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/03
Max Marks: 15

Q.1 Find the value of $\left[\left(\frac{-1}{2}\right)^2\right]^{-2} \times \left[\left(\frac{-1}{2}\right)^2\right]^1$.

(a) 1/4
(b) 4
(c) 1/16
(d) 16

Q.2 If $27^x = \frac{9}{3^x}$, then the value of x is:

(a) 1/2
(b) 1
(c) 2
(d) 0

Q.3 Simplify: $\frac{10\times5^{n+1}+25\times5^n}{3\times5^{n+2}+10\times5^{n+1}}$.

(a) 3/5
(b) 1/2
(c) 1
(d) 5/3

Q.4 The value of $\left(\frac{1}{4}\right)^{-2} - 3 \times 8^0 \times \left(\frac{2}{3}\right)^{-2}$ is:

(a) 16
(b) 11/4
(c) 37/4
(d) 25/4

Q.5 If $x = \left(\frac{5}{8}\right)^{-2} \times \left(\frac{8}{5}\right)^{-2}$, then x is equal to:

(a) 1

(b) 0

(c) 625/4096

(d) 4096/625

Q.6 Express 0.0000000000085 in standard form.

(a) 8.5×10^{-12}

(b) 8.5×10^{-11}

(c) 0.85×10^{-12}

(d) 85×10^{-13}

Q.7 Find m such that $\left(\frac{2}{9}\right)^3 \times \left(\frac{2}{9}\right)^{-6} = \left(\frac{2}{9}\right)^{2m-1}$.

(a) 1

(b) -1

(c) 2

(d) -2

Q.8 The value of $\frac{2^0+3^0+4^0}{2^0\times3^0\times4^0}$ is:

(a) 0

(b) 1

(c) 3

(d) 1/3

Q.9 If $a = 2$ and $b = 3$, find the value of $(a^b + b^a)^{-1}$.

(a) 17

(b) 1/17

(c) 1/13

(d) 13

Q.10 Simplify and write in exponential form: $(2^{20} \div 2^{15}) \times 2^3$.

(a) 2^8

(b) 2^2

(c) 2^{38}

(d) 2^5

Q.11 What is the value of $(x^a/x^b) \times (x^b/x^c) \times (x^c/x^a)$?

(a) x

(b) 0

(c) 1

(d) x^{abc}

Q.12 If $25^{x-1} = 5^{2x-1} - 100$, then x is:

(a) 3

(b) 2

(c) 4

(d) No solution

Q.13 The speed of light is 3×10^8 m/s. How much distance does light cover in 2 hours? (Write in standard form).

(a) 2.16×10^{11} m

(b) 2.16×10^{12} m

(c) 6×10^8 m

(d) 1.08×10^{12} m

Q.14 Solve for x: $4^x + 4^x + 4^x + 4^x = 2^{10}$.

(a) 4

(b) 5

(c) 8

(d) 2

Q.15 The value of $\left[\left(\frac{1}{3}\right)^{-1} - \left(\frac{1}{4}\right)^{-1}\right]^{-1}$ is:

(a) 1

(b) -1

(c) 1/7

(d) 0

— End of Question Paper —