

FOUNDATION ①

Class: VI, MATHEMATICS

4. INTRODUCTION TO ALGEBRA

TEACHING TASK (JEE MAINS)

01. $\frac{1}{2}(a+b)$ Ans: C

02. $3x + y^2$ Ans: C

03. $2y + 3z - 16x$ Ans: A

04. $A = bh$ Ans: A

05. $a^2b^2c^2$ Ans: B

06. $-\frac{1}{2}$ Ans: C

07. 4 Ans: A

08. xyz Ans: C

09. $2 + 2 = 4$ Ans: B

10. $-7x$ Ans: C

JEE ADVANCED

11. Binomial $\rightarrow x^2 + 2y^2, ab^2 + 4ab^2, x + y$
Ans: A, B, C

12. Degree = $2 + 4 = 6$
 $\max\{5, 6\} = 6$ Ans: B, C

13. Statement I: The given expression is not a polynomial (False)
Statement II: Conceptual (False) Ans: B

14. Statement I: $(x^2 y^3)^n = x^{2n} y^{3n}$ (True) (2)
Statement II: $(ab)^m = a^m \cdot b^m$, $(a^m)^n = a^{mn}$ (True)
 Ans: A

15. Assertion: Conceptual (True)
Reason: Conceptual (True)
 Ans: A

16. Assertion: Conceptual (True)
Reason: Conceptual (False)
 Ans: C

17. $\frac{x}{3}$, $x^3 + 7x^2 + x + 1$, $2 + 3$ all are polynomials

18. 1
 Ans: A

19. $3x^2 + 3$
 Ans: A

20. It has fractional exponent, since
 $\sqrt{x} + 2 = x^{\frac{1}{2}} + 2$
 Ans: B

21. 15
 Ans: 15

22. Degree = $1 + 5 = 6$
 Ans: 6

23. a) $x^2 - 3x = 2^2 - 3 \times 2 = 4 - 6 = -2$ (Q)
 b) $x^2 + 3 - 8 = 2^2 - 5 = 4 - 5 = -1$ (S)
 c) $x^5 - 33 = 2^5 - 33 = 32 - 33 = -1$ (S)
 d) $16 - 5x = 16 - 5 \times 2 = 16 - 10 = 6$ (P)
 Ans: Q, S, S, P

24. a) $\frac{p^2}{4}$ (R) c) $3x + 9y$ (S)
 b) $x + 10y$ (P) d) $p^2 + q^3$ (Q)
 Ans: R, P, S, Q

LEARNERS TASK (COURSES) ③

01.	$2x + y^3$	Ans: D
02	-2	Ans: D
03	$2q^2$	Ans: C
04	3	Ans: C
05	$3x^2 + 2x$	Ans: B
06	$yz, -\frac{1}{2}yz$	Ans: D
07.	Degree = 5	Ans: C
08	$x + 2$	Ans: B
09.	a, b, x	Ans: D
10.	$4 - 2x$	Ans: B

JEE MAINS LEVEL

01.	$\left(\frac{4}{9}\right)^{25}$	Ans: A
02	$\frac{3}{2} \times a \times b \times b \times c \times c \times c$	Ans: B
03	$x^{p-q+q-r+r-p} = x^0 = 1$	Ans: C
04.	$6a^4$	Ans: D
05	$4x + 10$	Ans: B
06	$\frac{4}{5}y, y, -3y$	Ans: C
07	Degree = $2 + 2 = 4$	Ans: C
08	$2x^3 - \frac{4}{x^2} + 9$	Ans: B

09. $x+6 < 0$

Ans: D

10. -3

Ans: B

JEE ADVANCED

11. $2x-3=7 \Rightarrow x=5$ or $\frac{10}{2}$

Ans: B, D

12. $2x^3+5x-7, x^2y+4 \Rightarrow$ Polynomials

Ans: A, C

13. Statement I: Conceptual (True)
Statement II: Conceptual (True)

14. Statement I: Conceptual (False)
Statement II: Conceptual (True)

Ans: D

15. Assertion: Mathematically (True)
Reason: Conceptual (True)

Ans: A

16. Assertion: Conceptual (True)
Reason: Conceptual (False)

Ans: C

17. $2xy$

Ans: C

18. None, $x + \frac{1}{x}$ is an algebraic expression

Ans: D

19. Degree = $2+1=3$

Ans: C

20. Degree = $3+2=5$

Ans: C

21. $2(x + \frac{1}{x}) = 2(2 + \frac{1}{2}) = 2(\frac{5}{2}) = 5$

Ans: 5

22. $x > 3, x+2=3$

Ans: 2



23 a) multinomial $\rightarrow x+1, x^2+x+1, x^3+x^2+x+1$ (5)
(P, Q, S)

b) Degree = 1 (x)

c) x^2+x+1 (P)

d) $x+1$ (S)

Ans: (P, Q, S), x, P, S

24 a) Expression (P)

b) Equation (Q)

c) Inequality (x)

d) constant (S)

Ans: P, Q, x, S

$\Rightarrow$ THE END $\Leftarrow$