ASSIGNMENT(TERM-II)

CLASS: VII

SUBJECT: MATHS

TOPIC: EXPONENTS AND POWERS

INSTRUCTION: Do the assignment in math practice register.

Q1   Express in exponential form:

a) $\frac{7}{8} \times \frac{7}{8} \times \frac{7}{8} \times \frac{7}{8} \times \frac{7}{8}$

b) $9^2 \times 9^{18} \times 9^7$

c) $n \times n \times n \times n \times n \times n \times n$

d) $\frac{81}{625}$

Q2   Find the unknown value in each case:

a. $2^{x+2} = 256$

b. $(-6^5) \times (-6^{3-m}) = -6^3$

c. $3^{x+2} - 3^x = 6^3 \times 3^8$

Q3   Evaluate:

i. $\left(\frac{3a^4b^2}{27a^2b}\right)^2$

ii. $\frac{125 \times 5^2 \times a^7}{10^3 \times a^4}$

iii. $\frac{6^4 \times 9^2 \times 25^3}{3^2 \times 4^2 \times 15^6}$

iv. $\frac{7^8 \times p^{10} q^7 r^{12}}{7^6 \times p^8 q^4 r^{12}}$

Q4　Express each of the following as a product of powers of their prime factors:

(a) 9000　　　　　　　　　(b) 2025　　　　　　　　　(c) 800

Q5　Simplify and express the following in exponential form:

i.　$\left[\left(\frac{7}{11}\right)^5 \div \left(\frac{7}{11}\right)^2\right] \times \left(\frac{7}{11}\right)^2$

ii.　$\left[\left(\frac{3}{7}\right)^4 \times \left(\frac{3}{7}\right)^5\right] \div \left(\frac{3}{7}\right)^7$

iii.　$\left[\left(\frac{3}{5}\right)^3 \times \left(\frac{3}{5}\right)^8\right] \div \left[\left(\frac{3}{5}\right)^2 \times \left(\frac{3}{5}\right)^4\right]$

Q6　Express the given information in Scientific notation and then arrange them in descending order of their size.

No	Planet	Mass (in kg)
1	Mercury	330000000000000000000000
2	Venus	4870000000000000000000000
3	Earth	5980000000000000000000000
4	Mars	642000000000000000000000
5	Jupiter	1900000000000000000000000000
6	Saturn	569000000000000000000000000
7	Uranus	86900000000000000000000000
8	Neptune	102000000000000000000000000