## UNIFIED COUNCIL

An ISO 9001:2015Certified Organisation

## UCO

Unified
Cyber
Olympiad

## UNIFIED CYBER OLYMPIAD (UPDATED)

## CLASS - 7 <br> Question Paper Code : UC351

## KEY

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

## SOLUTIONS

## MENTAL ABILITY

1. (C) Given $=-\frac{7}{8}+x=-\frac{8}{7}$

$$
x=-\frac{8}{7}+\frac{7}{8}=\frac{-64+49}{56}=-\frac{15}{56}
$$

2. (D) LHS $=\frac{8}{\left(\frac{3}{2}\right)} \times \frac{22}{7} \times \frac{21}{88}=\frac{8 \times 2}{3} \times \frac{22}{7} \times \frac{21}{88}=4$
3. (B) Let the salary of the officer be ₹ $x$.

Given new salary = ₹ $x\left(\frac{100+25}{100}\right)=₹ \frac{5 x}{4}$
Increased amount $=₹ \frac{5 x}{4}-$ ₹ $x=₹ \frac{x}{4}$
let $y \%$ to be decreased to get ₹ $x$
$\therefore ₹ \frac{5 x}{4}\left(\frac{100-y}{100}\right)=₹ x$
$100-y=80$
$100-80=y$
$y=20 \%$
(OR) Decreased percentage
$=\frac{\text { Increased } \%}{100+\text { increased } \%} \times 100$
$=\frac{25 \%}{125 \%} \times 100$
= $20 \%$
4. (B) Let the CP of each chair be ₹ $x$
$\therefore \quad$ CP of 20 chairs $=₹ 20 x$
Given Sp of 15 chairs $=\mathrm{CP}$ of 20 chairs
$\therefore \quad$ SP of 15 chairs $=₹ 20 x$
SP of each chair $=₹ \frac{20 x}{15}=₹ \frac{4 x}{3}$
Profit on each chair $=\mathrm{SP}-\mathrm{CP}=₹ \frac{4 x}{3}-$
₹ $x=₹ \frac{x}{3}$
Profit $\%=\frac{\text { Profit }}{\mathrm{CP}} \times 100=\frac{\frac{x}{3}}{x} \times 100=$ $33 \frac{1}{3} \%$
5. (D) Number of days $=31+28+31+30+31$
$+30+31+7=219$
$\therefore \quad$ Simple interest $=\frac{\text { PTR }}{100}$
$=₹ \frac{1,00,000 \times 15 \times \frac{3219}{5,365}}{100}=₹ 9,000$
6. (C) Given $7 x-3 x=884$
$4 x=884$
$x=221$
$\therefore \quad 7 x+3 x=10 x=10 \times 221=2210$
7. (A) Given $118^{\circ}+107^{\circ}+73^{\circ}+x=360^{\circ}$
$x=360^{\circ}-298^{\circ}=62^{\circ}$
8. (D) $L H S=(a-3 b+12 c+4 a+b-9 c+a+2 b$
$-3 c)-(2 a-3 b-4 c)$
$=6 a-2 a+3 b+4 c$
$=4 a+3 b+4 c$
9. (C) Given $x-\frac{1}{x}=\frac{24}{5}$
squaring on both sides
$x^{2}-2 x \times \frac{1}{x}+\frac{1}{x^{2}}=\frac{576}{25}$
$x^{2}+\frac{1}{x^{2}}=\frac{576}{25}+2=\frac{626}{25}$
10. (A) Perimeter of field $=\frac{1701}{10.5}=162 \mathrm{mts}$
$\therefore 4 \mathrm{~S}=162 \mathrm{~m}$
$S=\frac{162}{4} \mathrm{~m}=40.5 \mathrm{~m}$
Area $=S^{2}=(40.5 \mathrm{~m})^{2}=1,640.25 \mathrm{~m}^{2}$
11. (B)

one line symmetry
12. (D) 1
13. (C) $I=A-P=₹ 20,000-₹ 10,000$
$=₹ 10,000$
$I=\frac{P T R}{100}$
$₹ 10,000=₹ \frac{10,000 \times 5 \times R}{100}$
$R=20 \%$
14. (B) $\frac{\mathrm{a}^{2}-\mathrm{b}^{2}}{\mathrm{a}-\mathrm{b}}=\frac{52^{2}-48^{2}}{52-48}=\frac{2704-2304}{4}$
$=\frac{400}{4}=100$
(OR) $\frac{a^{2}-b^{2}}{a-b}=\frac{(a+b)(a-b)}{(a-b)}=(a+b)$
$=52+48=100$
15. (A) Perimeter of the rectangle $=2(l+b)$
$=2(x+\mathrm{a}+x-\mathrm{a})$ units
$=2 \times 2 x$ units
$=4 x$ units

## REASONING

16. (B) If $A=1, B=2, C=3 \ldots$ so on

From ' $C$ ' and ' X ' are same position from $A$ to $Z$ and $Z$ to $A$.

C24X like E22V, G20T, I18R, K16P
17. (B) ' $B$ ' is different from others. In $A, C, D$ options ' 1 ' line in star is not have doted lines.
18. (C) Final ranking of height in descending order is

Hritik, Sanjay, Salman, Akshay, Shahrukh. Hence, Shahrukh is the shortest.
19. (D)
Geeta
house
$x=\sqrt{(30)^{2}+(40)^{2}}$
$\Rightarrow \sqrt{900+1600} \Rightarrow \sqrt{2500}=50 \mathrm{~m}$
20. (C) The figures 1,3 and 7 have three petals three rectangles and three triangles respectively. So, they should be grouped in one group figurers 4,8 and 9 have one triangle, one rectangle and one circle respectively. So, they should be grouped into one group. On the other hand, the figures between 2,5 and 6 have five petals, five triangles and five squares, respectively. So, they should be grouped into one group. Therefore the correct answer is $C$. $(1,3,7)(2,5,6)(4,8,9)$.
21. (C)

22. (B) Being erudite is a trait of a professor; being imaginative is a trait of an inventor.
23. (C) One horizontal line increases every time.
24. (C) 134 means good and tasty 478 means see good picture
729 means picture are faint
from (2) and (3) picture $=7$
from (1) and (2) good = 4
Then see $=8$
data is inadequate can't find code for "faint".
25. (D)

26. (A) 561423 - Voyage means long journey.
27. (D) $4 \times 3 \times 2 \times 2=48$
$4 \times 1 \times 7 \times 2=56$
$7 \times 6 \times 1 \times 5=210$
Option (D) is correct
28. (A)

29. (D) Pageant meaning is "a public entertainment consisting of a procession of people in elaborate, colourful costumes, or an outdoor performance of a historical scene."
30. (B) $81 \times 3=243 ; \quad 16 \times 4=64$
$64 \times 3=192 ; \quad 25 \times 3=75$
$\therefore 16: 64$ is the odd one out.

## COMPUTERS

31. (A)

| 2 | 5140 |
| ---: | ---: |
| 2 | $5270-0$ |
| 2 | $1285-0$ |
| 2 | $642-1$ |
| 2 | $342-0$ |
| 2 | $160-1$ |
| 2 | $80-0$ |
| 2 | $40-0$ |
| 2 | $20-0$ |
| 2 | $10-0$ |
| 2 | $5-0$ |
| 2 | $2-1$ |
| 2 | $1-0$ |
| 2 | $0-1$ |

$\therefore \quad$ Binary code is 1010000010100
32. (C) Compilers and interpreters are programs.
33. (C) The structure of a function begins with an equal sigh (=), followed by the function name, an opening parenthesis, the arguments for the function separated by commas, and a closing parenthesis.
34. (C) Error N/A occurs when a value is not available to a function or formula.
35. (C) Pie chart is used when we want to show the relationship of different parts of data to the whole data.
36. (A) 'Virus' infect working program file, disks and files that are attached to an email message.
37. (A) When a file is sent to a remote computer, the process is called uploading.
38. (D) Operating system and application program.
39. (D) 'The pen tool' is used for drawing precise paths such as straight lines or smooth curves.
40. (C) .fla is extension for flash files.
41. (C) 'Stage' is the white rectangular area where the content of the movie is added.
42. (B) To select free transform tool : press Q
43. (D) PSET stands for setting a pixel of a specified color on the output screen. PSET fills a pixel at the screen coordinate given as Column, Row.
44. (D) JanuaryFebruaryMarch

The semicolon (;) causes the computer to print the output without spaces.
45. (C) Numbers from 2 to 50 , skip counting by 4

## ENGLISH

46. (D) En-vi-ron-ment
47. (D) Figure
48. (A) is the correct option. 'Fleeting' is an adjective. There is no verb as 'fleet' to form a gerund like that.
49. (B) Most of the lamps had been sold by the vendor.
50. (D) Sturdy
