



UNIFIED COUNCIL

An ISO 9001:2015 Certified Organisation



UNIFIED CYBER OLYMPIAD (UPDATED)

CLASS - 7

Question Paper Code : UC345

KEY

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

SOLUTIONS

MENTAL ABILITY

1. (C) Let the length of ribbon be 'x' m

$$\text{Given } \frac{x}{4} + \frac{2x}{5} + 35 = x$$

$$\Rightarrow \frac{x}{4} + \frac{2x}{5} - x = -35$$

$$= \frac{5x + 8x - 20x}{20} = -35$$

$$-7x = -35 \times 20$$

$$\text{Total length (x)} = 100 \text{ mts}$$

2. (D) Greatest = $\frac{2}{9}$ least = $\frac{-5}{9}$

$$\text{Difference} = \frac{2}{9} - \frac{(-5)}{9} = \frac{7}{9}$$

3. (B) $\frac{37}{13} = 2 + \frac{11}{3} = 2 + \frac{1}{\left(\frac{13}{11}\right)}$

$$= 2 + \frac{1}{1 + \frac{2}{11}} = 2 + \frac{1}{1 + \frac{1}{\left(\frac{11}{2}\right)}}$$

$$= 2 + \frac{1}{1 + \frac{1}{5 + \frac{1}{2}}}$$

$$\therefore x=1, y=5 \text{ and } z=2$$

4. (A) Given $\frac{1}{4}\pi r^2 = 154 \text{ cm}^2$

$$\frac{1}{4} \times \frac{22}{7} \times r^2 = 154 \text{ cm}^2$$

$$r^2 = 196 \text{ cm}^2$$

$$r = 14 \text{ cm}$$

$$\therefore OC = 2r = 28 \text{ cm}$$

$$\text{Area of square} = (28 \text{ cm})^2 = 784 \text{ cm}^2$$

5. (A) Given $CP \frac{(100+6)}{100} - CP \frac{(100-\frac{25}{2})}{100}$

$$= 51.8$$

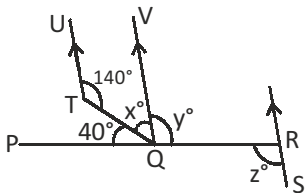
$$CP \times \frac{53}{50} - CP \times \frac{175}{200} = ₹51.8$$

$$\frac{212CP - 175CP}{200} = ₹51.8$$

$$37CP = ₹51.8 \times 200$$

$$CP = ₹280$$

6. (C, D) $140^\circ + x = 180^\circ$ $x = 40^\circ$



$$40^\circ + x + y = 180^\circ$$

$$40^\circ + 40^\circ + y = 180^\circ$$

$$y = 100^\circ$$

$$y - x = 60^\circ$$

$$z = y = 100^\circ, x + y = 140^\circ$$

$$x + y + z = 40^\circ + 100^\circ + 100^\circ = 240^\circ$$

7. (D) Let MP be ₹x

$$SP = \frac{100-20}{100} \times MP = \frac{₹4x}{5}$$

$$\Rightarrow CP \times \frac{(100+10)}{100} = \frac{₹4x}{5}$$

$$CP = \frac{₹8x}{11}$$

$$\text{Case ii } SP = \frac{100-10}{100} \times MP = \frac{9x}{10}$$

$$\therefore \text{Profit} = \frac{9x}{10} - \frac{8x}{11} = \frac{99x - 80x}{110} = \frac{19x}{110}$$

$$\text{Profit \%} = \left(\frac{\frac{19x}{110}}{\left(\frac{8x}{11} \right)} \right) \times 100$$

$$= \frac{19}{80} \times 100 = 23\frac{3}{4}\%$$

8. (C) $\frac{x}{3} - \frac{x}{9} - \frac{x}{6} = \frac{-17}{3}$

$$\frac{6x - 2x - 3x}{18} = \frac{-17}{3}$$

$$\frac{x}{18} = \frac{-17}{3}$$

$$x = -17 \times 6 = -102$$

9. (B) Let the least amount taken by 8% be ₹x.

Given

$$\frac{x \times 8 \times 1}{100} + \frac{(4000 - x) \times 10 \times 1}{100} = ₹352$$

$$= \frac{8x + 40,000 - 10x}{100} = ₹352$$

$$₹40,000 - 2x = ₹35,200$$

$$-2x = -₹4,800$$

$$x = ₹2,400$$

10. (B) $8^3 : 4^{3.5} = (2^3)^3 : (2^2)^{3.5}$

$$= 2^9 : 2^7 = 2^2 : 1$$

$$= 4 : 1$$

11. (D) Given $\frac{1}{2} \times (3x) (4x) = 1,014 \text{ cm}^2$

$$6x^2 = 1014 \text{ cm}^2$$

$$x^2 = 169 \text{ cm}^2$$

$$x^2 = (13 \text{ cm})^2$$

$$x = 13 \text{ cm}$$

$$3x = 39 \text{ cm and } 4x = 52 \text{ cm}$$

12. (D) Area of MNC = $12 \text{ cm} \times 10 \text{ cm} - \frac{1}{2} \times 5 \text{ cm} \times 12 \text{ cm}$

$$-\frac{1}{2} \times 4 \times 5 \text{ cm}^2 - \frac{1}{2} \times 8 \times 10 \text{ cm}^2$$

$$= 120 \text{ cm}^2 - 30 \text{ cm}^2 - 10 \text{ cm}^2 - 40 \text{ cm}^2$$

$$= 40 \text{ cm}^2$$

13. (A) Given $x + x + 2 + x + 4 + x + 6 = 48 \text{ years}$

$$4x + 12 = 48 \text{ years}$$

$$4x = 36 \text{ years}$$

$$x = 9 \text{ years}$$

$$x + 6 = 9 + 6 = 15 \text{ years}$$

14. (B) 2 & 5 are factors of q.

15. (C) 40 coins are not in the multiples of 3.

REASONING

16. (A) MIDDLE

17. (D) As 'Arc' is a part of 'circle' similarly 'Segment' is a part of 'line'

18. (C) 543, 453. In all others, digit at 1st position moves to 3rd position, digit at 2nd position moves to 1st position and digit at 3rd position moves to 2nd position.

19. (D) Adding 1, 1, 11, 11, 111, 111.

20. (D) Migen means cup; lasan means board; poen means walk; cuop means pull; and dansa means man. The only possible choices, then, are choices a and d. Choice a can be ruled out because migen means cup.

21. (B) Difference of numbers in first two pentagons is in third pentagon at same location.

Difference of 2,5 = 3; 4,5 = 1; 7,9 = 2; 6,11 = 5; 1,10 = 9. So, answer is 10.

22. (C) 80059021

23. (C) 3, 5, 8 have similar designs with four leaves placed close to a small circle and forming a symmetrical design at the centre of the figure.

2, 6, 9 have a similar designs with three of the corners of the main figure are shaded black and there is a pattern formed around a '+' sign at the centre of the figure.

1, 4, 7 have similar designs with four small circles at the corners of the main figure and there is a wheel shaped element at the centre of the figure. Hence, figure (c) is the answer.

24. (D) Explanation: R-7, K-5, F-3, C-2

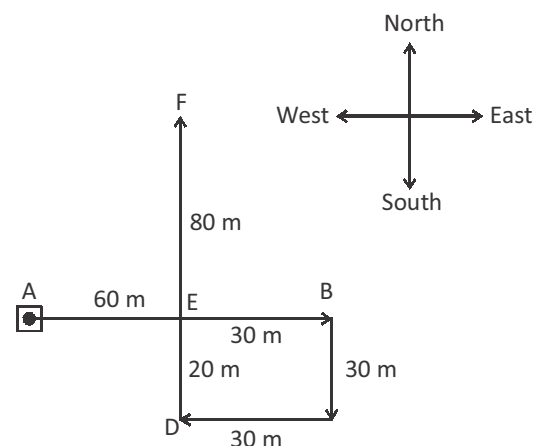
The values that are subtracted are consecutive prime numbers in decreasing order.

25. (C) In every pair consonant is followed by vowel.

26. (B) Total number of children = $(7 + 4 + 2 + 3 + 5) = 21$

27. (C)

28. (D)



29. (D) The third, fifth, seventh and tenth letters of the word PROJECTION are O, E, T and N respectively. The words formed are NOTE and TONE.

30. (B) first one is the same of second one.

COMPUTERS

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|---------|---------|---------|
| 31. (A) | 32. (B) | 33. (C) |
| 34. (B) | 35. (A) | 36. (A) |
| 37. (B) | 38. (B) | 39. (C) |
| 40. (C) | 41. (D) | 42. (D) |
| 43. (D) | 44. (C) | 45. (C) |

ENGLISH

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|---------|---------|---------|
| 46. (D) | 47. (B) | 48. (C) |
| 49. (D) | 50. (D) | |

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The End
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