## 12. Exponents and Powers

Q 1
$(-2)^{5} \div(-2)^{8}$

Mark (1)

Mark (1)

Mark (1)

Mark (1)

Mark (1)

Mark (1)

Mark (1)

Mark (1)

Mark (1)

Mark (1)

Q 11 Expand 1526.26 using exponents.
Marks (2)

Q 12 Expand 1026.13 using exponents.
Marks (2)

Q 13 Find $x$ such that $(-2)^{x+1} \times(-2)^{5}=(-2)^{7}$.
Marks (2)

Q 14 Express $8^{-3}$ as power with the base 2.
Marks (2)

Q 15 Simplify $(-2)^{-3} \times(-3)^{-3} \times(4)^{-3}$ and write the answer in exponential form. Marks (2)

Q 16 Find the value of $\left(4^{0}+3^{-1}\right) \times 3^{2}$.
Marks (2)

Q 17 Simplify: $2^{3} \times 2^{-5} \times 2^{6}$
Marks (2)
Q 18 Find the valuc of $\left(\frac{1}{2}\right)^{-2}+\left(\frac{1}{3}\right)^{-2}+\left(\frac{1}{4}\right)^{-2}$.
Marks (2)

Q 19 Find the value of $\left(\frac{5}{7}\right)^{-2}$
Marks (2)

Q 20 Simplify:
Marks (2) Q 21

Simplify $\left[\left(\frac{1}{3}\right)^{-2}-\left(\frac{1}{2}\right)^{-2}\right] \div\left(\frac{1}{4}\right)^{-2}$
Marks (3)
${ }_{Q 22}$ Evaluate $\left(\frac{5}{9}\right)^{-7} \times\left(\frac{9}{5}\right)^{-4}$
Marks (3)

Q 23 In a stack there are 6 books each of thickness 20 mm and 5 sheets each of thickness 0.015 mm . Find the total thickness of the stack?

Marks (3)
Q 24 Find ' $a$ ' such that $(-5)^{a+2} \times(-5)^{4}=(-5)^{9}$.
Marks (3)

> Marks (3)

Q 26
Simplify $\frac{25 \times a^{-4}}{5^{-3} \times 10 \times a^{-8}}$, Where $a \neq 0$

## Marks (3)

Q 27 Compare the size of a red blood cell which is 0.000007 m to that of a plant cell which is 0.00001275 m . Marks (5)

Q 28


Marks (5)

## Most Important Questions

Q 1 Find the value of
a) $2^{2}$
b) $2^{-2}$

Q 2 Find the value of $(1 / 2)^{-1}$.

Q 3 Calculate the value of $2^{3} \times 2^{4}$

Q 4 What is the exponential notation of $\left(2^{3}\right)^{5}$

Q 5 Simplify and express in positive exponential form.
$(-3)^{-7} \times(-3)^{-8}$

Q 6 Simplify the following exponents

$$
(-2)^{2} \times(-3)^{2} \times(-5)^{2}
$$

Q 7 Find the value of $n$ in the given expression:

$$
2^{2(n-1)} \times 2^{3 n}=2^{n+1}
$$

Q 8 Find the value of $p$ in the given expression

$$
(-3)^{\mathrm{p}-3}(-3)^{-3 \mathrm{p}+1}=(-3)^{5}
$$

Q 9 Write the given expressions in expanded form.
a) 3456.234
b) 2016.123

Q 10 Express the following numbers in their standard form.
a) 0.0000000000468
b) 0.345
c) 372400000000000
d) 76100000000

Q 11 Express the following numbers in their usual form:
a) $3.05 \times 10^{-6}$
b) $4.5 \times 10^{4}$
c) $\quad 3.1563 \times 10^{6}$

