FA (2) Subject : Mathematics
Class – VIII
Assignment – 2

CHAPTER – 2 - EXPONENTS

Choose the correct option (Question No. 1 – 5)

Q.1 $\left(\frac{1}{2}\right)^4 \times \left(\frac{2}{3}\right)^3$ is

(a) $\frac{2^3}{6^7}$ (b) $\left(\frac{2}{6}\right)^{12}$ (c) $\left(\frac{2}{5}\right)^7$ (d) $\frac{1}{2\times 3^3}$

Q.2 Multiplicative increase of 5^{-3} is

(a) $\left(\frac{1}{5}\right)^{-3}$ (b) 5^3 (c) $\left(-\frac{1}{5}\right)^{-3}$ (d) -5^{-3}

Q.3 Which of the following is true

(a) $15^0 < 7^0$ (b) $15^0 < 7^0$ (c) $15^0 = 7^0$ (d) $15^0 = 7$

Q.4 Which of the following is a false statement?

(a) $a^m \div a^{-n} = a^{m+n}$ (b) $a^m \times b^m = ab^m$

(c) $a^{-m} \times a^n = a^{-m-n}$ (d) $a^{-m^n} = a^{-mn}$

Q.5 4^{-3} in exponential form with base 2 is

(a) 2^6 (b) 2^3 (c) $(-2)^6$ (d) 2^{-6}

Q.6 (a) Express with positive exponents

(i) 3^{-5} (ii) 5^{-6} (iii) $\left(\frac{-6}{5}\right)^{-11}$

(b) In the similar manner, we can also convert negative attitude into positive attitude by using

(i) Body (ii) Mind (iii) Intellect (iv) Gun

Choose the correct option

Q.7 Find the value.

(a) -3^{-2} (b) 4^{-2} (c) 100^{-1} (d) -1^{-27} (e) $\left(\frac{1}{3}\right)^{-5}$

Q.8 Express as a rational number.

(a) 5^{-1} (b) 5^{-2} (c) $\left(-\frac{3}{4}\right)^{-3}$ (d) $4^3 \times 4^{-5}$ (e) $\left[\left(\frac{3}{2}\right)^{-2}\right]^2$

Q.9 Evaluate

(a) $3^{-7} \div 3^{-10} \times 3^{-5}$ (b) $3^0 - 4^0 + 3^0$ (c) $(4^{-1} \times 3^1) \div 6^{-1}$

(d) $\left(\frac{2}{3}\right)^{-3} \times \left(\frac{-2}{3}\right)^{-2} \div \left(\frac{-2}{3}\right)^{5}$ (e) $\left(\frac{-5}{8}\right)^{7} \div \left(\frac{-5}{8}\right)^{7}$

Q.10 Simplify and write the answer with positive exponents.

(a) $(5^{-1} \div 3^{-1})^2$ (b) $(4^{-1} \div 7^{-1})^{-1} \div (3^{-1} \div 7^{-1})^{-1}$ (c) $\left[\left(\frac{1}{3}\right)^{-3} - \left(\frac{1}{2}\right)^{-3}\right] \div \left(\frac{1}{4}\right)^{-2}$

Q.11 Simplify.

(a) $5^7 \times 3^3 \div 5^{10}$ (b) $-8^5 \div -8^5$

(c) $\left(-\frac{3}{4}\right)^4 \times \left(-\frac{3}{4}\right)^5 \div \left(-\frac{3}{4}\right)^9$ (d) $2^{3^5} \div 2^{15}$

Q.12 If $x = \left(\frac{5}{4}\right)^5 \div \left(\frac{5}{4}\right)^3$ find x^2

Q.13 Find 'x' if

(a) $3^{x-2} \div 3^{-3} = 3^4$ (b) $5^{2x+1} = 125$

(c) $(-2)^{x+1} \times (-2)^5 = (-2)^7$ (d) $\left(\frac{2}{5}\right)^3 \times \left(\frac{2}{5}\right)^{-6} = \left(\frac{2}{5}\right)^{2x-1}$

Q.14 By what number should $\left(\frac{-3}{2}\right)^{-1}$ be divided so that the quotient may be equal to $\frac{1}{6}$.

Q.15 By what number should

(a) 7^4 be multiplied so that the result is 7?

(b) $\left(\frac{-2}{9}\right)^{-2}$ be divided to get 3?

Q.16 Simplify.

(a) $\frac{5^2 \times p^{-4}}{5^3 \times 10 \times p^{-8}}$ $(p \neq 0)$ (b) $\frac{10^{-5} \times 125 \times 3^{-5}}{6^{-5} \times 5^7}$ (c) $\frac{27 \times x^{-2}}{3^{-2} \times x^{-8}}$ $(x \neq 0)$

Q.17 Express in standard form

(a) 243×10^5 (b) 0.0009 (c) Fifty Thousand

Q.18 Express in usual form

(a) 5.4×10^3 (b) 8×10^{-2} (c) 5.08×10^4

Q.19 Simplify $\frac{1}{1+x^{-n}} + \frac{1}{1+x^n}$

Q.20 $6^{2x+1} \div 26 = 216$ (Find the value of x)