



## Unified International Cyber Olympiad

### UNIFIED INTERNATIONAL CYBER OLYMPIAD (UPDATED)

**CLASS - 7**

**Question Paper Code : 3P114**

#### KEY

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

#### SOLUTIONS

##### MENTAL ABILITY

01. (B) Division and Multiplication

$$4 \div 2 \times 2 = 4$$

$$\text{Innermost parentheses : } 15 - 4 = 11$$

$$\text{Next parentheses : } 14 - 11 = 3$$

$$\text{Brackets : } 18 - 3 = 15$$

$$\text{Final subtraction : } 36 - 15 = 21$$

$$\begin{aligned} 02. (C) \quad & \left( \frac{3}{11} \times \frac{5}{6} \right) - \left( \frac{3}{4} \times \frac{4}{3} \right) + \left( \frac{5}{13} \times \frac{2}{5} \right) \\ &= \frac{5}{22} - 1 + \frac{2}{13} = \frac{65 - 286 + 44}{286} = \frac{-177}{286} \end{aligned}$$

$$\therefore \text{ The reciprocal of } \frac{-177}{286} \text{ is } = \frac{-286}{177}$$

03. (A) Let orange trees =  $x$

$$\text{Then, apple trees} = 3x - 5$$

$$\text{Total trees} = x + 3x - 5 = 575$$

$$4x = 580$$

$$x = 145$$

04. (D)  $\angle FCG = 180^\circ - 84^\circ = 96^\circ$

$$\angle BCG = \angle FBC = 48^\circ$$

$$\therefore \angle BCF = \angle FCG - \angle BCG = 96^\circ - 48^\circ = 48^\circ$$

$$x = \text{reflex angle of BCF} = 360^\circ - 48^\circ = 312^\circ$$

$$05. (C) \quad \frac{0.567 \times 0.567 - 0.433 \times 0.433}{0.567 - 0.433}$$

$$= \frac{0.321489 - 0.187489}{0.134} = \frac{0.134}{0.134} = 1$$

06. (C)

$$\begin{aligned} \text{LHS} &= \left(\frac{3-1}{3}\right)\left(\frac{4-1}{4}\right)\left(\frac{5-1}{5}\right) \dots \left(\frac{99-1}{99}\right)\left(\frac{100-1}{100}\right) \\ &= \frac{2}{3} \times \frac{3}{4} \times \frac{4}{5} \times \dots \times \frac{98}{99} \times \frac{99}{100} \\ &\Rightarrow \frac{2}{100} = \frac{1}{50} \end{aligned}$$

07. (A)

$$\begin{aligned} 1 - 2 - 3 + 4 &= 5 - 5 = 0 \\ 5 - 6 - 7 + 8 &= 13 - 13 = 0 \\ 9 - 10 - 11 + 12 &= 21 - 21 = 0 \\ 2021 - 2022 - 2023 + 2024 - 2025 &= \\ 4045 - 4045 - 2025 &= -2025 \\ \therefore \text{Total sum} &= 0 + 0 + 0 + \dots + 0 - 2025 = -2025 \end{aligned}$$

08. (C)

$$\begin{aligned} 144 - \frac{1024}{16} \times 32 - 123 \\ = 144 - 2048 - 123 \\ = -2027 \end{aligned}$$

09. (D)

25 × 4 = 100 filters were sold in four months.

10. (B)

$$\begin{aligned} \text{Let the first odd number be } x \\ \therefore x + (x+2) + (x+4) + (x+6) + (x+8) &= 675 \\ 5x + 20 &= 675 \\ 5x &= 675 - 20 = 655 \\ x &= \frac{655}{5} = 131 \\ \therefore \text{Smallest odd number} &= x = 131 \end{aligned}$$

11. (D)

Option A perimeter = 2(12 + 2) = 2 × 14 units = 28 units  
Option B area = 8 × 3 units = 24 units  
Option B perimeter = 2(8 + 3) units = 22 units  
Option C area = 5 × 4 units = 20 units  
Option D perimeter = 2(6 + 4) units = 2 × 10 units = 20 units  
Option D area = 6 × 4 sq. units = 24 sq. units

12. (B)

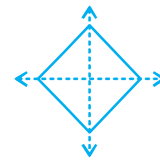
$$\begin{aligned} \text{Area of the rectangle} &= l \times b \\ &= 31\frac{1}{4} \text{ m} \times 12\frac{4}{5} \text{ m} \\ &= \frac{125}{4} \times \frac{64}{5} \text{ m}^2 \\ &= 400 \text{ m}^2 \end{aligned}$$

13. (B)

Greatest 5 digit number using the digits 8, 7, 0, 1 = 88710  
Smallest 5 digit number using the digits 8, 7, 0, 1 = 10078  
Their difference = 88710 – 10078 = 78,632

14. (C)

A rhombus has two lines of symmetry



15. (C)

$$\begin{aligned} \frac{4-9}{6x} &= \frac{1}{12} \\ \frac{-5}{6x} &= \frac{1}{12} \\ \frac{-5 \times 12}{6} &= x \\ x &= -10 \end{aligned}$$

### REASONING

16. (C)

From figure (i) to (ii) the inner design is split into two parts and then they reversing after separating, while the outer design after reducing comes between there two parts. Therefore the same change will take place from figure (iii) to (iv).

17. (C)

B is 25 in alphabetical order  
Y is 25 in reverse alphabetical order  
F & U are numbered 21  
G & T are numbered 20  
In L11O  
L and O are numbered 12  
So, L11O is different

18. (A) Look at the three letter rows on a QWERTY:

Q W E R T Y U I O P

A S D F G H J K L

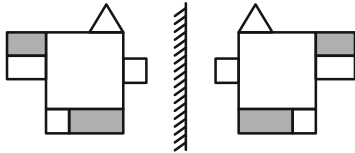
Z X C V B N M

- Diagonally down-right from Q lands on S.
- Diagonally down-right from A lands on X.
- Diagonally down-right from S lands on C.

So Q A S  $\rightarrow$  S X C, i.e. SXC.

19. (D) In forward direction : DE, EF, DF  
In backward direction : MO

Letters	D	E	F	O	R	M
Position	4	5	6	15	18	13



20. (A)

21. (C) In a circular arrangement of 26 letters, each letter has an opposite letter that is 13 positions apart, because:

Total letters = 26

Half of 26 = 13

So, the opposite letter of any given letter is 13 steps ahead (clockwise) or 13 steps back (anticlockwise)

Step-by-step:

1. Position of J in the alphabet = 10
2. Add 13:  
 $10 + 13 = 23$
3. The 23rd letter is: W

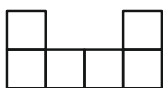
So, in a circle:

A (1) is opposite to N (14)

B (2) is opposite to O (15)

J (10) is opposite to W (23)

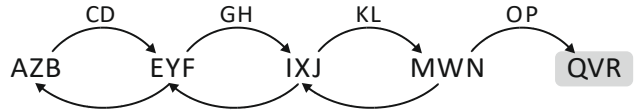
22. (C)



23. (B) Two folds create 4 layers, so one punch results in 4 holes in symmetrical positions.

24. (C) The relation may be analysed as follows  
Father's father – Grandfather ;  
Grand daughter – Sister ;  
Sister's husband – Brother-in-law ;  
So Y is X's brother-in-law ;  
Hence the answer is (C)

25. (B)



26. (A) E's father-in-law G = A's father. A and D are siblings and D is C's daughter, so A and D share the same father (B). Therefore G (A's father) is also D's father.

G is D's father because G is the father of A, and A & D are siblings making G a common parent (father).

27. (C)

Cleaning

Explanation (Step-by-Step):

Let's denote the positions from 1 to 5 (where 1 = earliest, 5 = latest).

From Clue 1 :

Cleaning just before Cooking

$\rightarrow$  Cleaning = n, Cooking = n+1

$\rightarrow$  Possible slots: (1 & 2), (2 & 3), or (3 & 4), or (4 & 5)

But hold on...

Clue 4 :

Cooking was NOT the last task ? ?  
Cooking ? position 5

So the pair (4 & 5) is invalid

$\rightarrow$  Valid pairs: (1 & 2), (2 & 3), or (3 & 4)

Clue 2 :

Jogging is after Painting but before Reading

$\rightarrow$  Order : Painting < Jogging < Reading

Clue 3:

Painting is not first  $\rightarrow$  Painting  $\neq$  position 1

Let's now trial possible sequences:

Try this possible order:

Position	Task
1	Cleaning
2	Cooking
3	Painting
4	Jogging
5	Reading

Let's verify:

Clue 1: Cleaning before Cooking → (1 & 2)

Clue 2: Painting < Jogging < Reading → (3 < 4 < 5)

Clue 3: Painting is NOT first → (Painting is at 3)

Clue 4: Cooking is NOT last → (Cooking is at 2)

All conditions are satisfied !

28. (A)  $\triangle + \bigcirc = 12$  ..... (1)

$\bigcirc + \square = 14$  ..... (2)

$\triangle + \square = 10$  ..... (3)

$\triangle = 10 - \square$  ..... (4)

Sub eq. (4) in eq. (1)

$10 - \square + \bigcirc = 12$

$\bigcirc - \square = 12 - 10$

$\bigcirc - \square = 2$  ..... (5)

$\bigcirc + \square = 14$

$\bigcirc - \square = 2$

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$2 \bigcirc = 16$

$\bigcirc = 8$

$\triangle + \bigcirc = 12$

$\triangle = 12 - 8 = 4$

29. (B) Write them together : moveinto  
Now, look inside for any 4-letter sequence.
- m o v e
  - o v e i
  - v e i n (this is a valid 4-letter English word : "Vein")

So the hidden 4-letter word is vein, found between move and into.

Joining 'move' and 'into' forms 'moveinto', which contains the word vein.

30. (C) The word "ANSWER" appears because each of its letter lies directly beneath a hole in the transparent sheet. This is not due to hole size, font darkness, or number of holes – it is purely about the positional alignment between the holes and the correct letter on the board.

### COMPUTERS

31. (A) Early computers were boxy machines with vacuum tubes and control lights – option 1 is closest.

32. (B) F2 – Opens the cell for inline editing at the cursor position

This is the correct shortcut.

It allows you to edit the active cell right where it is without using the mouse.

The cursor appears where you last left it or at the end of the text/formula.

33. (A) Source code, Binary code  
A high-level language program is called source code.

The compiler converts it into machine-level language, which is binary code (0s and 1s).

34. (A) Excel interpreted the input pattern as a date due to the cell's default formatting logic

Correct – Excel tries to guess what kind of data you entered.

1/1 matches a date pattern (day/month or month/day depending on your regional settings).

Excel assumes you meant January 1st and automatically formats the cell as a date.

35. (B) Twitter  
Dropbox → Online cloud storage service.  
Google Drive → Online cloud storage and file-sharing service.  
iCloud → Apple's cloud storage service.  
Twitter → A social media platform, not designed for storing and managing personal files.
36. (C) Math & Trig — contains SQRT, POWER, ROUND, and other core mathematical functions.
37. (C) 16  
Initial  $X = 1$   
Loop 1:  $X = 1 + 1 = 2 \rightarrow \text{PRINT } 2$   
Condition check:  $2 * 2 = 4 \leq 20$   
Loop 2:  $X = 2 + 2 = 4 \rightarrow \text{PRINT } 4$   
 $\rightarrow 4 * 2 = 8 \leq 20$   
Loop 3:  $X = 4 + 4 = 8 \rightarrow \text{PRINT } 8$   
 $\rightarrow 8 * 2 = 16 \leq 20$   
Loop 4:  $X = 8 + 8 = 16 \rightarrow \text{PRINT } 16$   
 $\rightarrow 16 * 2 = 32 \times \text{Not} = 20$   
Loop exits after printing 16  
Trap: Confusing the loop condition  $X * 2 \leq 20$  with just  $X < 20$  or  $X \leq 20$ .
38. (C) You subtract the discounted amount from original price.  
Final = Price – (Discount% × Price)
39. (C) Ctrl + enter
40. (C) Reasoning: The Subselection Tool lets you manipulate anchor points and bezier handles to bend straight paths into curves – unlike the Selection Tool which moves whole shapes.
41. (A) Statement 1 : True – Antivirus software is designed to detect, prevent, and remove malware (like viruses, worms, trojans, etc.) from your computer. It's an important security tool.
- Statement 2 : False – Antivirus software must be installed on a computer (or run from a connected device) to protect it. If it's not installed or running, it cannot scan or stop malware.
42. (B) Value exceeds the allowed range for an IP section  
Each section (octet) in an IPv4 address must be between 0 and 255.  
The second section here is 300, which is greater than 255, making it invalid.
43. (C) HDD – Correct : Hard Disk Drives store data on spinning magnetic platters, use a read/write arm, make a faint whirring noise and are generally slower than SSDs.
44. (C) Snap Assist – Arranges windows by dragging or shortcuts  
Correct – Snap Assist is a Windows feature that lets you drag a window to the side of the screen (or use Windows key + Arrow keys) to make it fill exactly half (or a quarter) of the screen. Perfect for side-by-side multitasking.
45. (C) watchOS CORRECT (Apple's dedicated OS for Apple Watch)

### ENGLISH

46. (D) "Spur someone on" means to encourage or motivate them to take action or improve.
47. (D) "Got wind of" means to hear a rumour or piece of news—often something secret or important.
48. (B) "Attracted support" is the correct collocation used for charitable appeals.
49. (A) The sentence needs a pause after "entered" – "When we entered, the room was empty."
50. (A) The sentence is grammatically correct.

===== The End =====