

## MENTAL ABILITY

1. Given that the real parts of  $\sqrt{5+12i}$  and  $\sqrt{5-12i}$  are negative. Then the number

$$z = \frac{\sqrt{5+12i} + \sqrt{5-12i}}{\sqrt{5+12i} - \sqrt{5-12i}} \text{ reduces to}$$

- (A)  $-\frac{3}{2}i$                       (B)  $\frac{3}{2}i$                       (C)  $-\frac{3}{2} + \frac{2}{5}i$                       (D)  $-\frac{2}{3}i$

2. Two finite sets have  $m$  and  $n$  elements. The total number of subsets of the first set is 56 more than the total number of subsets of the second set. The values of  $m$  and  $n$  are

- (A) 8, 7                      (B) 7, 6                      (C) 6, 3                      (D) 5, 1

3. Which of the following is the inverse of the proposition 'If a number is a prime then it is odd'?

- (A) If a number is not a prime then it is odd  
 (B) If a number is not odd then it is a prime  
 (C) If a number is a prime then it is odd  
 (D) If a number is not odd then it is not a prime

4. The minimum value of  $x^2 + \frac{1}{1+x^2}$  is at

- (A)  $x = 0$                       (B)  $x = 1$                       (C)  $x = 4$                       (D)  $x = 3$

5.  $8 + 88 + 888 + \dots$  upto  $n$  terms is equal to

- (A)  $\frac{80}{9}(10^n - 1) - \frac{8n}{9}$     (B)  $\frac{80}{81}(10^n - 1) - \frac{8n}{9}$     (C)  $\frac{80}{81}(10^n - 1) + \frac{8n}{9}$     (D)  $\frac{80}{9}(10^n + 1) - \frac{8n}{9}$

6. The value of  $\lim_{x \rightarrow \infty} x^{3/2} (\sqrt{x^3+1} - \sqrt{x^3-1})$  is

- (A) 1                      (B) -1                      (C) 0                      (D) None of these

7. The number of ways in which 6 different balls can be put in two boxes of different sizes so that no box remain empty is  
 (A) 64 (B) 60 (C) 36 (D) None of these
8. Equation of tangent to hyperbola  $\frac{x^2}{3} - \frac{y^2}{2} = 1$  equally inclined to coordinates axis is \_\_\_\_\_.  
 (A)  $y = x + 1$  (B)  $y = x - 3$  (C)  $y = x + 2$  (D)  $y = x - 2$
9. The most general values of  $\theta$  satisfying the equation  $(1 + 2\sin\theta)^2 + (\sqrt{3}\tan\theta - 1)^2 = 0$  \_\_\_\_\_.  
 (A)  $n\pi + (-1)^n \frac{7\pi}{6}$  (B)  $2n\pi + \frac{11\pi}{6}$  (C)  $n\pi \pm \frac{\pi}{6}$  (D)  $2n\pi + \frac{7\pi}{6}$
10. The coefficient of  $x^5$  in the expansion of  $\frac{1+x^2}{1+x}$ ,  $|x| < 1$  is  
 (A) -2 (B) 0 (C) -1 (D) 2

## LOGICAL AND ANALYTICAL REASONING

11. If it is possible to make only one meaningful English word from the third, the seventh, the eighth, the ninth and the thirteenth letters of the word KATAGELOPHOBIA using each letter only once, the second letter of that word is your answer. If no such word can be made mark 'X' as your answer; and if more than one such word can be formed, mark 'M' as your answer.  
 (A) I (B) X (C) L (D) M
12. If '18 - 4' means 72; '19 ÷ 7' means 26; '17 × 5' means 12 and '15 + 3' means 5, then  $240 + 6 - 5 \div 10 \times 12 =$  \_\_\_\_\_.  
 (A) 172 (B) 166 (C) 198 (D) 200
13. Ganesh is 7<sup>th</sup> to the left of Akshay in a row of boys facing North. Vijay, who is 20<sup>th</sup> from the left end of the row, is 7<sup>th</sup> to the right of Akshay. If Mukesh, who is 3<sup>rd</sup> to the right of Ganesh, is 20<sup>th</sup> from the right end of the row, how many boys are there in the row?  
 (A) 30 (B) 28 (C) 26 (D) 29
14. Study the sets of numbers given below and answer the following question:  
 489    541    654    953    783
- If 5 is subtracted from each of the numbers, then the difference between the second digit of second highest number and the second digit of the highest number is \_\_\_\_\_.  
 (A) 3 (B) 1 (C) 4 (D) 2

15. Find the missing character in the question given below.

42	44	38
23	55	28
37	?	39

- (A) 22                      (B) 33                      (C) 66                      (D) 77
16. Six friends A, B, C, D, E and F working in the same office take different time to reach office. All of them take time in the multiples of ten in such a manner that the one who reaches office the earliest, reaches in 10 minutes and the one who takes maximum time reaches office in 60 minutes. D takes more time than E but less time than A. A reaches in 30 minutes. B takes less time than only F. Who amongst the following takes maximum time to reach office?
- (A) B                      (B) C                      (C) D                      (D) F
17. There are four Problem figures marked (i), (ii), (iii) and (iv). Out of them figures (i) and (ii) have a certain relationship between them. To establish the same relationship between the next two figures, select a figure from the options to replace the question mark ('?').

Problem Figures

			?
(i)	(ii)	(iii)	(iv)

- (A)
- (B)
- (C)
- (D)

18. The given question consists of five figures marked 1, 2, 3, 4 and 5 called the Problem Figures. Select the figure which will continue the series established by the five Problem Figures.

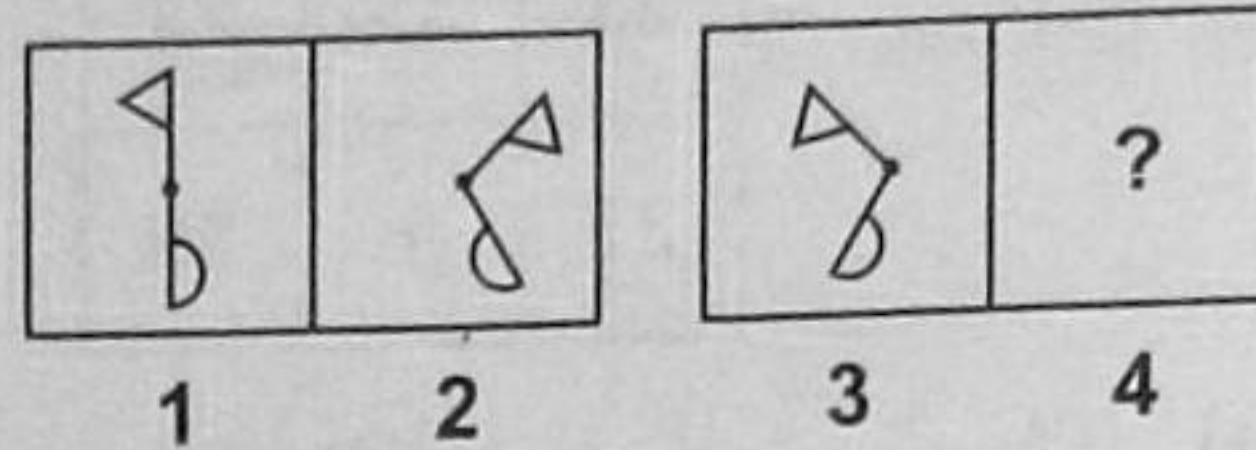
Problem Figures


1	2	3	4	5

- (A)
- (B)
- (C)
- (D)

19. Figures (1) and (2) bears a certain relationship. Similarly, figure (4) bears the same relationship to figure (3). Select the figure from the options which would replace the sign of question mark (?).

Problem Figures



- (A)  (B)  (C)  (D) 

20. Select the water-image of the given combination.

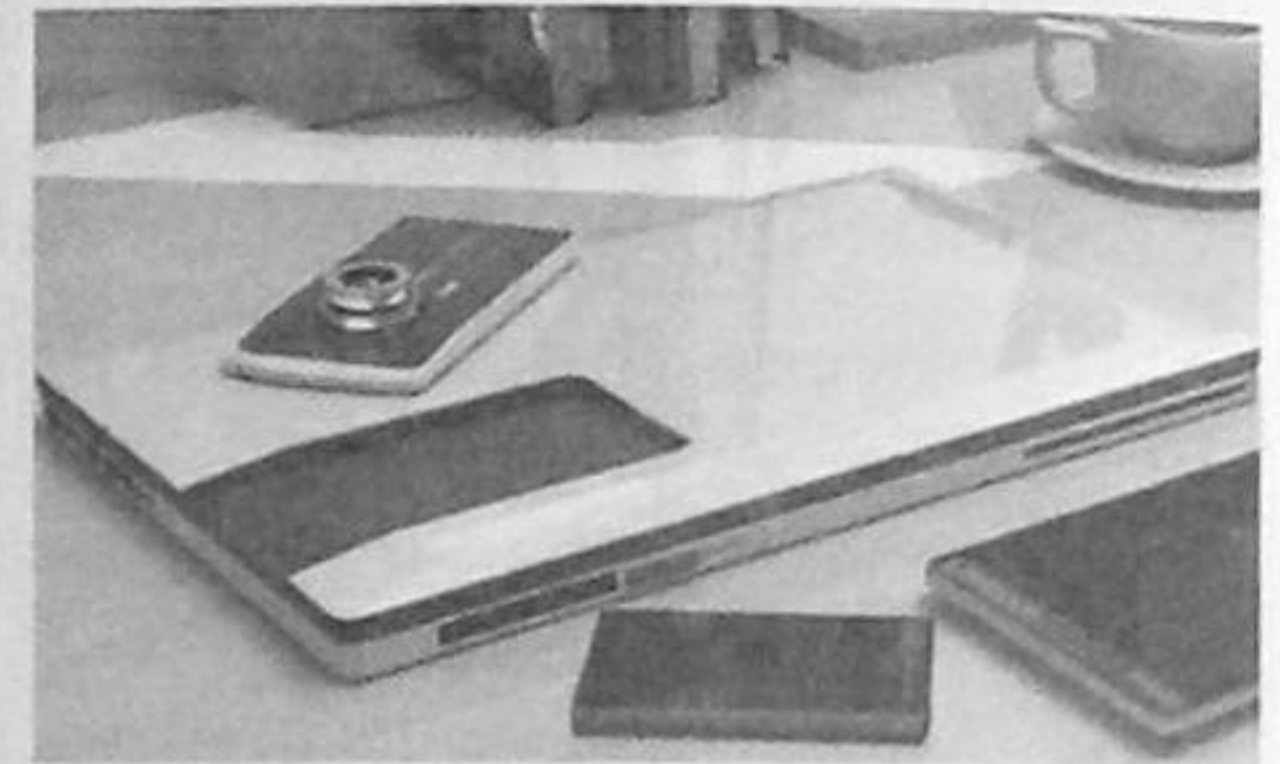
PQ8AF5BZ9

- (A) Ԁ08VԷ2BZ0 (B) Ԁ08VԷ2BΣ6 (C) Ԁ08VԷ9BΣ9 (D) Ԁ08VԷ2BΣ0

## COMPUTERS AND INFORMATION TECHNOLOGY

21. Identify the given image.

- (A) Macbook Pro  
(B) Lifebook 2013  
(C) Mac Airbook  
(D) Note 510



22. Which of the following is INCORRECT about Galaxy Note 510?

- (A) Bluetooth 10.0 (B) 2 GB RAM  
(C) Wi-Fi (D) Android 4.1.2

23. Who is called as the father of mobile phones?

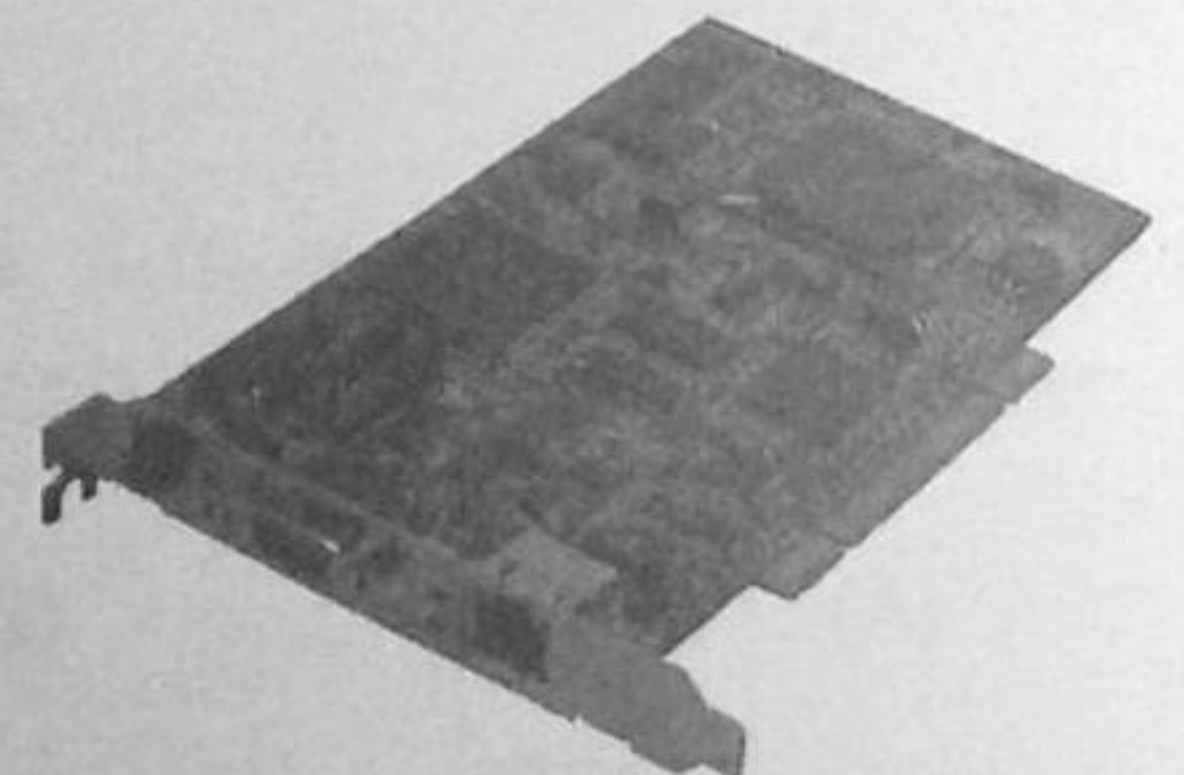
- (A) Blaise Pascal (B) Steve Jobs (C) Martin Cooper (D) Larry Page

24. Which of the following system software does the job of merging the records from two files into one ?

- (A) Security software (B) Utility program  
(C) Networking software (D) Documentation system

25. If you are planning to connect only two computers, then only \_\_\_\_\_ is required.

- (A) Router  
(B) Hub  
(C) NIC  
(D) Switch



26. In Windows 7, Ready Boost feature requires \_\_\_\_\_.  
(A) Compact Disk (B) USB flash drive (C) DVD (D) Hard Disk
27. The topology that describes the layout of the network cables, devices and workstations is called as \_\_\_\_\_.  
(A) Network (B) Star (C) Physical (D) Mesh
28. A storage unit of a computer system should be evaluated on the basis of \_\_\_\_\_.  
(A) Access time (B) Volatility  
(C) Cost per bit of storage (D) All of these
29. An input device used for converting pictures, maps and drawings into digital form for input to computers is called \_\_\_\_\_.  
(A) MICR (B) Digitizer (C) Mouse (D) OMR
30.  $(100)_8 = (\text{_____})_{10}$   
(A) 200 (B) 64 (C) 350 (D) 600
31.  $(11010011)_2 = (\text{_____})_{16}$   
(A)  $D3_{16}$  (B)  $BAB_{16}$  (C)  $D_{16}$  (D)  $2AB_{16}$
32. First hard disk to fit 5.25 inch floppy drive was launched in \_\_\_\_\_ by \_\_\_\_\_.  
(A) 1800, Microsoft (B) 1980, Seagate  
(C) 1989, Seagate (D) 1981, AMD
33. \_\_\_\_\_ edition of Windows 7 is available as a volume license only.  
(A) Windows 7 Enterprise (B) Windows 7 Home Premium  
(C) Windows 7 Ultimate (D) Windows 7 Basic
34. In OSI layers, which layer is NOT a user support layer?  
(A) Session layer (B) Presentation layer  
(C) Application layer (D) Data link layer
35. It is digital application distribution platform for Android and an online electronics store developed and maintained by Google.  
(A) Ovi Google (B) Google Play (C) Android Market (D) Both (B) and (C)
36. Tags in HTML designed specifically to help search engines to list your site in the search result is \_\_\_\_\_ tag.  
(A) `<meta>` (B) `<doctype>` (C) `<head>` (D) `<context>`
37. First trackball was created using \_\_\_\_\_.  
(A) Golf ball (B) 5 pin bowling ball  
(C) Rubber ball (D) Plastic ball
38. \_\_\_\_\_ is the port number for World Wide Web.  
(A) 80 (B) 110 (C) 25 (D) 23

39. John is required to provide information on how many people are using the network at any one time. Which network will enable him to do so?  
 (A) Peer-to-peer (B) Token-ring (C) Server-based (D) Ethernet
40. In HTML, \_\_\_\_\_ tag can be used to group arbitrary content together.  
 (A) <section> (B) <footer> (C) <body> (D) <header>
41. In HTML, element used within content to represent material that is tangential is \_\_\_\_\_.  
 (A) article (B) aside (C) mark (D) figure
42. \_\_\_\_\_ field in Ms-Word serves as a counter of records in the data file and doesn't count the number of documents actually printed.  
 (A) MERGESEQ (B) MERGEREC (C) SET (D) ASK
43. A small chart displayed in single cell that allows you to quickly spot time-based trends or variations in data, is called \_\_\_\_\_ in Ms-Excel.  
 (A) Data Bar (B) Sparkline (C) Pie (D) Column
44. In Ms-PowerPoint, \_\_\_\_\_ is a chart that looks like a 3D sheet that is used to illustrate the highest and lowest points of the data set.  
 (A) Bubble (B) Radar (C) Stock (D) Surface
45. Which of the following is a valid real constant in C++?  
 (A) 172.E5 (B) 1.52E07 (C) 1.7E (D) 17.17E2.3
46. Find the output of the given C++ program?

```
#include<iostream.h>
#include<conio.h>
int main( )
{
  int x = 1; y = 1;
  for (; y; cout<<x<<y<<"\n")
  {
    y = x++<= 5;
  }
  return 0;
}
```

- |        |        |        |        |
|--------|--------|--------|--------|
| (A) 21 | (B) 22 | (C) 11 | (D) 11 |
| 31     | 33     | 21     | 22     |
| 41     | 44     | 31     | 33     |
| 51     | 55     | 41     | 44     |
| 61     | 66     | 51     | 55     |
| 70     | 00     | 60     | 66     |

47. **What is legend in Ms-PowerPoint?**
- (A) A formatting feature for text.
  - (B) A little box next to chart that describes what the different colors or patterns mean.
  - (C) A text that defines the category or the unit of measurement on an axis.
  - (D) A text that typically appears above the chart.
48. **Which of the following is correct range of 'float' in C++?**
- (A)  $3.4 \times 10^{-4932}$  to  $1.1 \times 10^{4932} - 1$
  - (B)  $1.7 \times 10^{-308}$  to  $1.7 \times 10^{308} - 1$
  - (C)  $3.4 \times 10^{-38}$  to  $3.4 \times 10^{38} - 1$
  - (D) None of these
49. **In XML, \_\_\_\_\_ DOM is a standard model for any structured document.**
- (A) Core
  - (B) XML
  - (C) HTML
  - (D) None of these
50. **\_\_\_\_\_ in data link layer separates a message from one source to a destination, or from other messages to other destination, by adding sender address and destination address.**
- (A) Framing
  - (B) Decoder
  - (C) Bit stuffing
  - (D) Flow control