

Marking Scheme of Annual Examination: 2019 - 20

Class – VII

Subject- Mathematics

NOTE: Apart from the method provided in this marking scheme, any other correct method of solving the questions are also acceptable.

Section – A

One mark will be awarded for each correct answer/option.

- | | | | |
|-------------------|-------------------------------|--------------------------|--------------------------------|
| 1. c) 1 | (Exemplar Pg 38 Q 1, changed) | 2. d) 3 | (Exemplar Pg 105 Q 6) |
| 3. a) 1 | (Exemplar Pg 243 Q 5) | 4. b) 2, 3, 4 | (Exemplar Pg 364 Q 1) |
| 5. d) 4 units | (Self) | 6. a) – 4 | (NCERT Pg 232, Ex 2, changed) |
| 7. c) 3 | (Exemplar Pg 338 Q 6) | 8. d) 3 | (NCERT Pg 267) |
| 9. c) Cone | (Exemplar Pg 366 Q 10) | 10. c) 0.016 | (Exemplar Pg 39 Q 10, changed) |
| 11. – 9 | (Exemplar Pg 105 Q 7) | 12. Positive integer | (Exemplar Pg 244 Q 10) |
| 13. 10π cm | (NCERT Pg 220 Ex 12) | 14. Trinomial | (NCERT Pg 233) |
| 15. 3^3 | (NCERT Pg 254) | 16. 4 | (NCERT Pg 272) |
| 17. Rectangle | (NCERT Pg 288 Q 1) | 18. 0.5 | (NCERT Pg 47 Q 1) |
| 19. $6y - 6 = 60$ | (NCERT Pg 81 Q 4) | 20. 5.9853×10^3 | (NCERT Pg 262 Ex 13) |

Section – B

21. (NCERT Pg 37 Q 5)
 $\frac{3}{4}$ of 36 = $3 \times 9 = 27$ (1 + 1)
- (NCERT Pg 31 Q 1)
 $4 + \frac{7}{8} = \frac{32+7}{8} = \frac{39}{8} (=4\frac{7}{8})$ (1 + 1)
22. (NCERT Pg 183 Q 4, changed)
For drawing the correct number line with equal divisions (1)
For correct representation of $\frac{1}{4}$ on number line. (1)
23. (NCERT Pg 215 Ex 10)
Area of triangle = 36 cm^2 ‘OR’ $\frac{1}{2}$ base x height = 36 cm^2 ‘OR’ $\frac{1}{2} \times \text{BC} \times 3 = 36$ (1)
‘OR’ $\text{BC} = \frac{36 \times 2}{3} = 24 \text{ cm.}$ (1)
24. (NCERT Pg 82 Q 6)
Let Parmit has x marbles then, according to the question: $5x + 7 = 37$ (1 + 1)
(OR)
(NCERT Pg 84 Ex 5)
 $3n + 7 = 25$ OR $3n = 25 - 7$ OR $3n = 18$ OR $n = 18/3 = 6$ (4 x $\frac{1}{2} = 2$)
25. (NCERT Pg 235 Q 4, changed)
Coefficient of $x^2 = 2$ and Coefficient of $y^2 = 7$
26. (NCERT Pg 263 Q 2)
 $9 \times 10^5 + 2 \times 10^2 = 9 \times 100000 + 2 \times 100 = 900000 + 200 = 900200$ ($\frac{1}{2} + 1 + \frac{1}{2}$)

Section – C

27. (NCERT Pg 183 Q 6)
 $\therefore \frac{-16}{20} = \frac{-4}{5}$ and $\frac{20}{-25} = \frac{4}{-5} = \frac{-4}{5}$ (1 + 1)
As value of both rational numbers is same so, given pair representing **same rational numbers.** (1)

(OR)

(NCERT Pg 183 Q 8)

By cross multiplication, $-4 \times 7 = -28$ and $5 \times (-5) = -25$

(1 + 1)

$\therefore -28 < -25 \quad \therefore -4/5 < -5/7$

(1)

28. (NCERT Pg 89 Ex 8)

Let the number is x then, according to the condition: $3x + 11 = 32$

(1)

OR $3x = 32 - 11$ 'OR' $3x = 21$ 'OR' $x = 21/3 = 7$, \therefore Required No. is **7**

(1 + 1)

29. (NCERT Pg 55 Ex 11)

\therefore Distance covered by car in 2.2 hours = 89.1 km

(1 mark for all correct statements)

\therefore Distance covered by car in 1 hour = $89.1 \div 2.2 = 40.5$ km (1 mark for division + 1 mark for final answer with unit)

30. (NCERT Pg 196 Q1)

For drawing a line AB and taking a point C outside it.

(1)

For joining the point C to any point on line AB.

(1)

For making equal alternate angles and drawing a parallel line.

(1)

31. (NCERT Pg 222 Ex 19)

a) Area of larger circle = $3.14 \times 10 \times 10 = 3.14 \times 100 = 314$ cm²

(1)

b) Area of smallerr circle = $3.14 \times 4 \times 4 = 3.14 \times 16 = 50.24$ cm²

(1)

c) Area of shaded region = 314 cm² - 50.24 cm² = **263.76** cm²

(1)

(OR)

(NCERT Pg 207 Ex 5)

Area of square = (side)² = 40 cm \times 40 cm = **1600** cm²

(1)

\therefore The area of the rectangle = The area of the square

$L \times B = 1600$ 'OR' $L = 1600/25 = 64$ cm.

(1)

\therefore Perimeter of the rectangle = $2(l + b) = 2(64 + 25)$ cm = 2×89 cm = **178** cm

(1)

32. (NCERT Pg 260 Q 2)

$[(5^2)^3 \times 5^4] \div 5^7 = [5^6 \times 5^4] \div 5^7 = 5^{6+4} \div 5^7 = 5^{10} \div 5^7 = 5^{10-7} = 5^3$

(1 + 1 + 1)

33. (NCERT Pg 2477 Q 2)

6th term = $2 \times 6 - 1 = 12 - 1 = 11$

(1)

10th term = $2 \times 10 - 1 = 20 - 1 = 19$

(1)

100th term = $2 \times 100 - 1 = 200 - 1 = 199$

(1)

(OR)

(NCERT Pg 242 Q 8)

$p^2 - 2p - 100 = (-10)^2 - 2 \times (-10) - 100 = 100 + 20 - 100 = 20$

(1 + 1 + 1)

34. (NCERT Pg 276 Q 7)

(i) **Yes**

(ii) **No**

(iii) **Yes**

(1 + 1 + 1)

Section - D

35. (NCERT Pg 182 Ex 4)

Multiplying both number by 5 (= 4 + 1) in numerator and in denominator

(1)

$\therefore -1 = \frac{-5}{5}$ and $-2 = \frac{-10}{5}$

(1)

So, $\frac{-10}{5} < \frac{-9}{5} < \frac{-8}{5} < \frac{-7}{5} < \frac{-6}{5} < \frac{-5}{5}$

(1)

\therefore Four required rational numbers are $\frac{-9}{5}, \frac{-8}{5}, \frac{-7}{5}, \frac{-6}{5}$

(1)

36. (NCERT Pg 199 Q 4)

- For correct and labeled figure (2)
 For measuring $\angle B$ (1)
 For steps of construction (1)

(OR)

- (NCERT Pg 203 Q 3)
 For correct labeled figure (2)
 For measuring $\angle A$ (1)
 For steps of construction (1)

37. (NCERT Pg 240 Q 4)

Let 'A' should be added in given expression

$$\text{So, } x^2 + xy + y^2 + A = 2x^2 + 3xy \quad (1)$$

$$\text{OR, } A = 2x^2 + 3xy - (x^2 + xy + y^2) \quad (1)$$

$$\text{OR, } A = 2x^2 + 3xy - x^2 - xy - y^2 \quad (1)$$

$$\text{OR, } A = x^2 + 2xy - y^2 \quad (1)$$

38. (NCERT Pg 226 Ex 22)

$$\text{Area of road along the length of the park} = 70 \text{ m} \times 5 \text{ m} = 350 \text{ m}^2 \quad (1)$$

$$\text{Area of road along the breadth of the park} = 45 \text{ m} \times 5 \text{ m} = 225 \text{ m}^2 \quad (1)$$

$$\text{Common area of both roads} = \text{Area of square} = 5 \text{ m} \times 5 \text{ m} = 25 \text{ m}^2 \quad (1)$$

$$\begin{aligned} \text{Area of roads} &= \text{Area of road along the length of the park} + \text{Area of road along the breadth of the} \\ &\quad \text{park} - \text{Common area of both roads} \\ &= 350 \text{ m}^2 + 225 \text{ m}^2 - 25 \text{ m}^2 = \mathbf{550 \text{ m}^2} \quad (1) \end{aligned}$$

(OR)

(NCERT Pg 227 Q 10)

$$\text{Area of rectangle ABCD} = 18 \text{ cm} \times 10 \text{ cm} = 180 \text{ cm}^2 \quad (1)$$

$$\text{Area of } \triangle AEF = \frac{1}{2} \times 10 \text{ cm} \times 6 \text{ cm} = 30 \text{ cm}^2 \quad \& \quad \text{Area of } \triangle BCE = \frac{1}{2} \times 10 \times 8 = 40 \text{ cm}^2 \quad (1 + 1)$$

$$\text{Area of shaded portion} = 180 \text{ cm}^2 - (30 \text{ cm}^2 + 40 \text{ cm}^2) = 180 \text{ cm}^2 - 70 \text{ cm}^2 = \mathbf{110 \text{ cm}^2} \quad (1)$$

39. (NCERT Pg 259 Ex 12)

(8 x $\frac{1}{2}$ = 4)

$$\begin{aligned} \frac{2 \times 3^4 \times 2^5}{9 \times 4^2} &= \frac{2 \times 3^4 \times 2^5}{3^2 \times (2^2)^2} = \frac{2 \times 2^5 \times 3^4}{3^2 \times 2^{2 \times 2}} \\ &= \frac{2^{1+5} \times 3^4}{2^4 \times 3^2} = \frac{2^6 \times 3^4}{2^4 \times 3^2} = 2^{6-4} \times 3^{4-2} \\ &= 2^2 \times 3^2 = 4 \times 9 = 36 \end{aligned}$$

40. (NCERT Pg 282 Q 5)

(4 x 1 = 4)

- (a) - (ii), (b) - (iii), (c) - (iv), (d) - (i)