

VIII - Mathematics Assignment No. -05- Exponent and Powers.

Q1. Solve the following exponential Equations:

$$(a) \quad 5^3 = 125^x$$

$$(b) \quad 6^2 = 216^x$$

$$(c) \quad 7^x = 343$$

$$(d) \quad 3^x = \frac{1}{27}$$

$$(e) \quad 2^{x-3} = \frac{1}{2}$$

Q2. Simplify and find  $x$

$$(a) \quad 3^{3x-5} = \frac{1}{9^x}$$

$$(b) \quad 2^{2x+4} = 4^{-(2x-1)}$$

$$(c) \quad 3^{3x-3} = 9^{2x-1}$$

$$(d) \quad 6^{x-2} = 1$$

$$(e) \quad (\sqrt{3})^x = \frac{16}{3}$$

**ANSWERS**

$$(Q1) (a) \quad x=1$$

$$(b) \quad x=\frac{2}{3}$$

$$(c) \quad x=3$$

$$(d) \quad x=-3$$

$$(e) \quad x=2$$

$$(Q2)(a) \quad x=1$$

$$(b) \quad x=-\frac{3}{4}$$

$$(c) \quad x=2$$

$$(d) \quad x=2$$

$$(e) \quad x=32$$