UNIFIED COUNCIL
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UNIFIED COUNCIL OLYMPIADS

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UNIFIED CYBER OLYMPIAD

CLASS - 7
Question Paper Code : 3P104

KEY

1. B	2. C	3. C	4. D	5. B	6. A	7. C	8. C	9. B	10. B
11. B	12. D	13. C	14. D	15. B	16. B	17. A	18. C	19. C	20. B
21. D	22. B	23. C	24. D	25. B	26. B	27. A	28. B	29. C	30. D
31. B	32. C	33. B	34. C	35. C	36. B	37. C	38. B	39. A	40. B
41. D	42. A	43. C	44. C	45. C	46. C	47. D	48. C	49. D	50. D

SOLUTIONS

MENTAL ABILITY

01. (B) $\dfrac{-5}{6} = -0.8333$

$\dfrac{-6}{7} = -0.857$

$\dfrac{-31}{41} = -0.756$

$\dfrac{-41}{49} = -0.8336$

$\dfrac{-43}{49} = -0.877$

$\dfrac{-36}{41} = -0.878$

$\therefore$ -0.8336 lies between -0.857 and -0.8333

$\therefore$ $\dfrac{-6}{7} < \dfrac{-41}{49} < \dfrac{-5}{6}$

02. (C) Area of shaded region

$= \dfrac{1}{2} \times 13 \times 13 \text{ cm}^2 - \dfrac{1}{2} \times 12 \text{ cm} \times 12 \text{ cm}$

$= \dfrac{1}{2} [169 - 144] \text{ cm}^2$

$= \dfrac{1}{2} \times 25 \text{ cm}^2$

$= 12.5 \text{ cm}^2$

03. (C) $\dfrac{1}{2}+\dfrac{1}{6}+\dfrac{1}{12}+\dfrac{1}{20}+\dfrac{1}{30}+\dfrac{1}{42}$

$=\left(1-\dfrac{1}{2}\right)+\dfrac{1}{2\times3}+\dfrac{1}{3\times4}+\dfrac{1}{4\times5}+\dfrac{1}{5\times6}+\dfrac{1}{6\times7}$

$=1-\dfrac{1}{2}+\dfrac{1}{2}-\dfrac{1}{3}+\dfrac{1}{3}-\dfrac{1}{4}+\dfrac{1}{4}-\dfrac{1}{5}+\dfrac{1}{5}-\dfrac{1}{6}$

$\quad+\dfrac{1}{6}-\dfrac{1}{7}$

$=1-\dfrac{1}{7}=\dfrac{7-1}{7}=\dfrac{6}{7}$

04. (D) $-\dfrac{5}{6}=-0.83,\ -\dfrac{3}{4}=-0.75,\ -\dfrac{7}{12}=-0.58$

$-\dfrac{4}{5}=-0.8,\ -\dfrac{2}{3}=-0.66$

$\therefore\quad -0.83<-0.8<-0.75<-0.66<-0.58$

$-\dfrac{5}{6}<-\dfrac{4}{5}<-\dfrac{3}{4}<-\dfrac{2}{3}<-\dfrac{7}{12}$

05. (B) Let CP of each article be ₹ x

$\therefore$ CP of 12.5 articles = ₹ 12.5x

$\therefore$ SP of 10 articles = ₹ 12.5x

SP of each article = $\dfrac{₹\ 12.5x}{10}$

$=1.25\,x$

$\therefore$ Profit = ₹ $1.25\,x - x = 0.25\,x$

Profit % = $\dfrac{\text{Profit}}{\text{CP}}\times100$

$=\dfrac{0.25\,x}{x}\times100$

$=25\%$

06. (A) Given $x+y=8$ & $z+x=5$

$\therefore$ $x+y+z+x=8+5$

$2x+y+z=13$

$2x+7=13$

$2x=13-7$

$2x=6$

$x=\dfrac{6}{2}\Rightarrow x=3$

07. (C) Required ratio = $99^{11}:999^{111}$

$=11:111$

08. (C) Let the A's amount be ₹ x

Given $1\dfrac{1}{4}:1\dfrac{2}{3}=x:₹\ 18,000$

$\dfrac{5}{4}:\dfrac{5}{3}=x:₹\ 18,000$

$\dfrac{5}{4}\times12^{3}:\dfrac{5}{3}\times12^{4}=x:18,000$

$4x=3\times18,000$

$x=\dfrac{3\times18000^{4500}}{4}$

$=13,500$

Total sum = ₹ 13500 + ₹ 18000

= ₹ 31,500

09. (B) Given A : B = 0.11 : 0.01

= 0.11 × 100 : 0.01 × 100

A : B = 11 : 1

B : C = 0.5 : 1.2

= 0.5 × 10 : 1.2 × 10

B : C = 5 : 12

A : B = 11 : 5 = 11 × 5 : 1 × 5

A : B = 55 : 5

$\therefore$ A : B : C = 55 : 5 : 12

A : C = 55 : 12

10. (B) $\left(4^{\frac{1}{3}}\right)^{\frac{4x+1}{2}}=\dfrac{1}{2^{5}}$

$\left(2^{2\times\frac{1}{3}}\right)^{2x+\frac{1}{2}}=2^{-5}$

$2^{\frac{2}{3}\left(\frac{4x+1}{2}\right)}=2^{-5}$

$\dfrac{4x+1}{3}=-5$

$4x+1=-5\times3$

$4x+1=-15$

$4x=-15-1$

$$x = \frac{-16}{4} = -4$$
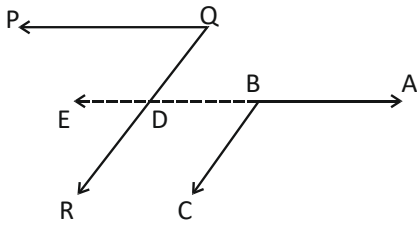
$$x = -4$$

11. (B) Construction:

Extend AB upto E.

Given PQ||AB $\Rightarrow$ BE ||PQ

$\angle Q + \angle QDE = 180°$

$47° + \angle QDE = 180°$

$\angle QDE = 180° - 47°$

$= 133°$

$\angle PDB = \angle QDE = 133°$

$\angle ABC = \angle PDB = 133°$

12. (D) SI = A–P = ₹ 1,47,500 – ₹ 1,25,000

= ₹ 22,500

But $SI = \dfrac{PTR}{100}$

$$₹\,22,500 = \frac{\overset{625}{\cancel{₹1,25,000}} \times \dfrac{5}{\cancel{2}} \times R}{100}$$

$$R = \frac{\overset{\overset{148}{4500}}{\cancel{₹27,500}}}{\underset{25}{\cancel{625 \times 5}}} = \frac{\overset{\overset{36}{4500}}{\cancel{₹22,500}}}{\underset{\underset{1}{125}}{\cancel{625}} \times 5}$$

$$= 7\frac{1}{5}\%$$

13. (C) $4.3^2 = 18.49$, $4.3^3 = 79.507$,

$5.7^2 = 32.49$, $5.7^3 = 185.193$

$= 4.3^3 + 3 \times 4.3^2 + 5.7 + 3 \times 4.3 \times 5.7^2 + 5.7^3 = 79.507 + 17.1 \times 18.49 + 12.9 \times 32.49 + 185.193$

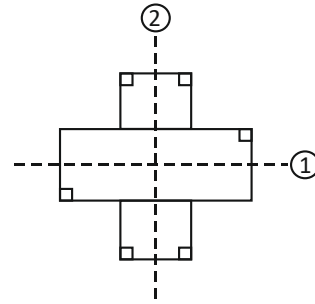$= 79.507 + 316.179 + 419.121 + 185.193$

$= 1000$

14. (D) 2.5 is a factor of 5.75 & 10

'a' is a common factor all terms.

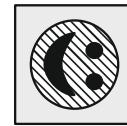$\therefore$ 2.5a is the factor of all terms.

15. (B) It has two lines of symmetry.

REASONING

16. (B) The second image rotate 45° from the first image and no shaded region is replaces with shaded as first.

17. (A) Z is code as C

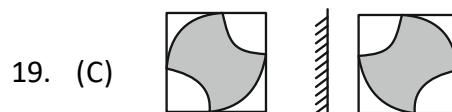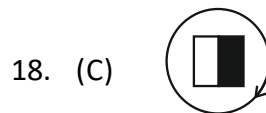B is code as E

R is code as U

A is code as D

H is code as K
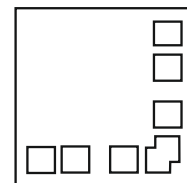
O is code as R
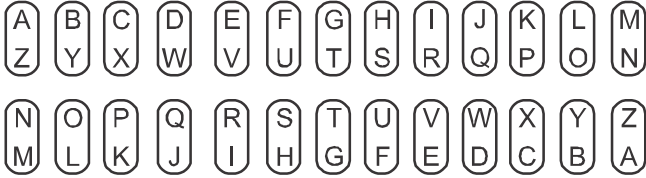
R is code as U

S is code as V

E is code as H

SHARE is coded as VKDUH

18. (C)

19. (C)

20. (B) The position of 'M' is 13 and 'E' is 5 in the alphabet. The difference between 13 and 5 is 8.
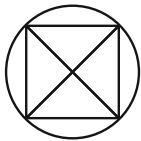
21. (D)

22. (B) $20 \times 5 + 10 \div 2 - 3 = 102$

23. (C) If first and last alphabets are paired, we are talking of making pairs of x and 27 − x.

    If you find the mathematical way difficult, make sure you use the alphabet scheme. But be quick in your decision. Look for the simplest method always.

A	B	C	D	E	F	G	H	I	J	K	L	M
Z	Y	X	W	V	U	T	S	R	Q	P	O	N

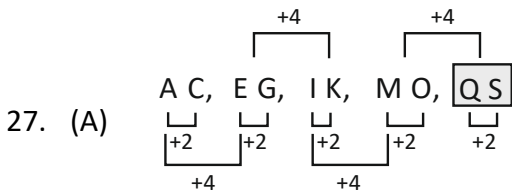| N	O	P	Q	R	S	T	U	V	W	X	Y	Z
M	L	K	J	I	H	G	F	E	D	C	B	A

    Hence EV is such a pair.

24. (D) In all other figures, the lower element is an alphabet and the upper element is a number which indicates the position of the lower element in the set of English alphabet.

25. (B) WET TEAR

    Hence the two new words are WE and TEAR.

26. (B)

27. (A)

28. (B) On the basis of above given series of figures, which can be classified as:-

    Figures (1), (8) and (9); Two black dots

    Figures (2), (3) and (5); One black dots
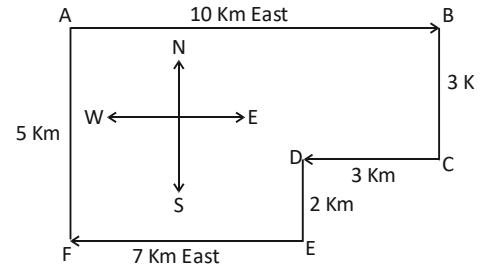
    Figures (4), (6) and (7): Three black dots

29. (C) Rule is a ✿ b = $(a + b)^2$

    i.e., 7 ✿ 1 = $(7 + 1)^2 = 8^2 = 64$

    and 8 ✿ 4 = $(8 + 4)^2 = 12^2 = 144$

    Similarly 3 ✿ 9 = $(3 + 9)^2 = 12^2 = 144$

30. (D)

    Required distance AF = BC + DE = 3 + 2 = 5 Km

    His final point is F which is in South direction from starting point A.

COMPUTERS

31. (B) Utility Software is a kind of system software designed to help analyze, configure, optimize and maintain the computer.

32. (C) The correct answer is (C) To process data and execute instructions. The CPU socket on the motherboard is where the central processing unit (CPU) is installed, and its main function is to process data and execute instructions.

33. (B) Upgrading the Random Access Memory (RAM) may solve the above problem. RAM is a type of computer memory that provides temporary storage for data and instructions that the CPU needs to access quickly. Insufficient RAM can lead to performance issues such as slow operation, inability to run multiple programs simultaneously, and difficulty in working with images or large files.

34. (C) A blog allows users to share their thought withe the world.

35. (C) INPUT()

36. (B) Relational operators are used to compare the value of the variables.

37. (C) A router is a networking device that forwards data packets between different networks. It determines the best path for data to travel from one network to another, facilitating communication between devices on different networks.

38. (B) The "Shading" option in MS Word enables users to add background color to selected text or objects, enhancing the visual appeal and readability of the document.

39. (A) Tabular data can be easily imported into PowerPoint presentations using text files (.TXT). This format preserves the structure of the data, allowing it to be displayed neatly in tables on PowerPoint slides. Other file formats such as PDF, JPEG, and MP3 are typically used for different purposes like images, documents, and audio respectively.

40. (B) To make your workflow even more efficient, you can use a shortcut key to repeat the recent action in Excel.

41. (D) Cell Style option in excel allow you to apply a predefined format to selected cells.

42. (A) Adds a new line within a cell to fit all text within the cell width.

43. (C) Line chart is best used to show trends over time.

44. (C) The Library panel in Adobe Flash provides access to pre-made graphical and interactive elements such as symbols, shapes, buttons, and animations. It allows users to organize and manage reusable assets within their Flash projects.

45. (C) Mosaic was released in 1993 developed by the National Center for Super computer Applications (NCSA)

ENGLISH

46. (C)
47. (D)
48. (C)
49. (D)
50. (D)

━━━━━ *The End* ━━━━━