

VII- Mathematics Assignments No-06-Exponents and Powers.

Q1. Express the following numbers in the expanded form using standard form

(i) 32056914      (ii) 32509132

Q2. Write the following numbers in standard form

(i) 25 thousand      (ii) 15 Lacs      (iii) 3 Crores

Q3. Express the number appearing in the following in standard form.

(i) speed of light in vacume is  $300000000 \frac{m}{s}$

(ii) The Diameter of the Sun is 1400000000 m

Q4. Write the following numbers in usual form.

(i)  $4.5 \times 10^4$       (ii)  $7.345 \times 10^3$       (iii)  $2.45 \times 10^5$

Q5. Write the number from the given expanded form

(i)  $5 \times 10^5 + 3 \times 10^4 + 2 \times 10^3 + 1 \times 10^2 + 0 \times 10^1 + 5 \times 10^0$

(ii)  $8 \times 10^4 + 9 \times 10^3 + 7 \times 10^2 + 6 \times 10^1 + 5 \times 10^0$

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Q6. Write  $60,030,000,000$  in standard form

Q7. Write in standard form, "The universe is estimated to be about  $12,000,000,000$  years old."

Q8. A star is about  $8.1 \times 10^{13}$  km from earth. Assuming that light travels at  $3.0 \times 10^8$  km/sec find how long light from star takes to reach the earth.

Q9. Write the number  $7.23279 \times 10^5$  in usual form

Q10. The needle of a record player moves 7.2 cm when playing a particular record. If the record makes 900 revolutions, find the width of the groove.

ANSWERS:

- Q1 (i)  $3 \times 10^7 + 2 \times 10^6 + 5 \times 10^4 + 6 \times 10^3 + 9 \times 10^2 + 1 \times 10^1 + 4 \times 10^0$   
 (ii)  $3 \times 10^7 + 2 \times 10^6 + 5 \times 10^5 + 9 \times 10^3 + 1 \times 10^2 + 3 \times 10^1 + 2 \times 10^0$   
 Q2 (i)  $2.5 \times 10^4$  (ii)  $1.5 \times 10^6$  (iii)  $3 \times 10^7$   
 Q3 (i)  $3 \times 10^8$  m/s (ii)  $1.4 \times 10^9$  m  
 Q4 (i) 45000 (ii) 7345 (iii) 245000  
 Q5 (i) 532105 (ii) 89765  
 Q6  $6.003 \times 10^{10}$  (Q8)  $7.5 \times 10^4$  hrs  
 (Q7)  $1.2 \times 10^{10}$  (Q9) 723279 (Q10)  $8.0 \times 10^{-3}$  cm