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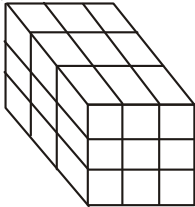
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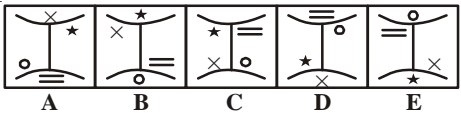



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### IMPORTANT INFORMATION

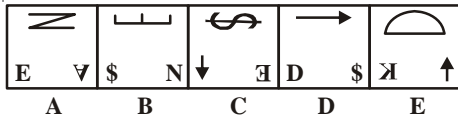
- You are allowed additional 10 minutes to fill the required details in the **RESPONSE SHEET**.
- The question paper is made as per syllabus guidelines & pattern given in the information Booklet. The Question Paper for Classes 1 to 6 contains 25 Questions each to be answered in 40 minutes. The Question paper for classes 7 to 12 contains 50 Questions each to be answered in 60 minutes. All questions are compulsory. Further instructions are given in the instruction letter to the coordinator teacher.
- Use the response sheet to mark your responses by darkening the required circle. The response sheet has to be returned to the foundation, duly filled in. The student can retain the Question Paper.

### SECTION- A : MENTAL ABILITY

- If RENT is written as '÷ + × -' SAND is written as '\* / × <' then how can START be written in that code?  
(1) + - / ÷ - (2) x ÷ / - +  
(3) \* - / ÷ - (4) None of these
- Twenty seven cubes are arranged in a block as shown below. How many cubes will be surrounded by other cubes on all sides?  
  
(1) 3  
(2) 1  
(3) 9  
(4) None of these
- In the series 2, 6, 18, 54, ..., what will be the 8th term?  
(1) 4374 (2) 4370  
(3) 7443 (4) None of these
- If FULFNHW is the code for CRICKET, then EULGH is the code for which word?  
(1) PRIDE (2) BRIDE  
(3) BLADE (4) None of these
- A is father of C and D is son of B. E is brother of A. If C is sister of D, how is B related to E?  
(1) Brother-in-Law (2) Daughter  
(3) Husband (4) None of these

- If - means ÷, + means ×, ÷ means -, × means +, then which of the following equations is correct?  
(1)  $36 \times 4 - 12 + 5 \div 3 = 420$   
(2)  $52 \div 4 + 5 \times 8 - 2 = 36$   
(3)  $43 \times 7 \div 5 + 4 - 8 = 25$   
(4) None of these
- In a class of 60, where girls are twice that of boys, Kamal ranked seventeenth from the top. If there are 9 girls ahead of Kamal, how many boys are after him in rank?  
(1) 3 (2) 12 (3) 7 (4) None of these
- Complete the sequence :  
  
A B C D E  
(1)   
(2)   
(3)   
(4) None of these
- Two ladies and two men are playing cards and are seated at North, East, South and West of a table. No lady is facing East. Persons sitting opposite to each other are not of the same sex. One man is facing South. Which directions are the ladies facing?  
(1) North and East (2) South and East  
(3) North and West (4) None of these

10. Find out the next figure:



- (1) (2) (3) (4) None of these

### SECTION-B : GENERAL COMPUTER

11. In India, Internet was introduced by  
 (1) BSNL (2) Reliance  
 (3) MTNL (4) None of these
12. SQL stands for  
 (1) Stored Query Language  
 (2) Simple Query Language  
 (3) Structural Query Language  
 (4) None of these
13. What is a DONGLE?  
 (1) Term used to describe renegade programmers  
 (2) Power supply leads used in computers  
 (3) A hardware device used to enforce copy protection  
 (4) None of these
14. Match the following Job titles with their Responsibilities
- | Job title                          | Responsibilities   |
|------------------------------------|--|
| 1. Chief information officer (CIO) | A. Senior-level management position defines the department's mission, objectives, and budgets and creates a strategic plan for the enterprise's information systems. |
| 2. Network engineer                | B. Installs, maintains, and supports computer networks, interacts with users, and troubleshoots problems   |
| 3. Systems analyst                 | C. Interact with users and application developers to design information systems  |
| 4. Programmer                      | D. Writes code according to specifications   |
- (1) 1B, 2D, 3A, 4C (2) 1A, 2B, 3C, 4D  
 (3) 1B, 2A, 3C, 4D (4) None of these
15. NASSCOM stands for  
 (1) National Association of Software Companies  
 (2) National Association of Software and Service Companies  
 (3) National Association of System Service Commerce  
 (4) None of these
16. Which of the following is the correct structure declaration?  
 (1) Struct { Short day; Short month; Short year; }birth-date, joining-date;  
 (2) Struct date { Short day; Short month; Short year; }birth-date, joining-date;

- (3) Struct date { Short day; Short month; Short year; }  
 (4) None of these

17. Fox Pro for windows is a \_\_\_\_\_ program  
 (1) Painting (2) Word processing  
 (3) Database (4) None of these
18. What is ADA?  
 1. It is a high level programming language incorporating modular programming principle  
 2. It is named after Augusta Ada Byron who helped Charles Babbage conceptualize the prototype of world's first digital computer.  
 3. It is most suitable for reliable control of real-time systems such as missiles and space rockets  
 (1) Only 1 is true (2) All except 2 are true  
 (3) All are true (4) None of these
19. Which of the following is/are used to speed up the process of designing the initial version of a software program?  
 (1) ANSI (2) Applications generator  
 (3) Compiler (4) None of these
20. Which of the following helped develop standards for high-level programming languages?  
 (1) BASIC (2) ANSI  
 (3) Compiler (4) None of these
21. High level languages are not concerned with the computers but with:  
 (1) Machine code (2) Compiler  
 (3) Problems (4) None of these
22. In application development without programming, structured system analysis is:  
 (1) not useful at all  
 (2) usually done after system design  
 (3) of less use than in application development with programming  
 (4) None of these
23. MSI stands for :  
 (1) Magnetic-ink character recognition  
 (2) Medium Scale Integration  
 (3) Management Information System  
 (4) None of these
24. A software package to perform calculations on data arranged in an array is:  
 (1) System software (2) Electronic spread sheet  
 (3) Utility programs (4) None of these
25. Procedure development occurs within the \_\_\_\_\_ phase.  
 (1) Structured-design (2) System building  
 (3) Conversion (4) None of these
26. Which of the following statements about ROM are true?  
 (1) Once information is placed in ROM it is permanent  
 (2) ROM is sometimes called firmware  
 (3) Both (1) and (2)  
 (4) None of these
27. Parity is :  
 (1) an extra bit stored with data in RAM that is used to check for errors when the data is read back

- (2) the optimal transmission speed of data over a CAT 5 cable  
 (3) a system for balancing the voltage coming out of the power supply  
 (4) None of these
28. Review this **SELECT** statement:  
**SELECT** emp-name  
**FROM** employee, emp-number, salary  
**WHERE** dept-new = (**SELECT** dept-num  
**FROM** deptment  
**WHERE** location In ('Mumbai', 'Delhi'))  
 What may cause this statement to return an error  
 (1) A multiple row subquery returns one row  
 (2) A single-row subquery returns more than one row  
 (3) A multiple column subquery returns one column  
 (4) None of these
29. Which of the following data transmission media has the largest terrestrial range without the use of repeaters or other devices?  
 (1) Satellite (2) Microwave  
 (3) Hardwiring (4) None of these
30. The topology of an ethernet system is  
 (1) Ring  
 (2) Star  
 (3) Linear bus with CSMA/CD  
 (4) None of these

### SECTION-C : C++ AND VB

31. After compiling a program, C++ creates four logically distinct regions of memory that are used for four distinct specific Functions. Name them.  
 (1) Program code (2) Global variables  
 (3) Both (a) and (b) (4) None of these
32. In C++, a friend function can be used to:  
 (1) Allow one class to access related class  
 (2) Avoid argument between classes  
 (3) Allow access to classes whose source code is unavailable  
 (4) None of these
33. Match the following.
- | Column I<br>(Functions) | Column II<br>(Applications)   |
|-------------------------|---|
| A. Get Char()           | i. Displays a string on the screen followed by a newline character. |
| B. Puchar ()            | ii. Inputs a string from the keyboard.                              |
| C. Gets ()              | iii. Displays a single character on the screen.                     |
| D. Puts ()              | iv. Inputs a single character from the keyboard.                    |
- (1) A-iv, B-iii, C-ii, D-i (2) A-i, B-iii, C-iv, D-ii  
 (3) A-iii, B-i, C-ii, D-iv (4) None of these
34. A linear sequence of items such as digits, letters and characters (whether of fixed or variable length) is called  
 (1) Link (2) String  
 (3) Tree (4) None of these
35. Which of the following data structure is linear data structure?  
 (1) Trees (2) Arrays  
 (3) Graphs (4) None of these

36. Arrays are best data structures  
 (1) for the size of the structure and the data in the structure are constantly changing  
 (2) for relatively permanent collections of data  
 (3) for both of above situation  
 (4) None of these
37. In C++ the break statement cause an exit:  
 (1) Only from the innermost loop  
 (2) Only from the innermost switch  
 (3) From the innermost loop or switch  
 (4) None of these
38. What is the meaning of operator overloading in C++ ?  
 (1) Making C++ operators work with objects  
 (2) Giving C++ operators more than they can handle  
 (3) Both (1) and (2)  
 (4) None of these
39. In C++, fput() function is declared in the header file:  
 (1) <math.h> (2) <stdio.h>  
 (3) <iostream.h> (4) None of these
40. Using TURBO C++ library functions you can:  
 (1) Draw & colour lines and circles  
 (2) Write text in a variety of fonts and sizes  
 (3) Both (a) and (b)  
 (4) None of these

### SECTION-C : JAVA

31. 

```
int i = 1, j = 10;
do{
if (i>j) {
continue;
}
j --;
} while (++i <6);
System.out.println("i = "+i+" and j = "+j);
```

  
**What is the result?**  
 (1) i = 6 and j = 4 (2) i = 5 and j = 5  
 (3) i = 6 and j = 5 (4) None of these
32. You want subclasses in any package to have access to members of a superclass. Which is the most restrictive access that accomplishes this objective?  
 (1) Public (2) Protected  
 (3) Private (4) None of these
33. 

```
public class A {
void A() {
System.out.println("Class A");
}
public static void main(String[] args) {
new A();
}
}
```

  
**What is the result?**  
 (1) The code executes with no output.  
 (2) Compilation fails.  
 (3) An exception is thrown at line 2.  
 (4) None of these
34. 

```
public class Test {
public void foo() {
assert false;
```

```

assert false;
}
public void bar(){
while(true){
assert false;
}
assert false;
}
}

```

**What causes compilation to fail?**

- (1) Line 13                      (2) Line 20  
(3) Line 18                      (4) None of these

35. public class ReturnIt {  
return Type methodA(byte x, double y) {  
return (short)x / y \* 2;  
}  
}

**What is the narrowest valid returnType for methodA in line2?**

- (1) int                              (2) double  
(3) long                            (4) None of these

36. float f [][][ ] = new float[3][ ][ ];  
float f0 = 1.0f;  
float [ ][ ] farray = new float[1][1];

**What is valid?**

- (1) f [0] = f 0;                      (2) f [0] = farray;  
(3) f [0] = farray[0];              (4) None of these

37. int i = 0;  
while (true) {  
if(i==4) {  
break;  
}  
++i;  
}  
System.out.println("i="+i);

**What is the result?**

- (1) i = 0                              (2) i = 3  
(3) i = 4                              (4) None of these

38. abstract class AbstractIt {  
abstract float getFloat();  
}  
public class AbstractTest extends AbstractIt {  
private float f1 = 1.0f;  
private float getFloat() { return f1; }  
}

**What is the result?**

- (1) Compilation fails because of an error at line 6.  
(2) An exception is thrown.  
(3) Compilation fails because of an error at line 2.  
(4) None of these

39. String a = null;  
a.concat("abc");  
a.concat("def");  
System.out.println(a);

**What is the result?**

- (1) abc  
(2) An exception is thrown at runtime.  
(3) abcdef  
(4) None of these

40. public class Test {  
private static int[] x;  
public static void main(String[] args) {  
System.out.println(x[0]);  
}  
}

**What is the result?**

- (1) 0  
(2) null  
(3) A NullPointerException is thrown at runtime.  
(4) None of these

## SECTION- D : *ETG* INTERACTIVE SECTION

41. A host can be identified by \_\_\_\_ address, while a program running on the host can be identified by \_\_\_\_ address.  
(1) An IP, a host                      (2) An IP, a port  
(3) A Port, an IP                      (4) None of these
42. A \_\_\_\_\_ is usually privately owned and links the devices in a single office, building, or campus.  
(1) LAN                                  (2) MAN  
(3) WAN                                  (4) None of these
43. Which of the following might be output as a result of using a CASE tool?  
(1) Prototypes  
(2) Cost/benefit analysis  
(3) Both (a) and (b)  
(4) None of these
44. A modulator converts a(n) \_\_\_\_\_ signal to a(n) \_\_\_\_\_ signal.  
(1) noise; analog                      (2) analog; digital  
(3) digital; analog                      (4) None of these
45. Evaluate the SQL statement given below: **SELECT ROUND (45.953, -1), TRUNC (45.936, 2) FROM dual;** Which of the following values will be displayed?  
(1) 50 and 45.93                      (2) 46 and 45.93  
(3) 50 and 45.9                      (4) None of these
46. If the communication is between one sender and all the receivers of a network, then it is called:  
(1) Uni-casting                      (2) Broadcasting  
(3) Multi-casting                      (4) None of these
47. Which operating system will you prefer to organize users and groups in domain?  
(1) NT workstation running in a dedicated mode  
(2) Windows NT Server  
(3) Windows for workgroups  
(4) None of these
48. Communication between computer and keyboard involves \_\_\_\_\_ transmission.  
(1) Full-duplex                      (2) Half-duplex  
(3) Simplex                              (4) None of these
49. Synchronization between transmitter and receiver  
(1) Is governed by rules & conventions  
(2) Is modem generated  
(3) Automatically takes place  
(4) None of these
50. Address of next instruction to be executed is available in  
(1) Index register                      (2) Program counter  
(3) Instruction register              (4) None of these

😊 **END OF THE EXAM** 😊