Model Question Paper

Algebra - Part IV

10th Standard

Maths

Reg.No. : | | | | | | |

I.Answer all the questions.
II.Use Blue pen only.
III.Question No 15 is compulsory

Time : 01:00:00 Hrs

Total Marks : 40

Section-A

5 x 1 = 5

1) The square root of 49 $(x^2+2xy+y^2)^2$ is

(a) $7|x-y|$ (b) $7(x+y)(x-y)$ (c) $7(x+y)^2$ (d) $7(x-y)^2$

2) The square root of $x^2+y^2+z^2-2xy+2yz-2zx$

(a) $|x+y-z|$ (b) $|x-y+z|$ (c) $|x+y+z|$ (d) $|x-y-z|$

3) The square root of $121x^4y^8z^6(l-m)^2$ is

(a) $11x^2y^4z^4|l-m|$ (b) $11x^4y^4|z^3(l-m)|$ (c) $11x^2y^4z^6|l-m|$ (d) $11x^2y^4|z^3(l-m)|$

4) If $ax^2+bx+c=0$ has equal roots, then c is equal

(a) $\frac{b^2}{2a}$ (b) $\frac{b^2}{4a}$ (c) $-\frac{b^2}{2a}$ (d) $-\frac{b^2}{4a}$

5) If $x^2+5kx+16=0$ has no real roots, then

(a) $k>\frac{8}{5}$ (b) $k>-\frac{8}{5}$ (c) $-\frac{8}{5}<k<\frac{8}{5}$ (d) $0<k<\frac{8}{5}$

Section-B

6 x 2 = 12

6) Find the LCM of the following. $3x^2yz, 4x^3y^3$

7) Find the LCM of the following. a^2bc, b^2ca, c^2ab

8) Find the LCM of the following. $66a^4b^2c^3, 44a^3b^4c^2, 24a^2b^3c^4$

9) Find the LCM of the following. $a^{m+1}, a^{m+2}, a^{m+3}$

10) Find the LCM of the following. x^2y+xy^2, x^2+xy

11) Find the LCM of the following. $3(a-1), 2(a-1)^2, (a^2-1)$

Section-C

5 x 5 = 25

12) Solve the system of equations by elimination method. $\frac{3}{x}+\frac{5}{y}=\frac{20}{xy}, \frac{2}{x}+\frac{5}{y}=\frac{15}{xy}, x\neq 0, y\neq 0$

13) Solve the system of equations by elimination method. $8x-3y=5xy, \quad 6x-5y=-2xy$

14) Solve the system of equations by elimination method. $13x+11y=70, \quad 11x+13y=74$

15) a) Solve the system of equations by elimination method. $65x-33y=97, \quad 33x-65y=1$

(OR)

b) Solve the system of equations by elimination method. $\frac{15}{x}+\frac{2}{y}=17, \frac{1}{x}+\frac{1}{y}=\frac{36}{5}, x\neq 0, y\neq 0$

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