EXPRESSWALA ACADEMY

# Primary Number System

## MCQ Test, Set 01

Time: 30 minutes | Maximum marks: 25

Name: _____ Class: _____ Date: _____

1. There are 25 questions. Each has exactly one correct answer: choose A, B, C or D.
2. Each correct answer carries 1 mark. There is no negative marking.
3. The key sheet and worked solutions are at the end of this test.

**1.** How many whole numbers are less than $9$?

**A.** $10$ **B.** $7$ **C.** $9$ **D.** $8$

**2.** Which of the following is an odd number?

**A.** $7290$ **B.** $538$ **C.** $4651$ **D.** $1004$

**3.** Which of the following is a multiple of $7$?

**A.** $75$ **B.** $107$ **C.** $57$ **D.** $91$

**4.** The factors of $46$ are

**A.** $1, 2, 23$ **B.** $1, 46$ **C.** $2, 23$ **D.** $1, 2, 23, 46$

**5.** How many divisors does $64$ have?

**A.** $8$ **B.** $7$ **C.** $6$ **D.** $5$

**6.** Which of the following is a constant?

**A.** $b$ **B.** $x$ **C.** $15$ **D.** $z$

**7.** $-1 \times q =$

**A.** $-1$ **B.** $q$ **C.** $-q$ **D.** $-1 + q$

**8.** $7x + 6x =$

**A.** $13x$ **B.** $42x$ **C.** $13$ **D.** $13x^2$

**9.** $11n - 4n =$

**A.** $7$ **B.** $7n$ **C.** $7n^2$ **D.** $15n$

**10.** $x \times x \times x \times x =$

**A.** $x^4$ **B.** $x + 4$ **C.** $4x$ **D.** $x^3$

**11.** $38^2 =$

**A.** $418$ **B.** $76$ **C.** $1444$ **D.** $964$

**12.** The square of $67$ is

**A.** $4489$ **B.** $134$ **C.** $871$ **D.** $3649$

**13.** $17^3 =$

**A.** $51$ **B.** $83521$ **C.** $4913$ **D.** $289$

**14.** Write $7 \times 7 \times 7 \times 7 \times 7 \times 7$ in exponential form.

**A.** $7 \times 6$ **B.** $7^6$ **C.** $6^7$ **D.** $7^5$

**15.** The exponential form of $128$ with base $2$ is

**A.** $2^6$ **B.** $7^2$ **C.** $2^8$ **D.** $2^7$

**16.** Which of the following numbers between $2000$ and $3000$ is divisible by $2$?

**A.** $2332$ **B.** $2303$ **C.** $2907$ **D.** $2525$

**17.** Which of the following numbers between $1000$ and $2000$ is divisible by $3$?

**A.** $1379$ **B.** $1191$ **C.** $1403$ **D.** $1249$

**18.** The smallest number greater than $720$ that is divisible by $3$ is

**A.** $726$ **B.** $722$ **C.** $721$ **D.** $723$

**19.** Which of the following numbers between $20000$ and $30000$ is divisible by $4$?

**A.** $25298$ **B.** $29856$ **C.** $24402$ **D.** $28834$

**20.** Which of the following numbers between $3000$ and $4000$ is divisible by $5$?

**A.** $3770$ **B.** $3701$ **C.** $3907$ **D.** $3802$

**21.** A number is divisible by $6$ if it is divisible by

**A.** $2$ or $3$ **B.** both $2$ and $4$ **C.** both $2$ and $3$ **D.** $3$ only

**22.** Which of the following numbers between $2000$ and $3000$ is divisible by $6$?

**A.** $2904$ **B.** $2181$ **C.** $2354$ **D.** $2516$

**23.** Which of the following numbers between $100$ and $200$ is divisible by $7$?

**A.** $121$ **B.** $104$ **C.** $103$ **D.** $161$

**24.** To test $309$ for divisibility by $7$, twice the unit digit is subtracted from the remaining part. The result is

**A.** $21$ **B.** $12$ **C.** $291$ **D.** $48$

**25.** Among $2, 3, 4, 5$ and $6$, the number $17538$ is divisible by

**A.** $2, 3, 4$ and $6$ only **B.** $2$ and $3$ only

**C.** $2$ and $6$ only **D.** $2, 3$ and $6$ only

## Key sheet

| | | | | |
|---|---|---|---|---|
| **1.** C | **2.** C | **3.** D | **4.** D | **5.** B |
| **6.** C | **7.** C | **8.** A | **9.** B | **10.** A |
| **11.** C | **12.** A | **13.** C | **14.** B | **15.** D |
| **16.** A | **17.** B | **18.** D | **19.** B | **20.** A |
| **21.** C | **22.** A | **23.** D | **24.** B | **25.** D |

## Solutions

**1.** How many whole numbers are less than $9$?

Whole numbers are the natural numbers along with $0$: $0, 1, 2, 3, \ldots$

Less than $9$: $0, 1, 2, \ldots, 8$. Counting $0$ also, there are $9$.

**Ans: (C)** $9$

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**2.** Which of the following is an odd number?

$4651 = 2 \times 2325 + 1$

Remainder is $1$, so $4651$ is an odd number.

**Ans: (C)** $4651$

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**3.** Which of the following is a multiple of $7$?

$7 \times 13 = 91$, so $91$ is a multiple of $7$.

$75$, $57$ and $107$ leave a remainder when divided by $7$.

**Ans: (D)** $91$

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**4.** The factors of $46$ are

$46 = 1 \times 46$

$= 2 \times 23$

Factors of $46$: $1, 2, 23, 46$

**Ans: (D)** $1, 2, 23, 46$

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**5.** How many divisors does $64$ have?

$64 = 1 \times 64$

$= 2 \times 32$

$= 4 \times 16$

$= 8 \times 8$

$8 \times 8$ gives the divisor $8$ only once.

Divisors: $1, 2, 4, 8, 16, 32, 64$, so there are $7$.

**Ans: (B)** $7$

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**6.** Which of the following is a constant?

A symbol which has a fixed value is called a constant.

$15$ has a fixed value.

**Ans: (C)** $15$

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**7.** $-1 \times q =$

As $-1 \times a = -a$, $-1 \times q = -q$.

**Ans: (C)** $-q$

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**8.** $7x + 6x =$

$7x + 6x = (7 + 6)x = 13x$

**Ans: (A)** $13x$

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**9.** $11n - 4n =$

$11n - 4n = (11 - 4)n = 7n$

**Ans: (B)** $7n$

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**10.** $x \times x \times x \times x =$

$x$ is multiplied $4$ times, so it is $x^4$.

**Ans: (A)** $x^4$

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**11.** $38^2 =$

$38^2 = 38 \times 38$

$38 \times 8 = 304$

$38 \times 3 = 114$, written one place to the left: $1140$

$304 + 1140 = 1444$

**Ans: (C)** $1444$

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**12.** The square of $67$ is

$67^2 = 67 \times 67$

$67 \times 7 = 469$

$67 \times 6 = 402$, written one place to the left: $4020$

$469 + 4020 = 4489$

**Ans: (A)** $4489$

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**13.** $17^3 =$

$17^3 = 17 \times 17 \times 17$

$17 \times 17 = 289$, $289 \times 17 = 4913$

$= 4913$

**Ans: (C)** $4913$

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**14.** Write $7 \times 7 \times 7 \times 7 \times 7 \times 7$ in exponential form.

$7$ is multiplied by itself $6$ times, so it is $7^6$.

**Ans: (B)** $7^6$

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**15.** The exponential form of $128$ with base $2$ is

Divide by $2$ again and again:

$128 \div 2 = 64$, $64 \div 2 = 32$, $32 \div 2 = 16$

$16 \div 2 = 8$, $8 \div 2 = 4$, $4 \div 2 = 2$

$128 = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 = 2^7$

**Ans: (D)** $2^7$

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**16.** Which of the following numbers between $2000$ and $3000$ is divisible by $2$?

A number is divisible by $2$ if the digit at its unit place is $0, 2, 4, 6$ or $8$.

The digit at the unit place of $2332$ is $2$, so $2332$ is divisible by $2$.

The other three are not divisible.

**Ans: (A)** $2332$

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**17.** Which of the following numbers between $1000$ and $2000$ is divisible by $3$?

A number is divisible by $3$ if the sum of all its digits is divisible by $3$.
Sum of the digits of $1191$: $1 + 1 + 9 + 1 = 12$
$12$ is divisible by $3$ ($12 = 3 \times 4$), so $1191$ is divisible by $3$.
Each of the others fails the test.

**Ans: (B)** $1191$

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**18.** The smallest number greater than $720$ that is divisible by $3$ is

A number is divisible by $3$ if the sum of all its digits is divisible by $3$.
$721$: digit sum $10$, not divisible by $3$
$722$: digit sum $11$, not divisible by $3$
$723$: digit sum $12$, divisible by $3$

**Ans: (D)** $723$

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**19.** Which of the following numbers between $20000$ and $30000$ is divisible by $4$?

A number is divisible by $4$ if its last two digits together are divisible by $4$.
Last two digits of $29856$ together: $56$; $56 = 4 \times 14$, so $29856$ is divisible by $4$.
Each of the others fails the test.

**Ans: (B)** $29856$

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**20.** Which of the following numbers between $3000$ and $4000$ is divisible by $5$?

A number is divisible by $5$ if the digit at its unit place is $0$ or $5$.
The digit at the unit place of $3770$ is $0$, so $3770$ is divisible by $5$.
The other three are not divisible.

**Ans: (A)** $3770$

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**21.** A number is divisible by $6$ if it is divisible by

A number is divisible by $6$ if it is divisible by both $2$ and $3$.

**Ans: (C) both $2$ and $3$**

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**22.** Which of the following numbers between $2000$ and $3000$ is divisible by $6$?

A number is divisible by $6$ if it is divisible by both $2$ and $3$.
The digit at the unit place of $2904$ is $4$, so $2904$ is divisible by $2$.
Sum of the digits of $2904$: $2 + 9 + 0 + 4 = 15$
$15$ is divisible by $3$ ($15 = 3 \times 5$), so $2904$ is divisible by $3$.
$\therefore$ $2904$ is divisible by $6$.
Each of the others fails the test.

**Ans: (A)** $2904$

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**23.** Which of the following numbers between $100$ and $200$ is divisible by $7$?

A number is divisible by $7$ if the remaining part minus twice the unit digit is a multiple of $7$ (or $0$).
$161$: $16 - 1(2) = 16 - 2 = 14$; $14 = 7 \times 2$, a multiple of $7$, so $161$ is divisible by $7$.
Each of the others fails the test.

**Ans: (D)** $161$

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**24.** To test $309$ for divisibility by $7$, twice the unit digit is subtracted from the remaining part. The result is

Remaining part $= 30$, unit digit $= 9$

$30 - 9(2) = 30 - 18 = 12$

**Ans: (B)** $12$

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**25.** Among $2, 3, 4, 5$ and $6$, the number $17538$ is divisible by

The digit at the unit place of $17538$ is $8$, so $17538$ is divisible by $2$.

Sum of the digits of $17538$: $1 + 7 + 5 + 3 + 8 = 24$

$24$ is divisible by $3$ ($24 = 3 \times 8$), so $17538$ is divisible by $3$.

Last two digits of $17538$ together: $38$; $38 = 4 \times 9 + 2$, so $17538$ is not divisible by $4$.

The digit at the unit place of $17538$ is $8$, so $17538$ is not divisible by $5$.

Divisible by both $2$ and $3$ means divisible by $6$.

So $17538$ is divisible by $2, 3$ and $6$.

**Ans: (D)** $2, 3$ **and** $6$ **only**

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