



UNIFIED COUNCIL

An ISO 9001:2015 Certified Organisation



UNIFIED CYBER OLYMPIAD (UPDATED)

CLASS - 8

Question Paper Code : UC359

KEY

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

SOLUTIONS

MENTAL ABILITY

1. (D) $R = \frac{100 I}{PT} = \frac{100 \times 135}{600 \times 5} = 4.5\%$

$$\therefore I = \frac{PTR}{100} = \frac{600 \times 5 \times (4.5 + 2)}{100}$$

$$I = ₹ 195$$

$$\text{Amount} = P + I = ₹ 600 + ₹ 195 = ₹ 795$$

2. (C) Given ₹ 2,500 = ₹ 2,304 $\left(1 + \frac{r}{100}\right)^2$

$$\therefore 625 = 576 \left(1 + \frac{r}{100}\right)^2$$

$$\frac{625}{576} = \left(1 + \frac{r}{100}\right)^2$$

$$\left(\frac{25}{24}\right)^2 = \left(1 + \frac{r}{100}\right)^2$$

$$1 + \frac{r}{100} = \frac{25}{24}$$

$$\frac{r}{100} = \frac{25}{24} - 1$$

$$r = \frac{1}{24} \times 100 = \frac{25}{6} = 4\frac{1}{6}$$

3. (B) Given $3(x + 9) = 10x - 1$

$$3x + 27 = 10x - 1$$

$$27 + 1 = 10x - 3x$$

$$28 = 7x$$

$$x = 4$$

4. (D) Given $90\% \text{ mp} - 88\% \text{ mp} = ₹ 35$

$$\frac{9}{10}\text{mp} - \frac{44}{50}\text{mp} = ₹ 35$$

$$\frac{45\text{mp} - 44\text{m}}{50} = ₹ 35$$

$$\text{mp} = ₹ 35 \times 50 = ₹ 1750$$

5. (C) Given $x = \frac{2}{5}x + 75$

$$x - \frac{2x}{5} = 75$$

$$\frac{5x - 2x}{5} = 75$$

$$\frac{3x}{5} = 75$$

$$x = 125$$

6. (B) Given $4x^2 + 9x^2 + 16x^2 = 1856$

$$29x^2 = 1856$$

$$x^2 = \frac{1856}{29} = 64$$

$$x = 8$$

\therefore The required numbers are 16, 24, 32

7. (C) $-2021 + 2021 = 0$ which has no multiplicative inverse

8. (D) Let the other number be 'x'

$$\text{Given } x + \frac{9}{10} = \frac{-3}{4}$$

$$x = \frac{-3}{4} - \frac{9}{10} = \frac{-15-18}{20}$$

$$x = \frac{-33}{20}$$

9. (C) In a parallelogram if one angle is 90° then it is a rectangle

10. (C) Area of the roads $= 5\text{m} \times 80\text{m} + 5\text{m} \times 60\text{m} - 5\text{m} \times 5\text{m}$

$$= 400\text{m}^2 + 300\text{m}^2 - 25\text{m}^2$$

$$= 675 \text{ m}^2$$

Total cost of gravelling

$$= 675 \times 74 = 49,950$$

$$\begin{array}{r} 11. \text{ (A)} \quad 2x-3 \quad 6x^3 - x^2 - 10x - 9(3x^2 + 4x + 1) \\ \quad \quad \quad 6x^3 - 9x^2 \\ \quad \quad \quad (+) \\ \quad \quad \quad \hline \quad \quad \quad 8x^2 - 10x - 9 \\ \quad \quad \quad 8x^2 - 12x \\ \quad \quad \quad (+) \\ \quad \quad \quad \hline \quad \quad \quad 2x - 9 \\ \quad \quad \quad 2x - 3 \\ \quad \quad \quad (-) (+) \\ \quad \quad \quad \hline \quad \quad \quad (-6) \end{array}$$

or Calculate $f\left(\frac{3}{2}\right)$ where

$$f(x) = 6x^3 - x^2 - 10x - 9$$

12. (B) $\sqrt[3]{1372} = \sqrt[3]{2 \times 2 \times 7 \times 7 \times 7}$

$$\sqrt[3]{1458} = \sqrt[3]{2 \times 9 \times 9 \times 9}$$

$$\therefore \sqrt[3]{1372} \times \sqrt[3]{1458} = \sqrt[3]{2 \times 2 \times 7 \times 7 \times 7 \times 2 \times 9 \times 9 \times 9}$$

$$= 2 \times 7 \times 9 = 126$$

13. (D) $x^2 = 372 \times 93 = 124 \times 3 \times 3 \times 31 = 31 \times 4 \times 3 \times 3 \times 31$

$$x = 31 \times 3 \times 2 = 186$$

14. (B) Predecessor of 0 in the set of integers is -1

15. (A) Given $7x + 10 = 5x - 2$

$$2x = -12$$

$$x = -6$$

REASONING

16. (A) 8 when 12 will 16 you 2 come 10

Given When = x

Will = +

You = \div

Come = $-$

$$\therefore 8 \times 12 + 16 \div 2 - 10$$

$$= 8 \times 12 + 8 - 10$$

$$= 96 + 8 - 10$$

$$= 104 - 10 = 94$$

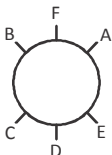
17. (C) POND interchange first and last letters we get DONP. Now skip one letter for each letter in the word DONP is FQPR.

In the same way HEAR \rightarrow REAH : TGCI

18. (B)



19. (B)



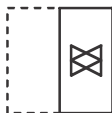
20. (C) 1-amphibious; 2-amphidiploides;
3-amphidiploids; 4-amphidiploidy;
5-amplification

middle word is amphiploids.

21. (D) A marathon is a long race and hibernation is a lengthy period of sleep. The answer is not choice a or b because even though a bear and winter are related to hibernation, neither completes the analogy. Choice c is incorrect because sleep and dream are not synonymous.

22. (C) $6 \times 7 = 42$ $42 \times 6 = 252$
 $252 \times 5 = 1260$ $1260 \times 4 = 5040$

23. (C)



24. (D) Paris is the capital city of france.

25. (A) $\frac{US91Q4M}{n2\partial J\sigma 4W}$

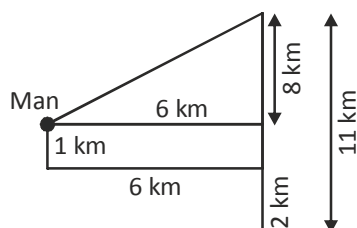
26. (B) A B C C E E I L M P

27. (D) In each row, there are three types of outer elements (circle, triangle and square), three types of inner elements (circle, triangle and square) and three types of shadings in the inner elements (black, white and lines).

28. (C) You = Loo; Sing = Sam; Sweet = Pee

29. (C) GRAPES = Fruit
BANANA = Fruit
ALMOND = Dry fruit
APPLE = Fruit

30. (A)



$$\sqrt{64 + 36} \Rightarrow \sqrt{100} \Rightarrow 10 \text{ km}$$

COMPUTERS

31. (A) The library is a holding place for all symbols and imported images and sounds within a single flash file.

32. (B) Symbol

33. (C) Bridge is a device that connect two LANS that uses the same protocol.

34. (A) A key frame that contains objects will be represented by a hollow circle.

35. (A) Acid Rain, Trojan, Alien.298, Amoeba.A, Crazy. A and Umbrella.3173 are the examples of program Viruses.

36. (A) Altavista was a web search engine. Macafee, Kaspersky and Norton are antivirus software.

37. (A) The first operational computer network in the world was the ARPANET for the United States Department of Defense.

38. (D) Netiquette is a set of conventional rules to be followed for appropriate behaviour on the internet.

39. (A) A repeater regenerates a signal, connects segments of a LAN and has no filtering capability.

40. (D) The <a> tag defines a hyperlink, which is used to link from one page to another.

41. (C) <BODY BGCOLOR="GREEN">

42. (C) A single piece of information is known as field.

43. (D) In MS Access, all tables,queries, forms and reports are known as objects.

44. (A) We can use bluetooth to send few photographs and songs by inter connecting mobile phone using short range wireless connection.

45. (A) Select frames and press F6 to insert a new keyframe.

ENGLISH

46. **(C)** Agnostic
47. **(B)** Kid. Lamb is a young sheep and so is 'kid' of a goat.
48. **(C)** Trample
49. **(D)** Ramu says that he saw a train running on water. When the reporting verb (in this case 'says') is in the present tense, there is no change of tense in the reported speech.
50. **(A)** Into

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