Pious Mission School, Arwal

"*Practice Examination*"

Session : 2020-21

Time : 1 Hrs
F.M : 40M

Sub : Maths Class : IX

(Goup-A) 1-mark each

1) Which of the following is irrational ?

a) $\sqrt{\frac{4}{9}}$ b) $\frac{4}{5}$ c) $\sqrt{7}$ d) $\sqrt{81}$

2) Which of the following is rational ?

a) $\sqrt{3}$ b) π c) $\frac{4}{0}$ d) $\frac{0}{4}$

3) The number $0.\overline{3}$ in the form $^{p}/_{q}$ where p and q are integers and q#0 is

a) $^{33}/_{100}$ b) $^{3}/_{10}$ c) $^{1}/_{3}$ d) $^{3}/_{100}$

4) The value of $0.\overline{23} + 0.\overline{22}$ is

a) $0.\overline{45}$ b) $0.\overline{43}$ c) 0.45 d) none

5) An irrational number between 222.5 is

a) $\sqrt{11}$ b) $\sqrt{5}$ c) $\sqrt{22.5}$ d) $\sqrt{12.5}$

6) $\sqrt{10} \times \sqrt{15}$ is equal to

a) $5\sqrt{6}$ b) $6\sqrt{5}$ c) $\sqrt{30}$ d) $\sqrt{25}$

7) The rational fact of $2+\sqrt{3}$ is

a) $2-\sqrt{3}$ b) $\sqrt{3}-2$ c) $\sqrt{2}-3$ d) $\sqrt{2}+3$

8) $x=\sqrt{5}+2$ *then* $x-\frac{1}{x}$ equals

a) 4 b) 2 c) $2\sqrt{5}$ d) $\sqrt{5}$

9) If $\frac{\sqrt{3}-1}{\sqrt{3}+1} = a - b\sqrt{3}$ then

a) a=2,b=1 b)a=2, b=-1 c) a=-2, b=1 d) a=b=1

10) The rationalisation factor of $\sqrt{3}$ is

a) $a = -\sqrt{3}$ b) $\frac{1}{\sqrt{3}}$ c) $2\sqrt{3}$ d) $-2\sqrt{3}$

11) $x + \frac{1}{x} = 5$ *then* $x^2 + \frac{1}{x^2} =$

a) 25 b) 10 c) 23 d) 27

12) $x + \frac{1}{x} = 2$ *then* $x^3 + \frac{1}{x^3} =$

a) 64 b) 14 c) 8 d) 2

13) The value of $\frac{(2.3)^3 - 0.027}{(2.3)^2 + 0.69 + 0.09}$ is

a) 2 b) 3 c) 2.327 d) 2.273

14) The value of $\frac{(0.013)^3 + (0.007)^3}{(0.013)^2 - 0.013 \times 0.007 \times (0.007)^2}$ is

a) 0.006 b) 0.02 c) 0.0091 d) 0.00185

15) The factors of $x^3-x^2y-xy^2+y^3$ are

a) $(x+y)(x^2-xy+y^2)$ b) $(x+y)(x^2+xy+y^2)$ c) $(x+y)^2(x-y)$ d) $(x-y)^2(x+y)$

16) Degree of polynomial $f(x)=4x^4+0x^3+0x^5+5x+7$ is

a) 4 b) 5 c) 3 d) 7

17) $\sqrt{2}$ is a polynomial of degree

a) 2 b) 0 c) 1 d) $^1/_2$

18) Zero of the zero polynomial is

a) 0 b) 1 c) any real no. d) not defined

19) Zero of the polynomial $f(x)=3x+7$ is

a) $^7/_3$ b) $^{-7}/_3$ c) $^{-3}/_7$ d) -7

20) Degree of the zero polynomial is

a) 0 b) 1 c) any natural no. d) not defined

(Group-B) 2-marks each

21) Find six rational no. between 3 and 4

22) Express decimals in the form $^p/_q$: $0.\overline{35}$

23) Prove that $\sqrt{3}$ is an irrational number.

(Group-C) 3-marks each

24) Show $\sqrt{5}$ can be represented on the number line.

25) Rationalise the denomibator of : $\frac{1}{3+\sqrt{2}}$

(Group-D) 4- marks each

26) If both a and b are rational nos. Find the value of a and b.

$$\frac{\sqrt{3}-1}{\sqrt{3}+1} = a + b\sqrt{3}$$

27) Simplify :

$$\frac{\sqrt{5}-2}{\sqrt{5}+2} - \frac{\sqrt{5}+2}{\sqrt{5}-2}$$