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/01
Max Marks: 15

General Instructions:

1. This paper contains 15 Multiple Choice Questions (MCQs).
2. Each question carries 1 mark.
3. Simplify all expressions to their lowest terms or exponential form as required.

Q.1 Find the value of n if $2^{n-3} \times 4^{2n+1} = 2^9$.

(a) 2
(b) 3
(c) 4
(d) 1

Q.2 The value of $\left[\left(\frac{1}{3}\right)^{-3} - \left(\frac{1}{2}\right)^{-3}\right] \div \left(\frac{1}{4}\right)^{-2}$ is:

(a) 19/16
(b) 1
(c) 16/19
(d) 0

Q.3 Simplify: $\frac{25 \times t^{-4}}{5^{-3} \times 10 \times t^{-8}}$ $(t \neq 0)$.

(a) $625t^4$
(b) $\frac{625}{2}t^4$
(c) $125t^4$
(d) $\frac{125}{2}t^4$

Q.4 If $5^{2x+1} \div 25 = 125$, then the value of x is:

(a) 2

(b) 3

(c) 1

(d) 4

Q.5 Which of the following is the standard form of 0.00001275?

(a) 1.275×10^{-5}

(b) 12.75×10^{-6}

(c) 1.275×10^{-4}

(d) 1.275×10^{-6}

Q.6 Find the value of $\left(\frac{2}{3}\right)^0 + \left(\frac{1}{3}\right)^{-1} - 2^2$.

(a) 1

(b) -1

(c) 0

(d) 2

Q.7 If $\left(\frac{a}{b}\right) = \left(\frac{3}{2}\right)^{-2} \div \left(\frac{6}{7}\right)^0$, find the value of $\left(\frac{a}{b}\right)^{-3}$.

(a) 64/729

(b) 729/64

(c) 27/8

(d) 8/27

Q.8 Simplify: $(6^{-1} - 8^{-1})^{-1} + (2^{-1} - 3^{-1})^{-1}$.

(a) 24

(b) 30

(c) 12

(d) 18

Q.9 The mass of the Earth is approximately 5.97×10^{24} kg and the mass of the Moon is 7.35×10^{22} kg. What is their total mass in standard form?

(a) 6.0435×10^{24} kg

(b) 6.705×10^{22} kg

(c) 13.32×10^{23} kg

(d) 6.0435×10^{22} kg

Q.10 If $2^x = 3^y = 6^{-z}$, then the value of $\frac{1}{x} + \frac{1}{y} + \frac{1}{z}$ is:

(a) 1

(b) 0

(c) -1

(d) 2

Q.11 The value of $\frac{3^n+3^{n-1}}{3^{n+1}-3^n}$ is:

(a) 1/2

(b) 2/3

(c) 1/3

(d) 2

Q.12 Express $4^{-3} \times 2^{-2}$ as a power with base 2.

(a) 2^{-8}

(b) 2^{-5}

(c) 2^{-6}

(d) 2^{-7}

Q.13 Find the value of m so that $(-3)^{m+1} \times (-3)^5 = (-3)^7$.

(a) 1

(b) 2

(c) 0

(d) 3

Q.14 If $3^{x-y} = 27$ and $3^{x+y} = 243$, then x is equal to:

(a) 4

(b) 2

(c) 3

(d) 1

Q.15 The multiplicative inverse of 10^{-100} is:

(a) 10^{100}

(b) 10^{-100}

(c) $1/10^{100}$

(d) -10^{100}

— End of Question Paper —