



# UNIFIED COUNCIL

An ISO 9001:2015 Certified Organisation



## UNIFIED CYBER OLYMPIAD (UPDATED)

CLASS - 8

Question Paper Code : UC351

### KEY

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

### SOLUTIONS

#### MENTAL ABILITY

1. (C) Given  $\frac{9}{13} \times 221 + \frac{13}{9} \times 378 = 241 + x$

$$9 \times 17 + 13 \times 42 = 241 + x$$

$$699 = 241 + x$$

$$x = 699 - 241 = 458$$

2. (D)  $SP = CP \left( \frac{100 + g}{100} \right)$

$$₹ 1850 = CP \left( \frac{100 + 25}{100} \right)$$

$$₹ 1,850 \times \frac{100}{125} = CP$$

$$CP = ₹ 1,480$$

3. (A) Let the sum lend at 6 % be ₹  $x$

$$\text{Given ₹ } x \left( \frac{100 + 6 \times 2}{100} \right) + ₹ (16,800 - x)$$

$$\left( \frac{100 + 8 \times 2}{100} \right) = ₹ 19,000$$

$$₹ \frac{28x}{25} + 16,800 \left( \frac{29}{25} \right) - \frac{x \times 29}{25}$$

$$= ₹ 19,000$$

$$\frac{28x}{25} - \frac{29x}{25} = ₹ 19,000 - ₹ 19,488$$

$$- \frac{x}{25} = - ₹ 488$$

$$x = ₹ 488 \times 25 = ₹ 12,200$$

4. (B) Let the principal be ₹  $x$

$$\text{₹ } x \left( 1 + \frac{r}{100} \right)^n - \text{₹ } x = \text{₹ } 2,862$$

$$\text{₹ } x \left( 1 + \frac{12}{100} \right)^2 - \text{₹ } x = \text{₹ } 2,862$$

$$\text{₹ } x \left( \frac{28}{25} \right)^2 - \text{₹ } x = \text{₹ } 2,862$$

$$\text{₹ } \frac{784x}{625} - \text{₹ } x = \text{₹ } 2,862$$

$$\text{₹ } \frac{159x}{625} = \text{₹ } 2,862$$

$$x = \text{₹ } 2,862 \times \frac{625}{159}$$

$$x = \text{₹ } 18 \times 625$$

$$= \text{₹ } 11,250$$

5. (B)  $\sqrt{195} \times \sqrt{936} \times \sqrt{1,080} = \sqrt{13 \times 15 \times 13 \times 36 \times 2 \times 2 \times 15 \times 36}$
- $$= 13 \times 15 \times 36 \times 2$$
- $$= 14,040$$

6. (C)  $7^{2.3} \times (7^2)^{4.7} \times (7 \times 9)^{3.4} \times (9^2)^{5.85} = 63^x$
- $$7^{2.3+9.4} \times 7^{3.4} \times 9^{3.4} \times 9^{11.7} = (63)^x$$
- $$7^{15.1} \times 9^{15.1} = (63)^x$$
- $$(63)^{15.1} = (63)^x$$
- $$x = 15.1$$

7. (A)  $\frac{348}{29} \times 15 + 156 = x^3 + 120$
- $$12 \times 15 + 156 = x^3 + 120$$
- $$x^3 = 216 = 6^3$$
- $$\therefore x = 6$$

8. (D) Let the four consecutive odd numbers be  $x, x+2, x+4, x+6$
- Given  $x + x + 2 + x + 4 + x + 6 = 144$
- $$4x + 12 = 144$$
- $$4x = 132$$
- $$x = 33$$
- $$\therefore \text{smallest odd number } (x) = 33$$

9. (A) Let the side square be ' $x$ ' metres

Given  $l = (x + 8)$  metres &  $b = (x - 6)$  metres

$$\text{Given } x^2 = (x + 8)(x - 6)$$

$$x^2 = x^2 + 2x - 48$$

$$2x = 48$$

$$x = 24$$

$$\therefore l = x + 8 = 24 + 8 = 32 \text{ m}$$

$$b = x - 6 = 24 - 6 = 18 \text{ m}$$

$$\text{Perimeter of the rectangle} = 2(l + b) = 2(32 + 18) \text{ m} = 100 \text{ m}$$

10. (D)  $x + 90^\circ + 2x + 60^\circ = 360^\circ$

$$3x = 210^\circ$$

$$x = 70^\circ$$

$$\therefore \text{Angle made by the sector R at the centre} = 2x = 140^\circ$$

$$\text{Total participants} = \frac{360^\circ}{60^\circ} \times 18 = 108$$

$$\therefore \text{Participants of country R} = \frac{140^\circ}{360^\circ} \times 108 = 42$$

11. (C) Given  $x - \frac{1}{x} = \sqrt{k}$

squaring on both sides

$$x^2 - 2x \times \frac{1}{x} + \frac{1}{x^2} = k$$

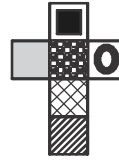
$$x^2 + \frac{1}{x^2} = k + 2$$

12. (B)  $\text{LHS} = \left( \frac{3}{2}a + \frac{2}{3}a + \frac{3}{5}a \right) + \left( \frac{5}{4}b + \frac{7}{2}b - \frac{5}{2}b \right)$
- $$+ \left( \frac{-2c}{5} - \frac{7c}{2} + \frac{5c}{4} \right)$$
- $$\left( \frac{45a + 20a + 18a}{30} \right) + \left( \frac{5b + 14b - 10b}{4} \right)$$
- $$+ \left( \frac{-8c - 70c + 25c}{20} \right)$$
- $$= \left( \frac{83a}{30} \right) + \left( \frac{9b}{4} \right) - \left( \frac{53c}{20} \right)$$

13. (B) In a parallelogram ABCD,  
 $\angle A + \angle B = 180^\circ$
14. (A) The given figure has no line symmetry.
15. (B)  $\frac{x^2 - y^2}{(x + y)} = \frac{(x + y)(x - y)}{(x + y)} = (x - y)$

### REASONING

16. (C) Puddle 1 Pond 2 Lake 3 Sea 4 Ocean 5
17. (C) Option (C) is correct.
18. (B) Letters in A, C, D are in alphabetical order. In option (B) letters are not in alphabetical order.
19. (C)
- |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|
|   |   |   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| N | O | P | Q | R | S | T | U | V | W | X |
- ↓  
3<sup>rd</sup> Letter
- 8<sup>th</sup> letter to the right of 'P' is 'X'.
20. (D) LOWER is coded as X ? % ! \*
21. (B)
- 
22. (A) Second : Different between 1<sup>st</sup> & 4<sup>th</sup> digit  
 First digit : Different between 2<sup>nd</sup> & 3<sup>rd</sup> digit
23. (A) Square of 1<sup>st</sup> number + square of 2<sup>nd</sup> number = middle number.
24. (D) 'A' is the correct word which replaces letter 'E' form a meaningful words.  
 BA, HARD, MAT, SAT
25. (B) The new letter sequence is E C N A B R U T S I D Clearly, S comes after T.
26. (D) CAPUCHIN is a monkey
27. (A) South direction
- |   |   |   |
|---|---|---|
| P | T | R |
|   |   |   |
| — | — | — |
28. (C)
- |   |   |   |
|---|---|---|
|   |   |   |
| — | — | — |
| S | Q | U |
- P and U are diagonally opposite to each other.



29. (B)
30. (B) put his  
 'THIS'

### COMPUTERS

31. (C) Motion tween : The time line turns purple between the key frames when this feature being used.
32. (B) The speed of a movie is nothing but frame rate.
33. (B) LAN is used.
34. (C) Network interface card: (NIC) is a hardware component, typically a circuit board or chip, which is installed on a computer so that it can connect to a network.
35. (B) A newsgroup is like a store house where messages from many users are placed in different locations.
36. (D) UNTIL statement.
37. (D) Some popular DBMS software are MS Access, Clipper, and FoxPro
38. (B) An OLE object field can contain documents, such as images, text files, Microsoft Word files or Microsoft Excel files.
39. (C) Alt + F4
40. (C) The creeper virus appeared on the ARPANET, the predecessor of the modern Internet, in the early 1970's.
41. (D) To change the background colour to blue, we use <BODY BGCOLOR="#0000FF"> or <BODY BGCOLOR=BLUE>
42. (A) Norton AntiVirus is a product of Symantec Corporation. Founded in 1982, Symantec is headquartered in Cupertino, California.
43. (D) Modem connects wireless communication devices to form a wireless network.

**ENGLISH**

44. **(D)** All of these points should be followed.

45. **(A)** Search engine a program that searches for and identifies items in a database that correspond to key word or character specified by the user, used especially for finding particular sites on the world wide web.

46. **(D)** Theist

47. **(A)** Bravery

48. **(B)** Clichéd

49. **(A)** I asked her if she was unwell that day.

50. **(C)** One-sided.

===== *The End* =====