INFORMATION AND COMMUNICATION TECHNOLOGY – MCQ BOOKLET

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1. Basics of Computers and Information Technology

Artificial Intelligence (AI) and Machine Learning (ML) Basics: Core Concepts and Applications

1. Which of the following statements are correct regarding Centre for Development of Advanced Computing (C-DAC) of India?

- **1. The setting up of C-DAC was to build Supercomputers in context of denial of import of Supercomputers by USA**
- **2. C-DAC started building Indian Language Computing Solutions with setting up of GIST group (Graphics and Intelligence based Script Technology)**
- **3. This institute was started in the year 1995**

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

Ans: A

GPSC Prelims CSP-2-2022

- Statement 1 is correct. C-DAC was established in 1988 as a response to the denial of the sale of a Cray supercomputer by the United States to India. The objective was to build indigenous supercomputing capability, leading to the development of the PARAM series of supercomputers. - Statement 2 is correct. C-DAC's GIST (Graphics and Intelligence based Script Technology) group pioneered the development of solutions for Indian language computing, enabling software and hardware support for various Indian scripts, which was crucial for localizing computing. - Statement 3 is incorrect. C-DAC was established in 1988, not 1995.

2. The probability of a lottery ticket being a prized ticket is 0.2. When 4 tickets are purchased, what is the probability of winning a prize on at least one ticket?

A. 0.3964
B. 0.5904
C. 0.6824
D. 0.7804

Ans: B

GPSC Prelims CSP-1-2023

The probability of a lottery ticket being a prized ticket (winning) is p = 0.2. The probability of a lottery ticket not being a prized ticket (losing) is q = 1 - p = 1 - 0.2 = 0.8. 4 tickets are purchased independently. We want the probability of winning a prize on at least one ticket. It is easier to calculate the complement probability: the probability of winning a prize on none of the tickets (i.e., losing on all 4 tickets). The probability of losing on one ticket is 0.8. Since the tickets are independent, the probability of losing on all 4 tickets is the product of the individual probabilities: P(Losing on all 4) = q q q q = q^4 = $(0.8)^4$. $(0.8)^4$ = $(0.8)^2$ $(0.8)^2$ = (0.64) (0.64). 0.64 0.64 = 0.4096. The probability of winning a prize on at least one ticket is 1 minus the probability of winning on none: P(Winning at least one) = 1 - P(Losing on all 4) = 1 - 0.4096 = 0.5904.

3. For the following geometric series what would be its 10^{th} term? $$ \frac{1}{16807}, \frac{1}{2401}, \frac{1}{343}, \frac{1}{49}, ... $$

A. – 49
B. – 343
C. – 2401
D. None of the above

Ans: D

GPSC Prelims CSP-1-2023

The given series is $\frac{1}{16807}, \frac{1}{2401}, \frac{1}{343}, \frac{1}{49}, ...$ This is a geometric series. Let the first term be a_1 and the common ratio be r. $a_1 = \frac{1}{16807}$. The common ratio r is found by dividing any term by its preceding term. $r = \frac{1/2401}{1/16807} = \frac{16807}{2401}$. We recognize that the denominators are powers of 7: $49 = 7^2$ $343 = 7^3$ $2401 = 7^4$ $16807 = 7^5$ So the series is $\frac{1}{7^5}, \frac{1}{7^4}, \frac{1}{7^3}, \frac{1}{7^2}, ...$ The first term is $a_1 = \frac{1}{7^5}$. The common ratio is $r = \frac{1/7^4}{1/7^5} = \frac{7^5}{7^4} = 7$. The formula for the n-th term of a geometric series is $a_n = a_1 \cdot r^{n-1}$. We need to find the 10th term, so $n=10$. $a_{10} = a_1 \cdot r^{10-1} =

a_1 \cdot r^9$. $a_{10} = \frac{1}{7^5} \cdot 7^9 = 7^{9-5} = 7^4$. Calculate 7^4: $7^1 = 7$ $7^2 = 49$ $7^3 = 343$ $7^4 = 2401$. The 10th term is 2401.

4. If the first, second and last terms of the Arithmetic Progression are 5, 9, 101, respectively, how many total number of terms are there in the Progression?

A. 24
B. 26
C. 28
D. None of the above

Ans: D

GPSC Prelims CSP-1-2023

The given progression is an Arithmetic Progression (AP). The first term is $a_1 = 5$. The second term is $a_2 = 9$. The last term is $a_n = 101$. The common difference d of an AP is the difference between consecutive terms: $d = a_2 - a_1 = 9 - 5 = 4$. The formula for the n-th term of an AP is $a_n = a_1 + (n-1)d$. We are given $a_n = 101$, $a_1 = 5$, and $d=4$. Substitute these values into the formula to find n: $101 = 5 + (n-1)4$. Subtract 5 from both sides: $101 - 5 = (n-1)4$. $96 = (n-1)4$. Divide both sides by 4: $n-1 = \frac{96}{4}$. $n-1 = 24$. Add 1 to both sides: $n = 24 + 1 = 25$. There are 25 terms in the Arithmetic Progression.

5. If 'X $ Y' means 'X is father of Y'; 'X # Y' means 'X is mother of Y'; 'X × Y' means 'X is sister of Y', then how is S related to N in 'N # P $ Q × S'?

A. Nephew
B. Granddaughter
C. Grandson
D. Cannot be determined

Ans: D

GPSC Prelims CSP-1-2023

Let's decipher the relations given in the expression 'N # P $ Q × S': 1. 'N # P' means N is mother of P. (N is female, P's gender is not determined here). 2. 'P $ Q' means P is father of Q. (P is male, Q's gender is not determined here). 3. 'Q × S' means Q is sister of S. (Q is female, S's gender is not determined here).Combine the relations: - N is the mother of P. - P is the father of Q. - Q is the sister of S.From 'N is mother of P' and 'P is father of Q', N and P are the parents of Q. N is the mother and P is the father. From 'P is father of Q' and 'Q is sister of S', P is the father of both Q and S (since Q and S are siblings). Q is a female. S's gender is not specified.So, we have: - N is the mother of P. - P is the father of S. - Q is the sister of S (and daughter of P, and grandchild of N).N is the mother of P, and P is the parent of S. This makes N the grandmother of S. The question asks how S is related to N. S is the child of P, who is the child of N. Thus, S is the grandchild of N. The gender of S is not specified ('Q is sister of S' implies Q is female, but S can be male or female). If S is male, S is the grandson of N. If S is female, S is the granddaughter of N. Since S's gender is not determined by the given relations, we cannot definitively state whether S is a grandson or granddaughter.

6. Out of given options which one is different from other three?

A. BDW
B. GIQ
C. FHS
D. IKP

Ans: B

GPSC Prelims CSP-1-2023

Let's assign numerical positions to the letters in the English alphabet (A=1, B=2, ..., Z=26). A) BDW: B=2, D=4, W=23 B) GIQ: G=7, I=9, Q=17 C) FHS: F=6, H=8, S=19 D) IKP: I=9, K=11, P=16Let the three letters in each option be L_1, L_2, L_3 with positions p_1, p_2, p_3. Let's look for patterns in the positions. Check the difference between the positions of the first two letters: A) $p_2 - p_1 = 4 - 2 = 2$. B) $p_2 - p_1 = 9 - 7 = 2$. C) $p_2 - p_1 = 8 - 6 = 2$. D) $p_2 - p_1 = 11 - 9 = 2$. All options show a difference of +2 between the first and second letter positions.Now let's check the relationship between the second and third letters. Consider the sum of positions of the second and third letters: A) $p_2 + p_3 = 4 + 23 = 27$. B) $p_2 + p_3 = 9 + 17 = 26$. C) $p_2 + p_3 = 8 + 19 = 27$. D) $p_2 + p_3 = 11 + 16 = 27$.In options A, C, and D, the

sum of the positions of the second and third letters is 27. This means the second and third letters are complementary letters with respect to the alphabet (e.g., B+Y=2+25=27, C+X=3+24=27). In option B, the sum of the positions of the second and third letters is 26.Therefore, option B (GIQ) does not follow the pattern ($p_2+p_3=27$) observed in the other three options.

7. RATION is to RATNIO as TRIBAL is to -

A. TIRLAB
B. TRIALB
C. TİRLBA
D. TRILBA

Ans: D

HAS Prelims-2023

The transformation from RATION to RATNIO involves keeping the first three letters in their original positions (RAT) and reordering the last three letters (ION). The order of the last three letters changes from 123 (I O N) to 312 (N I O).

8. kcaC : Cack : : XgmF : ...

A. EmgF
B. EgmX
C. FmgX
D. GmeF

Ans: C

HAS Prelims-2023

The transformation from kcaC to Cack involves reversing the order of the letters while preserving the case of each individual letter based on its original position. k(lower) c(lower) a(lower) C(upper) -> C(upper) a(lower) c(lower) k(lower). The letter originally at position 1 (k) moves to position 4 and keeps its lower case. The letter at position 2 (c) moves to position 3 and keeps its lower case. The letter at position 3 (a) moves to position 2 and keeps its lower case. The letter at position 4 (C) moves to position 1 and keeps its upper case.

9. In a certain code, '247' means 'spread red carpet', '256' means 'dust one carpet' and '264' means 'one red carpet'. Which digit in that code means 'dust'?

A. 2
B. 3
C. 5
D. 6

Ans: C

HAS Prelims-2023

This is a coding-decoding problem where digits represent words. The codes for individual words are determined by identifying common words and common digits across the given statements.

10. In a certain code, '256' means 'red colour chalk', '589' means 'green colour flower' and '245' means 'white colour chalk'. Which digit in that code means 'white'?

A. 2
B. 4
C. 5
D. Can't be determined

Ans: B

HAS Prelims-2023

This is a coding-decoding problem. Codes for words are found by comparing statements.

11. In a certain code language, '526' means 'sky is blue', '24' means 'blue colour' and '436' means 'colour is fun'. Which digit in that language means 'fun'?

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

Ans: C

HAS Prelims-2023

This is a coding-decoding problem. Codes for words are found by comparing statements.

12. Which letter is in the 125th position in the alphabet series AABABABCABCDABCDEAB-CDEF...

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

Ans: C

HAS Prelims-2023

The series is formed by concatenating increasing lengths of the alphabet: Block 1: A (Length 1) Block 2: AB (Length 2) Block 3: ABC (Length 3) Block n: ABC... (Length n)The total number of letters up to the end of Block n is the sum of lengths 1 + 2 + ... + n, which is given by the formula n(n+1)/2. We need to find which block contains the 125th letter. Let's find n such that n(n+1)/2 is close to 125. For n=15, total length = 15 16 / 2 = 120. This means the first 15 blocks (A, AB, ABC, ..., ABC... with 15 letters) contain a total of 120 letters. The 15th block ends at position 120. The 16th block starts at position 121. The 16th block consists of the first 16 letters of the alphabet: A, B, C, D, E, F, ..., P. The 125th position is 125 - 120 = 5 letters into the 16th block. The 5th letter of the alphabet is E.

13. Who is M's father?

A. O
B. R
C. N
D. Data inadequate

Ans: option5

HAS Prelims-2023

The puzzle description or passage containing the family relationships and identifying M's father is missing. Without this source information, it's impossible to determine who M's father is among the options or if the father is mentioned.

14. Which of the following pair of number is different from other ?

A. 13 : 91
B. 17 : 119
C. 19 : 131
D. 23 : 161

Ans: C

HAS Prelims-2023

The problem tests the ability to identify a common mathematical relationship or pattern between numbers in given pairs and find the pair that deviates from this pattern. In this case, the pattern is a simple multiplicative relationship.

15. Select a figure from amongst the answer figure which will continue the same series as established by the question figures.

A. Figure (A)
B. Figure (B)
C. Figure (C)
D. Figure (D)

Ans: C

HAS Prelims-2023

Visual reasoning series problems rely on observing how the figures evolve from one step to the next and predicting the subsequent transformation. Key aspects to look for include changes in shape, size, position, rotation, reflection, number of elements, and shading/colouring.

16. If TABLE is coded as UBCMF, then in the same language CHAIR will be coded as -

A. DIJBS
B. DIBJS
C. DIBRS
D. DICKS

Ans: A

HAS Prelims-2023

This is a letter coding problem based on a consistent shift in the position of each letter in the alphabet. This is a type of Caesar cipher.

17. Replace the question mark sign (?) by observing the pattern.

A. [Figure (A)]
B. [Figure (B)]
C. [Figure (C)]
D. [Figure (D)]

Ans: A

HAS Prelims-2023

Solving pattern recognition questions requires visual information (figures or sequences) to identify the underlying rule (e.g., rotation, translation, addition/removal of elements, transformation).

18. In the given figure going from P to Q only on the lines and taking the least length of path, in how many way one can reach ?

A. 2
B. 4
C. 6
D. 8

Ans: A

HAS Prelims-2023

Pathfinding on a grid, taking the least length path, is a combinatorial problem. If movement is restricted to two directions (e.g., right and down on a rectangular grid), the number of shortest paths can be calculated using combinations ($\binom{m+n}{m}$ where m and n are the number of steps in each direction).

19. Select the alternative in which the specified components of the question figure are found.

A. [Image for option A]
B. [Image for option B]
C. [Image for option C]
D. [Image for option D]

Ans: C

HAS Prelims-2023

Analyze the specific shapes, lines, and their relative positions within the question figure, then visually search for this pattern within each of the larger option figures. The question figure may be present in the option figure in the same or a different orientation (rotated or reflected), depending on the typical conventions of the test, but usually not scaled unless stated.

20. If Blue is called Green, Green is called Orange, Orange is called Yellow, Yellow is called Black, Black is called Red, and Red is called White; what is the colour of 'turmeric'?

A. Orange
B. Green
C. White
D. Black

Ans: D

JPSC CS Prelims-2011

This is a word puzzle where colours are redefined. The rule is to follow the given sequence of redefinitions.

21. Study the following two statements and the conclusions that follow. Which conclusion has been correctly drawn ? Statements :

- **A) All mangoes are apples.**
- **B) Some apples are pineapples.**

Conclusions :

- **I) Some mangoes are pineapples.**
- **II) Some pineapples are mangoes.**

A. Only I is correct
B. Only II is correct
C. Both I and II are correct
D. Both I and II are incorrect

Ans: D

MPSC CS Prelims-2012

- Understand the meaning of "All X are Y" (X is a subset of Y) and "Some X are Y" (X and Y have an intersection). - A conclusion is valid only if it necessarily follows from the premises in all possible interpretations. - The structure "All M are A, Some A are P" does not guarantee "Some M are P".

22. In a code language if BROKE is written as DOSFK and START as UQEMZ, how will 'INDIA' be written ?

A. KKHDG
B. KHDKG
C. DHGKK
D. KHGKD

Ans: A

MPSC CS Prelims-2012

The code follows a specific pattern of shifting letters based on their position in the word. Let's analyze the given examples: - BROKE is written as DOSFK - B (+2) -> D - R (-3) -> O - O (+4) -> S - K (-5) -> F - E (+6) -> K The pattern of shifts is +2, -3, +4, -5, +6. The operation alternates between addition and subtraction, and the magnitude of the shift increases by 1 for each subsequent letter.- START is written as UQEMZ - S (+2) -> U - T (-3) -> Q - A (+4) -> E - R (-5) -> M - T (+6) -> Z This second example confirms the pattern +2, -3, +4, -5, +6.Now, apply this pattern to the word 'INDIA': - I (1st letter, +2) -> I + 2 = K - N (2nd letter, -3) -> N - 3 = K - D (3rd letter, +4) -> D + 4 = H - I (4th letter, -5) -> I - 5 = D - A (5th letter, +6) -> A + 6 = G Combining the shifted letters, 'INDIA' is coded as KKHDG.

23. In a peculiar mathematical operation, the numbers are first changed as per the following rule :

- **1, 2, 3 changed to 1**
- **4, 5, 6 changed to 2**
- **7, 8, 9 changed to 3**
- **'0' remains unchanged.**

The various mathematical operations are then carried out and the result obtained at the end is once again changed as per the above rule. What is the net result ? $825 - 437 + 302 = ?$

A. 690
B. 300
C. 200
D. 100

Ans: D

MPSC CS Prelims-2012

The problem defines a two-step process for the calculation: 1. Change the digits of the numbers involved in the calculation according to the given rule: - 1, 2, 3 are changed to 1. - 4, 5, 6 are changed to 2. - 7, 8, 9 are changed to 3. - 0 remains unchanged. 2. Perform the specified mathematical operations ($825 - 437 + 302$) using the numbers whose digits have been transformed in step 1. 3. Change the digits of the final result obtained in step 2 using the same rule from step 1.Let's apply these steps: Step 1: Transform the digits of 825, 437, and 302. - For 825: 8 -> 3, 2 -> 1, 5 -> 2. The transformed number is 312. - For 437: 4 -> 2, 3 -> 1, 7 -> 3. The transformed number is 213. - For 302: 3 -> 1, 0 -> 0, 2 -> 1. The transformed number is 101.Step 2: Perform the calculation with the transformed numbers. - $312 - 213 + 101$ - $312 - 213 = 99$ - $99 + 101 = 200$Step 3: Transform the digits of the result (200) using the rule. - For 200: 2 -> 1, 0 -> 0, 0 -> 0. The transformed result is 100.The net result after applying the transformation rule to the final answer is 100.

24. In a code language if the word 'QUEEN' is written as OVCF L, how will the word 'KING' be written ?

A. MKOF
B. IJLH

C. PHIK
D. FOKM

Ans: B

MPSC CS Prelims-2012

This is a letter coding problem. Let's find the pattern for QUEEN -> OVCFL. - QUEEN is written as OVCFL - Q (-2) -> O - U (+1) -> V - E (-2) -> C - E (+1) -> F - N (-2) -> L The pattern of shifts is -2, +1, -2, +1, -2. The operations alternate between subtracting 2 and adding 1.Now, apply this alternating pattern (-2, +1, -2, +1) to the word 'KING': - K (1st letter, -2) -> K - 2 = I - I (2nd letter, +1) -> I + 1 = J - N (3rd letter, -2) -> N - 2 = L - G (4th letter, +1) -> G + 1 = H Combining the shifted letters, 'KING' is coded as IJLH.

25. If EDUCATION is written as 5421312091514, then how will CAT be written ?

A. 13120
B. 3120
C. 312
D. 31209

Ans: B

MPSC CS Prelims-2012

The code assigns a sequence of digits to the word 'EDUCATION'. Let's compare the letters with the digits: EDUCATION = 5421312091514Let's try mapping each letter to its alphabetical position (A=1, B=2, ...): E=5, D=4, U=21, C=3, A=1, T=20, I=9, O=15, N=14.Now, let's concatenate these positional values: 5 (E) 4 (D) 21 (U) 3 (C) 1 (A) 20 (T) 9 (I) 15 (O) 14 (N) Concatenated string: 5421312091514This sequence exactly matches the given code for EDUCATION. The rule is to replace each letter with its alphabetical position and then concatenate the resulting numbers.Now, apply the same rule to the word 'CAT': - C is the 3rd letter, position = 3. - A is the 1st letter, position = 1. - T is the 20th letter, position = 20.Concatenate these positions: 3 (C) 1 (A) 20 (T) -> 3120.

26. There is a number series with one term missing shown by ?. Find this term from the four alternatives given below. 3, 15, 35, ?, 99, 143

A. 63
B. 69
C. 77
D. 81

Ans: A

MPSC CS Prelims-2012

The pattern is either the product of consecutive odd numbers (n (n+2) for n=1, 3, 5, ...) or the difference between terms increases by a constant value (second difference is constant).

27. What will be the next term in the following series ? 2 2 3 2 3 4 2 3 4 5 2 3 4 5 6 2 3 4 5 6 7 ?

A. 2
B. 5
C. 7
D. 8

Ans: A

MPSC CS Prelims-2012

The pattern consists of the sequences: - 2 - 2 3 - 2 3 4 - 2 3 4 5 - 2 3 4 5 6 - 2 3 4 5 6 7 The given series ends with the sequence 2 3 4 5 6 7. The next term in the overall series will be the beginning of the next sequence, which is always 2.

28. 'Turing machine' serves as

A. a machine to identify explosives
B. an indicator to inform about forest fire
C. an instrument for finding out gravitational constant
D. a theoretical computing machine to act as an ideal model for mathematical calculation

Ans: D

UPSC CAPF-2013

Proposed by Alan Turing in 1936, the Turing machine is a mathematical model of computation. It defines an abstract machine that manipulates

symbols on a strip of tape according to a set of rules. It is used to study the limits of computation and the concepts of algorithms and computability. It is not a physical machine designed for practical tasks like identifying explosives or measuring constants.

29. The 'Imitation Game' was the original name of :

A. LISP
B. The Turing Test
C. The Halting Problem
D. All of the above

Ans: B

MPPSC CS Prelims-2024

The 'Imitation Game' is the original name given by Alan Turing in his 1950 paper "Computing Machinery and Intelligence" to what is now commonly known as the Turing Test. The test proposes a method for determining if a machine can exhibit intelligent behavior equivalent to, or indistinguishable from, that of a human.

Computer Hardware: Components (CPU, Memory, Input/Output Devices, Storage)

30. India's first supercomputer is known as

A. SAGA
B. EKA
C. PARAM 2000
D. PARAM 8000

Ans: D

APSC CCE Prelims Exam-2014

PARAM 8000 was developed by the Centre for Development of Advanced Computing (C-DAC) in Pune in 1991.

31. Where was India's first computer installed?

A. Indian Institute of Technology, Delhi
B. Indian Iron and Steel Co. Ltd., Burnpur
C. Indian Statistical Institute, Calcutta
D. Indian Institute of Science, Bangalore

Ans: C

APSC CCE Prelims Exam-2014

ISI acquired an HEC-2M computer in 1955, marking the advent of digital computing in India.

32. P.A.R.A.M. is an example of

A. Super Computer
B. Laptop
C. PDA
D. PC

Ans: A

CGPSC Prelims Exam-2012

The term P.A.R.A.M. stands for Parallel Machine.

33. What is the Silicon Valley of United States of America famous for ?

A. Apple cultivation
B. Petrochemicals
C. Electronics
D. Tourism

Ans: C

HPPSC HPAS Prelims-2010

- Silicon Valley is a hub for the technology industry. - It is associated with leading global technology companies and numerous startups. - The region's economy is driven by innovation in electronics, computing, and related fields.

34. Which of the following two statements is/are correct ?

- **a. Magnetic Resonance Imaging (MRI) generates thin section images of any part of the human body.**
- **b. CT Scan is superior to X-rays and MRI.**

A. Only a
B. Only b
C. Both a and b

D. Neither a nor b

Ans: A

MPSC CS Prelims-2016

- Statement a: Magnetic Resonance Imaging (MRI) uses strong magnetic fields and radio waves to create detailed images of organs and tissues. It can produce images in various planes and generate very thin cross-sectional slices of almost any part of the body, offering high contrast for soft tissues. This statement is true. - Statement b: CT Scan (Computed Tomography) uses X-rays to create cross-sectional images. CT scans are faster and better for imaging bone, acute bleeding, and lung tissue than MRI. However, MRI offers better soft tissue contrast and does not use ionizing radiation. X-rays are primarily used for bone imaging and chest imaging, being simpler and less expensive. No single imaging modality is "superior" to others in all aspects; their utility depends on the specific clinical need. Therefore, stating that CT Scan is superior to both X-rays and MRI is incorrect.

35. Full form of MOEMS is -

A. Micro-Optic Electronic Media Source
B. Micro-Opto-Electro-Mechanical-Systems
C. Mega Operations Electronic Media Software
D. Micro-Optic-Electro-Mechanical Source

Ans: B

RPSC RAS Prelims-2021

- MOEMS is a technology that combines micro-electronics and micro-electromechanical systems (MEMS) with optics. - It involves the integration of optical functionality into MEMS devices.

36. Param-Ishan is a

A. Super computer
B. Mini computer
C. Micro computer
D. Main frame computer

Ans: A

TNPSC CS Prelims-2017

Param-Ishan is a high-performance computing system installed at IIT Guwahati. The 'Param' series is India's indigenous line of supercomputers developed by C-DAC.

37. Match the key-boards with their layouts:

Type of Key-Board	Layout
A. QWERTY	1. Vowels on left hand side and most used consonants on right hand side
B. Dvorak	2. Letters arranged in square patterns
C. Dextr	3. Letters start with Q, W, E, R, T, and so on
D. KALQ	4. Optimized for thumb typing
	5. Keys in alphabetical order

Choose the correct answer:

A. A-3, B-4, C-2, D-5
B. A-3, B-2, C-5, D-1
C. A-3, B-1, C-5, D-4
D. A-3, B-4, C-1, D-2

Ans: C

TSPSC Group 1 Prelims-2022

QWERTY is the standard keyboard layout. Dvorak is an alternative designed for typing efficiency. KALQ is a layout optimized for thumb typing on mobile devices.

38. Which of the following statements about UNIVAC is/are correct ?

- **1. It was the first general purpose electronic digital computer designed for commercial use.**
- **2. It stands for Unique Automatic Computer.**

Select the correct answer using the code given below :

A. 1 only
B. 2 only
C. Both 1 and 2
D. Neither 1 nor 2