



UNIFIED CYBER OLYMPIAD (UPDATED)

CLASS - 7

Question Paper Code : 30109

KEY

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

SOLUTIONS

MENTAL ABILITY

01. (C) Let the other number be x

$$\text{Then } 6\frac{2}{3} \times x = 15\frac{5}{6}$$

$$\Rightarrow \frac{20}{3} \times x = \frac{95}{6}$$

$$\Rightarrow x = \frac{95}{6} \times \frac{3}{20} = \frac{19}{8} = 2\frac{3}{8}$$

02. (C) $\frac{3x-1}{5} - \frac{1+x}{2} + \frac{x-1}{2} = 3$

$$\Rightarrow \frac{6x-2-5-5x+5x-5}{10} = 3$$

$$\Rightarrow \frac{6x-12}{10} = 3$$

$$\Rightarrow 6x = 42 \Rightarrow x = 7$$

03. (B) $0.2(2x-1) - 0.5(3x-1) = 0.4$
 $\Rightarrow 0.4x - 0.2 - 1.5x + 0.5 = 0.4$
 $\Rightarrow -1.1x = 0.1$

$$\Rightarrow x = \frac{-1}{11}$$

04. (B) Option (A) : $-125 \times 521 = -65,125$
 Option (B) : $-136 \times 515 = -70,040$
 Option (C) : $-116 \times 518 = -60,088$
 Option (D) : $-145 \times 468 = -67,860$

05. (D) Side of square = $\frac{48 \text{ cm}}{4} = 12 \text{ cm}$

$$\text{Area of square} = a^2 = (12 \text{ cm})^2 = 144 \text{ cm}^2$$

$$\text{Given } \frac{1}{2} \times 2x \times 48 \text{ cm}^2 = 144 \text{ cm}^2$$

$$x = \frac{144 \text{ cm}^2}{48 \text{ cm}} = 3 \text{ cm}$$

06. (C) Let CP Rs. x

$$\text{Profit Rs. } \frac{x}{6}$$

\therefore Profit percentage

$$= \frac{\text{Profit}}{\text{CP}} \times 100$$

$$= \left(\frac{x}{6} \right) \times 100$$

$$= \frac{50}{3}$$

$$= 16$$

$$= 16\frac{2}{3}\%$$

07. (D) $\frac{(-4)^5}{(-4)^3} = (-4)^{5-3} = (-4)^2$ or 16

08. (C) In $\triangle ABC$, $\angle ACB = \angle 180^\circ - (35^\circ + 39^\circ) = 180^\circ - 74^\circ = 106^\circ$

AE and BD intersect at C

$$\Rightarrow \angle DCE = \angle ACB = 106^\circ$$

(Vertically opposite angles)

$$\Rightarrow x = 180^\circ - (106^\circ + 48^\circ)$$

$$= 180^\circ - 154^\circ = 26^\circ$$

09. (D) Given $15\angle A = 10\angle B = 6\angle C = K$ (Let)

But $\angle A + \angle B + \angle C = 180^\circ$

$$\frac{K}{15} + \frac{K}{10} + \frac{K}{6} = 180^\circ$$

$$\frac{2K + 3K + 5K}{30} = 180^\circ$$

$$\frac{10k}{30} = 180^\circ$$

$$\frac{k}{3} = 180^\circ$$

$$k = 180^\circ \times 3 = 540^\circ$$

$$\therefore \angle A = \frac{K}{15} = \frac{540^\circ}{15} = 36^\circ, \angle B = \frac{540^\circ}{10} = 54^\circ$$

$$\angle C = \frac{540^\circ}{6} = 90^\circ.$$

10. (D) $x = \angle OST = 85^\circ$ [\because Alternative angles]

$$130^\circ + y = 180^\circ$$

$$y = 180^\circ - 130^\circ = 50^\circ$$

$$\therefore x + y = 85^\circ + 50^\circ = 135^\circ$$

$$x - y = 85^\circ - 50^\circ = 35^\circ$$

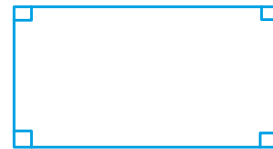
11. (C) T = 8 years; N = 2; R = ?

$$R \times T = 100 \times (N - 1)$$

$$\Rightarrow R \times 8 = 100 \times (2 - 1)$$

$$\Rightarrow R = \frac{100}{8} = 12\frac{1}{2}\%$$

12. (A) No line of symmetry for the given image.



13. (D) $A : B = \frac{1}{2} : \frac{1}{3} = \frac{1}{2} \times 6 : \frac{1}{3} \times 6 = 3 : 2$

$$B : C = \frac{1}{2} : \frac{1}{3} = 3 : 2$$

$$\therefore A : B : C = 3 \times 3 : 2 \times 3 : 2 \times 2 = 9 : 6 : 4$$

14. (B) Required simplified value

$$= \frac{2}{3}ab - \frac{5}{7}bc - \frac{2ac}{3} - \frac{3}{2}bc + \frac{3}{5}ab + \frac{5}{2}ca$$

$$= \left(\frac{2}{3}ab + \frac{3}{5}ab \right) + \left(-\frac{5}{7}bc - \frac{3}{2}bc \right) + \left(-\frac{2ac}{3} + \frac{5ca}{2} \right)$$

$$= \left(\frac{10ab + 9ab}{15} \right) + \left(\frac{-10bc - 21bc}{14} \right) + \left(\frac{-4ac + 15ac}{6} \right)$$

$$\left(\frac{19ab}{15} - \frac{31bc}{14} + \frac{11ca}{6} \right)$$

15. (B) In $\triangle PRA$, $\angle R = 90^\circ$, PR = 8cm

$$PA = 10 \text{ cm}$$

$$PA^2 = PR^2 + RA^2$$

$$(10\text{cm})^2 = (8\text{cm})^2 + (RA)^2$$

$$RA^2 = 36\text{cm}^2$$

$$RA = 6 \text{ cm}$$

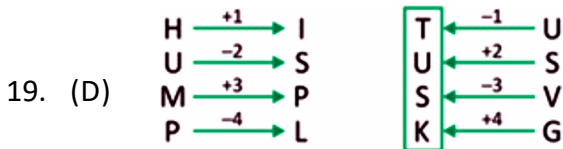
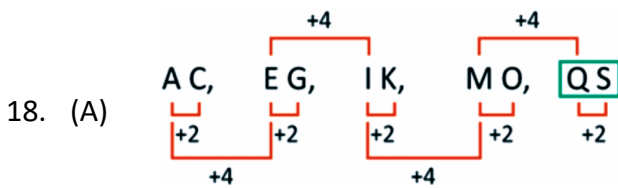
$$RQ = 2RA = 12\text{cm}$$

In $\triangle PRQ$, $\angle R = 90^\circ$

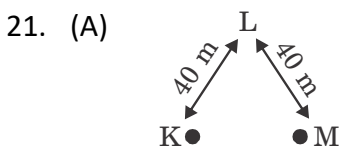
$$\begin{aligned} \therefore PQ^2 &= PR^2 + RQ^2 \\ &= (8 \text{ cm})^2 + (12 \text{ cm})^2 \\ &= 64 \text{ cm}^2 + 144 \text{ cm}^2 \\ &= 208 \text{ cm}^2 \end{aligned}$$

REASONING

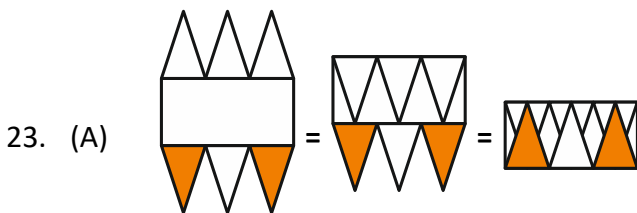
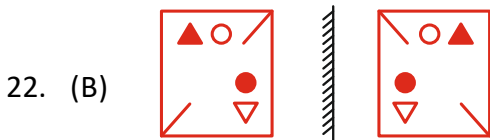
16. (D) Others are two consecutive letters of the alphabet in order.
17. (C) In the first figure, the shading of the opposite corner shapes are interchanged and slant line shading is given to the centre shape (i.e., circle & octagon) to get the second figure in each pair. Hence, the correct answer is option (C).



20. (C) If we interchange signs + and \div , then the equation changes to
- $$5 \times 15 + 7 - 20 \div 4 = 75 + 7 - 5 = 77$$



Hence, M is in the East of K.



24. (D) The word is INTEND.
25. (B) On unfolding the given paper, option (B) is obtained.
26. (B) According to the given instructions, the seating arrangement is obtained as C A B E D. Hence, 'B' is sitting to the E's left.
27. (D) The outer boundary of each figure has a similar pattern in its interior region. Hence the given group is classified as 1,2,5; 3,7,8 and 4,6,9.
28. (D) The dot in the top left-hand quarter moves backward and forward between two corners, as does the dot in the bottom left-hand quarter. The dot in the top right-hand quarter moves one corner counter clockwise at each stage and the dot in the bottom right-hand quarter moves one corner clockwise.
29. (B) In the first pair the letter 'G' from the word GRIN is moved to the last and all other remaining letters are left intact. This formed the word RING. Similarly, move letter 'E' from the word NECKLACE to the first place and leave all other letters intact. This forms the word ENECKLAC, which completes the 2nd pair.
30. (C)

			19	20	21	22
		14	15	16	17	18
	8	9	10	11	12	13
1	2	3	4	5	6	7

Number of individual squares = 22

Number of squares formed by joining 4 small squares = 12

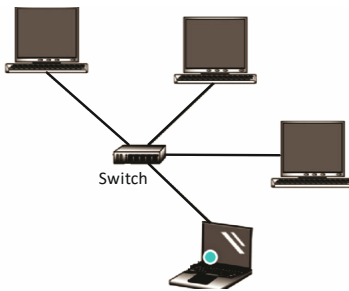
Number of squares formed by joining 9 small squares = 5

Number of big squares = 1

Total number of squares = 40

COMPUTERS

31. (D) In addition to instruction execution, the Control unit also manage the sequencing of instructions. It ensures that instructions are executed in the correct order and synchronize the activities of various components within the CPU to maintain proper operation.
32. (B) The feature in Windows 10 that allows you to organize open windows on the screen is called "Snap Assist." Snap Assist is a functionality that helps users arrange and manage multiple open windows efficiently, improving productivity and workspace organization.
33. (C) A network switch is responsible for connecting multiple computers in a network and facilitating communication between them.



34. (B) Solid-state drive (SSD) offer faster data access speeds, Lower Power consumption and greater durability compared to HDD's
35. (C) To provide a decentralized digital currency system
36. (B) The CLEAR command in QBasic is used to clear the screen.
37. (B) These are used to combine two or more relational expressions which can then be evaluated to return a single value which will be either True or False. Logical operators are used in decision making statements.

38. (B) Right align positions text along the right margin, creating a straight edge on the left side, suitable for specific formatting requirements.
39. (C) The Ribbon and Quick Access toolbar are where you will find the commands you need to perform common tasks in PowerPoint.
40. (A) Function is a predefined formula already available in Excel.
41. (A) The edited content is visible, and the active cell moves down.
42. (C) To analyze trends and relationships
43. (A) The Timeline panel in Adobe Flash displays the hierarchical order of objects and allows for precise control over their properties and animation. It consists of layers where objects are placed, and frames where keyframes and animation sequences are defined.
44. (A) The ABC computer, also known as the Atanasoff-Berry Computer, was developed by John Atanasoff and Clifford Berry. The primary purpose of the ABC computer was to aid in solving large systems of linear equations, which were common in scientific and engineering applications.
45. (A) The given icon is Google Pay.

ENGLISH

46. (A)
47. (C)
48. (B)
49. (B)
50. (A)

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The End
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