

I. Answer all the questions

Time : 01:30:00 Hrs

Total Marks : 35

10 x 1 = 10

Part-A

- 1) The additive inverse of $\frac{-3}{5}$ is _____ .
(a) $\frac{-3}{5}$ (b) $\frac{5}{3}$ (c) $\frac{3}{5}$ (d) $\frac{-5}{3}$
- 2) $a^m \times a^n$ is equal to
(a) $a^m + a^n$ (b) a^{m-n} (c) a^{m+n} (d) a^{mn}
- 3) The multiplicative inverse of 2^{-4} is
(a) 2 (b) 4 (c) 2^4 (d) -4
- 4) $(2^0 + 4^{-1}) \times 2^2$ is equal to
(a) 2 (b) 5 (c) 4 (d) 3
- 5) $(-1)^{50}$ is equal to
(a) -1 (b) 50 (c) -50 (d) 1
- 6) $\frac{1}{5} \div 2\frac{1}{2}$ is _____
(a) $\frac{2}{25}$ (b) $\frac{1}{2}$ (c) $\frac{10}{7}$ (d) $\frac{3}{10}$
- 7) Which of the following numbers is not a perfect cube?
(a) 1331 (b) 512 (c) 343 (d) 100
- 8) The unit digit of the cube of the number 50 is
(a) 1 (b) 0 (c) 5 (d) 4
- 9) Find the smallest number by which the number 88 must be divided to obtain a perfect cube.
(a) 11 (b) 5 (c) 7 (d) 9
- 10) Find the smallest number by which the number 108 must be multiplied to obtain a perfect cube
(a) 2 (b) 3 (c) 4 (d) 5

Part-B

- 11) Simplify: $\left(\frac{-1}{3} \times \frac{5}{4}\right) + \left[\frac{3}{5} \div \left(\frac{1}{2} - \frac{1}{4}\right)\right]$
- 12) Simplify: $10^9 \div 10^6$
- 13) Find the square root of 64
- 14) Find the square root of 0.005184
- 15) Find the cube root of $\frac{125}{216}$

5 x 2 = 10

Part-C

- 16) Name the property under addition used in each of the following :
 $8 + \frac{7}{10} = \frac{7}{10} + 8$
- 17) Simplify:
 $\left(\frac{2}{3}\right)^5 \times \left(\frac{3}{4}\right)^2 \times \left(\frac{1}{5}\right)^2$
- 18) A water tank has steps inside it. A monkey is sitting on the top most step. (ie, the first step) The water level is at the ninth step.
(a) He jumps 3 steps down and then jumps back 2 steps up. In how many jumps will he reach the water level?
(b) After drinking water, he wants to go back. For this, he jumps 4 steps up and then jumps back 2 steps down in every move. In how many jumps will he reach back the top step?
- 19) Express the following as a sum of consecutive odd numbers starting with 1
(i) 7^2
(ii) 9^2
(iii) 5^2
(iv) 11^2
- 20) Find the smallest number by which each of the following numbers must be multiplied to obtain a perfect cube.
i) 243
ii) 256
iii) 72
iv) 675
v) 100

5 x 3 = 15

