General Instructions:

1. This question paper consists of **15 multiple-choice questions (MCQs)**.
2. Each question carries **1 mark**. The maximum marks for this test are **15**.
3. The total time allowed to complete this test is **20 minutes**.
4. All questions are compulsory.
5. Each question has **four options (A), (B), (C), and (D)**. Only one option is correct.
6. Students must choose the **most appropriate option** for each question.
7. No marks will be deducted for incorrect answers.
8. Calculators and other electronic devices are **not permitted**.
9. Rough work should be done neatly in the space provided (if any).
10. Read each question carefully before answering.

Chapter: Exponents and Powers **Class:** 7
Test Code: 2026/Exponents/VII/05
Max Marks: 15

Q.1 If $25^{x-3} = (125)^{2x-4}$, then the value of x is:

(a) 3/2
(b) 2/3
(c) 1/2
(d) 1

Q.2 Find the value of k if $(-2)^{k+1} \times (-2)^k = (-2)^7 \div (-2)^2$.

(a) 2
(b) 3
(c) 4
(d) 5

Q.3 The value of $\left[\left(\frac{3}{5}\right)^{-1} - \left(\frac{1}{3}\right)^{-1}\right]^{-1}$ is:

(a) $-3/4$
(b) 3/4
(c) $-4/3$
(d) 4/3

Q.4 Simplify: $\frac{(2^5)^2 \times 7^3}{8^3 \times 7}$.

(a) 49
(b) 98
(c) 14
(d) 21

Q.5 If $x = \left(\frac{3}{2}\right)^2 \times \left(\frac{2}{3}\right)^{-4}$, find the value of x^{-1}.

(a) $(2/3)^6$

(b) $(3/2)^6$

(c) $(2/3)^2$

(d) $(3/2)^2$

Q.6 Express the number 0.00000000000000000016 in standard form (Charge of an electron).

(a) 1.6×10^{-19}

(b) 1.6×10^{-18}

(c) 16×10^{-20}

(d) 0.16×10^{-18}

Q.7 The value of $(6^2 + 8^2)^{1/2}$ is:

(a) 10

(b) 14

(c) 100

(d) 48

Q.8 If $2^x \times 3^y \times 5^z = 2160$, then $x + y + z$ is:

(a) 8

(b) 7

(c) 9

(d) 10

Q.9 Simplify: $\frac{a^{2n+1} \cdot a^{(2n+1)(2n-1)}}{a^n}$.

(a) a^{4n^2+n}

(b) a^{4n^2-n}

(c) a^{4n^2+n+1}

(d) a^{4n^2}

Q.10 If $125 \times 125 \times 125 = 5^x$, then x is:

(a) 3

(b) 6

(c) 9

(d) 12

Q.11 Find the value of $\left(\frac{x^a}{x^b}\right) \times \left(\frac{x^b}{x^c}\right) \times \left(\frac{x^c}{x^a}\right)$.

(a) 1

(b) 0

(c) x

(d) x^{abc}

Q.12 Which of the following is true?

(a) $2^3 > 3^2$

(b) $5^2 < 2^5$

(c) $10^2 = 2^{10}$

(d) $4^3 = 3^4$

Q.13 Solve for n: $2^{n-5} \times 5^{n-4} = 5$.

(a) 4

(b) 5

(c) 6

(d) 3

Q.14 The value of $[\{(-1/2)^2\}^{-2}]^{-1}$ is:

(a) 1/16

(b) 16

(c) 1/4

(d) 1

Q.15 If $x^y = y^x$, then for $x = 2, y = 4$, the statement is:

(a) True

(b) False

(c) Only true if $x = y$

(d) Only true if x, y are odd

— End of Question Paper —