

INTEGRATED (V₂)

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Class: VIII, MATHEMATICS

1. FUNDAMENTALS OF ALGEBRA

TEACHING TASK (JEE MAINS)

01. $x^2 + 1 = 5$ Ans: C

02. $p(x) = x^2 + 3x - 2$
 $p(2) = 2^2 + 3(2) - 2$
 $= 4 + 6 - 2$
 $= 8$ Ans: A

03. $7x - 4y = 7(2) - 4(1)$
 $= 14 - 4$
 $= 10$ Ans: A

04. $8x + 3 = 5x + 12$
 $\Rightarrow 8x - 5x = 12 - 3$
 $\Rightarrow 3x = 9$
 $\Rightarrow x = 3$ Ans: B

05. $3x + 2 = 3x + 2$, true $\forall x \in \mathbb{R}$ Ans: C

06. 4 terms Ans: C

07. $5y - 2$ Ans: B

08. $4p^2 - 1 \Rightarrow 4p^2, -1$ monomial Ans: C

09. $2xy + 3 - 4xy^2 + 7 = 2xy - 4xy^2 + 10 \Rightarrow 3$ terms
Ans: C

10	$2x^2y - 3xy + 4 \rightarrow$ trinomial, cubic	② Ans: D
11.	$3mn + 7, m^2n^2 - mn$	Ans: D
12	$4p - 7$	Ans: D
13	$3(x-2) > 2x+5$ $\Rightarrow 3x-6 > 2x+5$ $\Rightarrow 3x-2x > 5+6$ $\Rightarrow x > 11$	Ans: D
14	$3x^2 - 7x + 1, 4 + 7y$	Ans: A, C
15	Conceptual	Ans: A, B, C, D
16	Conceptual	Ans: A, B, C, D
17.	<u>Statement I:</u> $x + 5 = 3x + 8$ $\Rightarrow 3x - x = 5 - 8$ $\Rightarrow 2x = -3$ $\Rightarrow x = -\frac{3}{2}$ (False)	
	<u>Statement II:</u> e.g: $2x + 3 = 2x + 8$ No, solution (True)	Ans: D
18	<u>Statement I:</u> $(x^2y^3)^n = x^{2n} \cdot y^{3n}$ (True) <u>Statement II:</u> $(ab)^m = a^m \cdot b^m, (a^m)^n = a^{mn}$ (True)	Ans: A

19.	<u>Assertion:</u> Conceptual (true) <u>Reason:</u> Conceptual (true)	(3) Ans: A
20.	<u>Assertion:</u> Conceptual (true) <u>Reason:</u> Conceptual (true)	Ans: A
21.	<u>Assertion:</u> Conceptual (true) <u>Reason:</u> Conceptual (true)	Ans: A Ans: A
22	$2x + 3 = 7$	
23	$4x - 5 = 11$ $\Rightarrow 4x = 16$ $\Rightarrow x = 4$	Ans: B
24	All are polynomials	Ans: A, B, C, D
25	<u>1</u>	Ans: A
26	$p(x) = x^2 - 3x + 2$ $p(3) = 3^2 - 3 \cdot 3 + 2$ $= 9 - 9 + 2$ $= 2$	Ans: 2
27	$p(x) = 4x^3$ $p(2) = 4 \cdot 2^3$ $= 32$	Ans: 32
28	A) trinomial (x) B) Binomial (p) C) monomial (q) D) constant (s)	Ans: x, p, q, s

- 29 a) $\frac{pq}{4} (r)$
 b) $10y + x (p)$
 c) $3x + 9y (s)$
 d) $p^2 + q^3 (v)$

Ans: r, p, s, v

LEARNERS TASK (CUES)

01.	$7x - 3$	Ans: B
02	Constant	Ans: B
03	3	Ans: C
04	Term	Ans: A
05	one solution	Ans: A
06	xyz	Ans: C
07	4	Ans: B
08	$-7x$	Ans: C
09	$3x^2 - 2x$	Ans: C
10	All are multinomials	Ans: A, B, C, D
11.	$2x + y^3$	Ans: D
13	$LHS = x + 2$	Ans: B
12	Degree = 5	Ans: C
14	All	Ans: D
15	$4 - 2x$	Ans: B

JEE MAINS LEVEL

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01.	$4-y$	Ans: C
02	3	Ans: C
03	$4x+9=0 \Rightarrow x = -\frac{9}{4}$	Ans: B
04	3	Ans: C
05	Zero polynomial	Ans: A
06	Binomial	Ans: A
07	$4x+10$	Ans: B
08	$3x^2y - 2xy + 3$ Trinomial, cubic	Ans: D
09	$\frac{4}{5}y, y, -3y$	Ans: C
10	$2x^3 - \frac{4}{x^2} + 9$	Ans: B
11	$(6a^2)^2 + (-4ab)^2 + (1)^2$ $= 36a^4 + 16a^2b^2 + 1 \rightarrow \text{trinomial}$	Ans: C
12	$x+6 < 0$	Ans: D
13	-3	Ans: B

JEE ADVANCED

14	$3x+7=10, 7-2t=50$	Ans: A, C
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15 Binomials $\rightarrow 2x-4y, 6x+9$ (6)
 Trinomials $\rightarrow 2xy-7x+5$ Ans: A, C, D

16 ~~Polynomial~~ multinomials $\rightarrow 3x^2+4y-7,$
 $5a^2b + 2ab^2 - 3a, 7m+2n-1$ Ans: A, C, D

17 Statement I: Degree = $2+3=5$ (True)
Statement II: Conceptual (True) Ans: A

18 Statement I: Conceptual (True)
Statement II: The sign of the term will be
 changed (False) Ans: ~~B~~

19 Assertion: Conceptual (True)
Reason: Conceptual (True) Ans: A

20 Assertion: Conceptual (True) Ans: A
Reason: Conceptual (True) Ans: A

21 Conceptual Ans: C

22 1 Ans: A

23 Multinomial Ans: C

24 2 Ans: B

25 2 Ans: B

26. $2x + 3y = 19$

$2(4) + 3y = 19$

$\Rightarrow 3y = 19 - 8 = 11$

$\Rightarrow y = \frac{11}{3} = 3.6$

Ans: 3

27 $2\left(x + \frac{1}{x}\right)$

When $x = 2$, $2\left(2 + \frac{1}{2}\right) = 2\left(\frac{5}{2}\right) = 5$ Ans: 5

28 a) $2x + 3 = 11 \Rightarrow x = 4$ (q)

b) $5x - 7 = 0 \Rightarrow x = \frac{7}{5}$ (r)

c) Infinite solutions (s)

d) No solution (p)

Ans: q, r, s, p

29 a) $x + \frac{1}{x}$ Algebraic Expression (s)

b) mathematical sentence (r)

c) mathematical statement (q)

d) open sentence (p)

Ans: s, r, q, p

$\Rightarrow$ THE END $\in$