ is as follows:

```
int a[10];
```

This defines an array whose name is a and has ten elements from index 0-9

Question 10. What is pointer?

Answer: Pointer is a variable in a program is something with a name, the value of which can vary. The way the compiler and linker handles this is that it assigns a specific block of memory within the computer to hold the value of that variable.

Question 11: What is a null pointer? How is it different from void pointer?

Answer: Null pointer is used for assigning the value of null or 0 to a pointer

variable i.e. a pointer that is not pointing to anything. The variable can be of any data type (int, char, float, long etc...). The void pointer does not associate any data type. It can store the address of a variable of any data type.

Question 12: How is memory allocation done in C++? Is it the same in C?

Answer: Using new() operator. In C, it is done using malloc() and calloc() methods.

Question 13: What is function overloading in C++ ?

Answer: Function overloading is a feature of C++ that allows us to create multiple functions with the same name, so long as they have different parameters.

Question 14: What is the difference between an array and a list?

Answer : Array is collection of homogeneous elements. List is collection of heterogeneous elements.

For Array memory allocated is static and continuous. For List memory allocated is dynamic and Random.

Array: User need not have to keep in track of next memory allocation.

List: User has to keep in Track of next location where memory is allocated.

Array uses direct access of stored members, list uses sequential access for members.

Question 15: What are the different types of inheritance?

Answer:

Types of Inheritance:

- Single inheritance
- Multiple Inheritance
- Multi-level Inheritance
- Multi-path Inheritance
- Hierarchical Inheritance
- Hybrid Inheritance

Question 16: What is Linked list ?

Answer : Linked list – In a linked list, each element is linked to the next one using a pointer. The last element on the list points to null. The first element is called a head. Each element contains data and the link to the next element in the list.

Question 17: What is software development life-cycle?

Answer: Software development life-cycle is steps involved in the life cycle of software development phase. Generally, it is followed by the development team which develops the software in the organization. It consists of a clear explanation of developing and maintaining the software.

Question 18: What is JVM?

Answer: Java code can be executed anywhere because the code is converted from Java bytecodes into the native code of a machine. This is achieved by the JVM (Java Virtual Machine).

Question 19: What are loops?

Answer : Loops are used to execute block of statement several times in a program depending upon the conditional statement. For each successful

execution of the loop, the conditional statement should be checked. If the conditional statement is true, then the circuit will be executed. If the conditional statement is false, then the course will be terminated.

Question 20: What is data structure?

Answer : A data structure is a way of organizing data that considers not only the items stored, but also their relationship to each other. Advance knowledge about the relationship between data items allows designing of efficient algorithms for the manipulation of data.

Question 21: Differentiate between Compiler and Interpreter?

Answer : An interpreter reads one instruction at a time and carries out the actions implied by that instruction. It does not perform any translation. But a compiler translates the entire instructions

Question 22: What is the scope of a variable?

Answer : Scope refers to the visibility of variables. It is very useful to be able to limit a variable's scope to a single function. In other words, the variable will have a limited scope.

Question 23: What are enumerations?

Answer : An enumeration is a data type, used to declare a variable that store list of names. It acts like a database, which will store the list of items in the variable. example: enum shapes{triangle, rectangle,...}

Question 24: Explain the different storage classes in C.

Answer: There are 4 storage classes -

- Auto - the default storage class for variables declared inside a function/block. Cannot be accessed outside the block or function where they are created.
- Register - the functionality is same as auto, however the compiler stores register variables in the register of the microprocessor for faster access. If no free register is available, memory space is utilized.
- Static - these are declared only once and the value is retained throughout the scope.
- External - using the extern keyword of external storage class, allows the same variable to be re-used and re-assigned. If a global variable has been assigned a value, that can be overwritten by using extern for the variable inside another function/block.

Question 25: What are Access modifiers?

Answer: Access modifiers are used to implement an important feature of Object-Oriented Programming known as Data Hiding. Access Modifiers or Access Specifiers in a class are used to set the accessibility of the class members. That is, it sets some restrictions on the class members not to get directly accessed by the outside functions.

Question 26: What are different advantages of DBMS ?

Answer : Advantages of Database Management System are:

- Improved data security.
- Better data integration.
- Minimized data inconsistency.
- Improved data access.
- Improved decision making.
- Increased end-user productivity.

Question 27 : What are conditional statements ?

Answer : Conditional Statements in C programming are used to make decisions based on the conditions.

Conditional statements are possible with the help of the following two constructs:

1. If statement
2. If-else statement

Question 28: What are directives?

Answer: Directives tell the compiler to preprocess the code before compilation. These preprocessor directives start with the hash(#) symbol to indicate the same. The most common pre-processor directive is #include that we use in all our programs.

Question 29. Write a Binary Search program

```
int binarySearch(int arr[],int size, int item)
{
    int left, right, middle;
    left = 0;
    right = size-1;
    while(left <= right)
    {
        middle = ((left + right)/2);
        if(item == arr[middle])
        {
            return(middle);
        }
    }
}
```

```

}

if(item > arr[middle])
{
left = middle+1;
}
else
{
right = middle-1;
}
return(-1);
}

```

Question 30 : Differentiate between copy and default constructor.

Default Constructor	Copy Constructor
A constructor that accepts no parameter is called the default constructor	A constructor that initializes a object with the data values of another object is called copy constructor.
A default constructor takes no parameter.	Copy constructor takes one parameter of its class& type.
Example: <pre> class Defal { public: Defal() { cout<<" Default constructor"; } };</pre>	Example: <pre> class A { int i; public: A(int a) //constructor { i=a; } A(A &s)//copy constructor {i=s.i; }</pre>

Question 31: What is the difference between the foreign key and reference key?

Answer : Reference Key is the primary key that is referenced in the other table (linked via the other tables Foreign Key). Foreign Key is how you connect the second table to the primary tables Primary Key (or Reference Key).

Question 32: How is Java platform independent?

Answer: The meaning of platform-independent is that the java compiled code(byte code) can run on all operating systems. Java codes are compiled and run on JVM and JVM is platform independent and it is the reason why Java is able to become “Platform Independent”.

Question 33: What is Null Pointer Exception In Java?

Answer: NullPointerException is a RuntimeException. In Java, a special null value can be assigned to an object reference. NullPointerException is thrown when program attempts to use an object reference that has the null value.

Question 34: What is the difference between function overloading and function overriding?

Answer: Function Overloading is when multiple function with same name exist in a class. Function Overriding is when function have same prototype in base class as well as derived class.

Function Overloading can occur without inheritance. Function Overriding occurs when one class is inherited from another class.

Question 35: What are static variables?

Answer : It is an access specifier. The value of a static variable does not change during the execution of the program.

Question 36: What are the differences between while and do while ?

Answer : The main difference between a while loop and do while loop is that while loop check condition before iteration of the loop. On the other hand, the do-while loop verifies the condition after the execution of the statements inside the loop.

Question 37: What is the Big-O Notation?

Answer : Big O notation is a mathematical notation which is used to measure time complexity. It represents the upper bound. The notation uses symbol O to represent time complexity.

Question 38 : Differences between Stack and Queue?

Answer : Stack is a linear data structure in which elements can be inserted and deleted only from one side of the list, called the top. A stack follows the LIFO (Last In First Out) principle. Whereas Queue is also a linear data structure in which elements are inserted from one side and deleted from other side the list. A Queue follows the FIFO (First In First Out) principle.

Question 39: Write a program to swap two numbers without using a temporary variable.

Code :

```
void swap(int &i, int &j)
{
    i=i+j;
    j=i-j;
    i=j-i;
}
```

```
=i+j;  
j=i-j;  
i=i-j;  
}
```

Question 40: Define the term's classes and objects.

Answer : Class is a building block of object-oriented programming which contains a group of data member and its function. You can access them by creating an instant class. An object is a real-world entity. Some examples of the object are computer, notebook, pen, and bag.

Question 41: Explain the difference between an interface and an abstract class.

Answer: A class can implement many interfaces (multiple inheritances) but can extend only one abstract class. Interface methods are not implemented. The implementation is up to the application developer. Abstract classes can have a default implementation of common behaviors.

Question 42 : Name various deadlock prevention techniques.

Answer: Deadlock prevention techniques are:

- Mutual exclusion
- Resource holding
- No preemption
- Circular wait

Question 43: What do you know about the garbage collector?

Answer : Garbage collection is the systematic recovery of pooled computer

storage that is being used by a program when that program no longer needs the storage. This frees the storage for use by other programs (or processes within a program). It also ensures that a program using increasing amounts of pooled storage does not reach its quota (in which case it may no longer be able to function).

Question 44: What is a user-defined exception in Java?

Answer : User Defined Exception or custom exception is creating your own exception class and throws that exception using 'throw' keyword. This can be done by extending the class Exception.

Question 45: Explain recursive function ?

Answer : A recursive function is a function which calls itself. The speed of a recursive program is slower because of stack overheads. A recursive function must have recursive conditions, terminating conditions, and recursive expressions.

Question 46: What is the difference between `++i` and `i++` operation?

Answer: If the `++` sign comes before the index, the index is incremented first and then an operation is performed. If the `++` sign is put after the index, the index is incremented after the operation.

Question 47: What is a doubly link list ?

Answer : Doubly Linked List (DLL) is a type of Linked List. It contains an extra pointer, typically called previous pointer, together with next pointer and data which are there in singly linked list.

Question 48: What are Interfaces in java?

An interface in Java is a blueprint of a class. It has static constants and abstract methods. The interface in Java is a mechanism to achieve abstraction. There can be only abstract methods in the Java interface, not method body. It is used to achieve abstraction and multiple inheritance in Java.

In other words, you can say that interfaces can have abstract methods and variables. It cannot have a method body.

Question 49 : What is normalization ?

Answer : Normalization is a database design technique that reduces data redundancy and eliminates undesirable characteristics like Insertion, Update and Deletion Anomalies. Normalization rules divides larger tables into smaller tables and links them using relationships. The purpose of Normalization in SQL is to eliminate redundant (repetitive) data and ensure data is stored logically.

Question 50: Explain the difference between call by value and call by reference ?

Answer : In call by value, the actual value that is passed as argument is not changed after performing some operation on it. When call by value is used, it creates a copy of that variable into the stack section in memory. When the value is changed, it changes the value of that copy, the actual value remains the same.

In call by reference the actual value that is passed as argument is changed after performing some operation on it. When call by reference is used, it creates a copy of the reference of that variable into the stack section in

memory. It uses a reference to get the value. So when the value is changed using the reference it changes the value of the actual variable.

Question 51: What do you mean by macros?

Answer: Macros are a piece of code in a program which is given some name. Whenever this name is encountered by the compiler, it replaces the name with the actual piece of code.

Question 52: What are structures in C?

Answer: A structure is a user-defined data type in C/C++. A structure creates a data type that can be used to group items of possibly different types into a single type.

Question 53 : Differentiate structure and arrays.

Answer : Difference between structure and array is as follows:

- An array is a data structure. It contains a group of similar data types.
- The structure is user define data type. It contains a group of dissimilar data types.

Question 54 : What is Polymorphism?

Answer : Polymorphism is a concept in OOPS which means having many forms. In simple words, it means that different actions will be performed in different instances. Polymorphism is of two types:

1. Method overloading
2. Operator overloading

Question 55: Write a program to print if number is prime or not ?

```
#include <stdio.h>
int main() {
    int n, i, flag = 0;
    printf("Enter a positive integer: ");
    scanf("%d", &n);

    for (i = 2; i <= n / 2; ++i) {
        if (n % i == 0)
            {
                flag = 1;
                break;
            }
    }

    if (n == 1) {
        printf("1 is neither prime nor composite.");
    }
    else {
        if (flag == 0)
            printf("%d is a prime number.", n);
        else
            printf("%d is not a prime number.", n);
    }
    return 0;
}
```

Question 56 : What is a command-line argument?

Answer : Getting the arguments from a command prompt in C is known as command-line arguments. In C main function has three arguments.

They are:

Argument counter

Argument vector

Environment vector

Question 57: What are the various SDLC methodologies?

Answer : There are 6 models –

- Waterfall model (most common and traditional) – a sequential phase by phase approach, for example, after the requirements phase, the design phase is taken up and then the next and so on.
- V-shaped – Same as the waterfall, but there is a testing phase after each development phase.
- Iterative – A quick way to build the basic product. Even when complete requirements are not known, you can start development. The process is repeated to improve and accommodate more requirements.
- Spiral – Similar to iterative but allows for more refinement as the project goes through all the stages in a spiral until it is complete.
- Big bang – The development starts with minimal knowledge of requirement, thus requires little planning. It is suitable only for small projects that involve less risk.
- Agile – Currently, the most preferred method, the project is delivered in phases, and the customers, developers, testers and onsite coordinators work in tandem. Each new release is like a continuous development over every previous release.

Question 58: Write a program to reverse an array or string.

```

void revereseArray(int arr[], int start, int end)
{
    int temp;
    while (start < end)
    {
        temp = arr[start];
        arr[start] = arr[end];
        arr[end] = temp;
        start++;
        end--;
    }
}

```

Question 59 : What is the difference between struct and union data types?

Answer : A structure is a user-defined data type available in C that allows to combining data items of different kinds. Structures are used to represent a record. A union is a special data type available in C that allows storing different data types in the same memory location.

Question 60 : What is the difference between classes and interface?

Class	Interface
A class describes the attributes and behaviors of an object.	An interface contains behaviors that a class implements.
A class may contain abstract methods, concrete methods.	An interface contains only abstract methods.
Members of a class can be public, private, protected or default.	All the members of the interface are public by default.

Question 61 : Which header file should you include if you are to develop a function which can accept a variable number of arguments?

Answer : stdarg.h

Question 62: Is C platform independent?

Answer: C compiler has to be compiled differently for different OS, hence C is platform dependent.

Question 63 : Give any real-life based implementation of Polymorphism.

Answer: Real life example of polymorphism, a person at the same time can have different characteristic. Like a man at the same time is a father, a husband, an employee. So the same person posses different behavior in different situations. This is called polymorphism.

Question 64 :What is the use of friend function?

Answer: In object-oriented programming, a friend function, that is a "friend" of a given class, is a function that is given the same access as methods to private and protected data. A friend function is declared by the class that is granting access, so friend functions are part of the class interface, like methods

Question 65 :Can a C++ class have an object of self type?

Answer: A class declaration can contain a static object of self type, it can also have a pointer to self type, but it cannot have a non-static object of self type.

Question 66 :What are joins in SQL ?

Answer : The JOIN keyword is used in an SQL statement to query data from two or more tables, based on a relationship between specific columns in these tables.

Question 67: What is modularity? How is it done in C++?

Answer: A modular program is one which has been split into smaller modules, and each module performs only one task (function) or a set of small functions/tasks. We can implement modularity using OOPS concepts like encapsulation.

Question 68 : What is debugger?

Answer : A debugger or debugging tool is a computer program that is used to test and debug other programs

Question 69 : What do you mean by Data mining?

Answer : Data mining is a process used by companies to turn raw data into useful information. By using software to look for patterns in large batches of data, businesses can learn more about their customers to develop more effective marketing strategies, increase sales and decrease costs.

Question 70 : What are Views in SQL ?

Answer : A view is a virtual table. A look contains rows and columns, just like a real table. The fields in a picture are fields from one or more real tables in the database.

Question 71: What is a pure virtual function?

Answer: Pure virtual function or an abstract function doesn't have any implementation. We just declare it. The classes that are derived from the

abstract class implement the pure virtual function. We can declare pure virtual function by assigning a value of 0 to it.

Question 72 : Const char *p , char const *p

What is the difference between the above two?

Answer :

1) `const char *p` - Pointer to a Constant char ('p' isn't modifiable but the pointer is)

2) `char const *p` - Also a pointer to a constant Char

However, if you had something like:

`char * const p` - This declares 'p' to be a constant pointer to a char. (Char p is modifiable but the pointer isn't)

Question 73 : Why is the size of an empty class not zero in C++?

Answer : Size of an empty class is not zero. It is 1 byte generally. It is nonzero to ensure that the two different objects will have different addresses.

Question 74 : Explain the concept of cache memory.

Answer : Cache memory is an extremely fast memory type that acts as a buffer between RAM and the CPU. It holds frequently requested data and instructions so that they are immediately available to the CPU when needed. Cache memory is used to reduce the average time to access data from the Main memory.

Question 75 : What is a database schema?

Answer: Schema is a logical view of the entire database structure. It represents the distribution and organization of data and the relations

between them through tables, constraints, primary and foreign key constraints and so on.

Question 76 : The structural difference between bitmap and b-tree index?

Answer :

Btree

It is made of branch nodes and leaf nodes. Branch nodes hold prefix key value along with the link to the leaf node and the leaf nodes contain the indexed value and rowed.

Bitmap

It consists merely of bits for every single distinct value. It uses a string of bits to locate rows in a table quickly. It is used to index low cardinality columns.

Question 77 : What is the difference between realloc() and free()?

Answer : The realloc () function is used to allocate memory and has the following prototype:

`void *realloc (void *ptr, unsigned int num);`

free() : The free subroutine frees a block of memory previously allocated by the malloc subroutine.

Question 78: What are the integrity rules defined in a DBMS?

Answer: There are 2 main types of integrity rules – entity integrity (every table must have a primary key) and referential integrity (foreign key is usually a primary key of some other table and can be null).

Question 79 : Explain the difference between 'operator new' and the 'new' operator?

Answer : The difference between the two is that operator new just allocates raw memory, nothing else. The new operator starts by using operator new to allocate memory, but then it invokes the constructor for the right type of object, so the result is a real live object created in that memory. If that object contains any other objects (either embedded or as base classes) those constructors are invoked as well.

Question 80 : Differentiate between socket and session?

Answer : Socket is the Combination of IP address and Port Number (in pairs) and the session is a Logical Connectivity between the source and destination.

Question 81 : What is an interrupt?

Answer : Interrupt is a signal emitted by hardware or software when a process or an event needs immediate attention. It alerts the processor to a high-priority process requiring interruption of the current working process. In I/O devices one of the bus control lines is dedicated for this purpose and is called the Interrupt Service Routine (ISR).

Question 82: Is main method compulsory in Java?

Answer: Prior to JDK 7, the main method was not mandatory in a java program. However, from JDK7 main method is mandatory. The compiler will verify first, whether main() is present or not. If your program doesn't contain the main method, then you will get an error "main method not found in the class".

Question 83 : What is a conversion constructor?

Answer : A conversion constructor is a single-parameter constructor that is declared without the function specifier 'explicit'. The compiler uses conversion constructors to convert objects from the type of the first parameter to the type of the conversion constructor's class. To define implicit conversions, C++ uses conversion constructors, constructors that accept a single parameter and initialize an object to be a copy of that parameter.

Question 84: Why Java is not a purely Object-Oriented Language?

Answer: Java supports OOPs properties like Encapsulation, Inheritance, Polymorphism, Abstraction, etc. but it misses on some properties which makes it not a Pure Object Oriented Language.

Question 85 : What exactly is a digital signature?

Answer : A digital signature is a mathematical technique used to validate the authenticity and integrity of a message, software or digital document.

Question 86: Write output of the program?

Code :

```
int i=10;  
printf("%d%d%d",i,++i,i++);
```

Answer : 10 12 12

Question 87 : What is Cloud computing?

Answer : Cloud computing is the on-demand availability of computer system resources, especially data storage (cloud storage) and computing power, without direct active management by the user.

Question 88: What is a spanning Tree?

Answer : A spanning tree is a tree associated with a network. All the nodes of the graph appear on the tree once. A minimum spanning tree is a spanning tree organized so that the total edge weight between nodes is minimized.

Question 89: How are Java objects stored in memory?

Answer: In Java, all objects are dynamically allocated on Heap. This is different from C++ where objects can be allocated memory either on Stack or on Heap.

Question 90 : What is data warehousing? Why should we use data warehousing?

Answer : A Data Warehousing (DW) is process for collecting and managing data from varied sources to provide meaningful business insights. A Data warehouse is typically used to connect and analyze business data from heterogeneous sources. The data warehouse is the core of the BI system which is built for data analysis and reporting.

Question 91 : Difference between keyword and identifier.

Answer :

Keywords are predefined word that gets reserved for working progs that have special meaning and cannot get used anywhere else.

Identifiers are the values used to define different programming items such as variables, integers, structures, unions and others and mostly have an alphabetic character.

Question 92 : What is Java Applet?

Answer : The applet is a java program that can be embedded into HTML pages. Java applets run on the java enables web browsers such as Mozilla and internet explorer. The applet is designed to run remotely on the client browser, so there are some restrictions on it. Applets can't access system resources on the local computer. Applets are used to make the website more dynamic and entertaining.

Question 93 : What are interfaces in a DBMS?

Answer : A database management system (DBMS) interface is a user interface that allows for the ability to input queries to a database without using the query language itself.

Question 94: What is encryption?

Answer : Encryption is the transformation of information from a readable form into some unreadable form.

Question 95 : What is decryption?

Answer " Decryption is the reverse of encryption; it's the transformation of encrypted data back into some intelligible form.

Question 96: What is a Foreign key?

Answer: Foreign Key is a set of attributes in a table which is used to refer the primary key or alternative key of the same or other tables.

Question 97: Difference between Inner Join and Outer Join.

Answer: An SQL Join is used to combine data from two or more tables, based on a common field between them

Question 98: Explain ACID properties.

Answer: ACID stands for Atomicity, Consistency, Isolation, and Durability. In order to maintain consistency in a database, before and after the transaction, certain properties are followed. These are called ACID properties.

Question 99: What is Deadlock in DBMS?

Answer: In a database, a deadlock is an unwanted situation in which two or more transactions are waiting indefinitely for one another to give up locks. Deadlock is said to be one of the most feared complications in DBMS as it brings the whole system to a Halt.

Question 100: Which data structures are used for BFS and DFS of a graph?

Answer:

- Queue is used for BFS
- Stack is used for DFS. DFS can also be implemented using recursion (Note that recursion also uses function call stack).

HR & Managerial Interview Questions

Question 1 : Tell me something about yourself.

Question 2 : What are your hobbies ?

Question 3 : What are your strength and weakness?

Question 4 : Are you willing to relocate?

Question 5 : What are your expectations from the company?

Question 6 : Tell me something which you have not mentioned in your resume.

Question 7 : Tell me something about the most memorable day of your life?

Question 8 : Who inspired you to become an Engineer?

Question 9 : Why do you want to join TCS?

Question 10 : What are your expectations from the company?

Question 11 : Are you a team player?

Question 12 : How would you measure 4 liters using jugs of 3l and 5l? Give a few solutions to this problem?

Question 13 : Why Should we take you In TCS?

Question 14 : What do you know about TCS?

Question 15 : Why do you think you are a suitable candidate for this position?

Question 16 : Who is the founder of TCS?

Question 17 : What is more important to you, money or work?

Question 18 : Who is the CEO of TCS?

Question 19 : Are you willing to work overtime, night shifts and weekends?

Question 20 : What do you know about the recent trends in the IT industry?

Question 21 : Give me an example of your creativity?

Question 22 : Can you work under pressure and deadlines?

Question 23 : Do u have any question for me?

Question 24 : Who are the main competitors of TCS?

Question 25 : Are you comfortable to sign 2 year bond with TCS?

Question 26 : Do you think you are a quick learner? Give example.

Question 27 : What do you think is the biggest strength of TCS?

Question 28 : What are your areas of interest?

Question 29 : Tell me about your dream job?

Question 30 : Are You Willing To Work Overtime? Nights? Weekends?

Question 31 : If You Are Rejected Today, Then What Will You Do?

Question 32 : Why haven't you received any other offer till now?

Question 33 : Your greatest failure ?

Question 34 : Rate your communication skills and technical skills.

Question 35 : What are your plans for higher studies ?

Question 36 : What is your style of management? What likes you the most about your co-workers?

Question 37 : Difference between confidence and over-confidence?

Question 38 : Where do you see yourself in 5 years from now?

Question 39 : Where do you see yourself in 10 years from now?

Question 40 : Give an instance when you showed leadership skills.

Question 41 : Is there anything which makes you different from other candidates?

Question 42 : Who is the founder of Google?

Question 43 : Tell me about your daily routine?

Question 44 : Mention any five qualities that a person should have for this profile?

Question 45 : Do you think you have quick learning ability?

Question 46 : How would you react if you are criticized by your manager for your work?

Question 47 : Speak on any topic of your interest for at least 5 minutes.

Question 48 : What is your aim?

Question 49 : What are your skills? Do u have any certifications on your skills?

Question 50 : You'll be sent to any part of the country for work..... will you be ok with that?

Question 51 : Where Your Native Place is And For What It Is Famous?

Question 52 : Describe the experience of visiting any place during your vacations.

Question 53 : Why you want to join TCS? or Why do you want to join TCS and not any other company?

Question 54 : What do you know about TCS as a company?

Question 55 : Who Are The Competitors Of Tcs In The World Market As Well As In Indian Market?

Question 56 : What Is The Name Of The Award Tcs Recently Received?

Question 57 : .Have You Discussed About Your Job With Your Family?

Question 58 : Do you have any prior work experience? If so tell us about your last job and why you left it.

Question 59 : What quality do you think a leader should have?

Question 60 : Have you applied anywhere before applying here?

Question 61 : How many job offers have you received before this?

Question 62 : Do you have any special talent ?

Question 63 : Do you have knowledge about trending and future technologies ?

Question 64 : Give me three reasons to hire you?

Question 65 : Would you work for free for TCS?

Question 66 : Why don't you do PG ?

Question 67 : Do you have any backlog ?

Question 68 : What are your suggestions regarding increasing women employee % in TCS ?

Question 69 : What is the name of Chairman of TCS ?

Question 70 : What is the name of CEO of TCS ?

Question 71: Explain the entire academic from 10th to current semester.

Question 72 : What motivated you to come into IT sector ?

Question 73 : Do you have any active backlogs ?

Question 74 : Your toughest decision ?

Question 75 : What is your biggest fear ?

Question 76 : What do you know about IT ?

Question 77 : In case we hire you how will you manage the things as you are from non-cse branch ?

Question 78 : If you are in a team where employees are not working upto the mark what you will do?

Question 79 : If a project is given to you of a particular technology that you don't like. What you will do?