GOVERNMENT OF ARUNACHAL PRADESH

DIRECTORATE OF ELEMENTARY EDUCATION

ARUNACHAL PRADESH STATE BOARD EXAMINATION

ACADEMIC SESSION 2021-22

CLASS-VIII

SUBJECT - MATHEMATICS

TIME : 3 HRS | MAXIMUM MARK - 100

MINIMUM PASS MARK - 33

GENERAL INSTRUCTIONS: -

1. All the questions are **compulsory**.
2. The question paper consists of **5** sections **A, B, C, D** and **E**.
3. **Section A** comprises two questions, which is subdivided into **10** objective type questions of **1** mark each.
4. **Section B** comprises of **10** questions carry **2** marks each.
5. **Section C** comprises of 5 questions carry **3** marks each.
6. **Section D** comprises of **6** questions and attempt any **5** of them carry **4** marks each.
7. **Section E** comprises of **6** questions and attempt any **5** of them carry **5** marks each.

SECTION – A

Q1. (A) Choose the one correct answer from given options of the following questions:- 1x10=10

(i) The additive inverse of $\frac{-5}{9}$ is

(a) $\frac{9}{-5}$ (b) $\frac{5}{9}$ (c) $\frac{9}{5}$ (d) 1

(ii) The multiplicative inverse of $\frac{1}{5}$ is

(a) 5 (b) 1 (c) $-\frac{1}{5}$ (d) $\frac{1}{5}$

(iii) The value of $3^0 + 4^0 + 5^0$ is

(a) 12 (b) 3 (c) 9 (d) 1

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(iv) Rectangle is a

(a) 2D figure (b) 3D figure (c) 4D figure (d) 5D figure

(v) The product of 4p and 0 is

(a) 4p (b) 4 (c) 0 (d) p

(vi) Number of sides in pentagon is

(a) 6 (b) 4 (c) 5 (d) 7

(vii) The sum of the measures of external angles of any polygon is

(a) 180^0 (b) 90^0 (c) 360^0 (d) 270^0

(viii) When 35% is expressed as a fraction, we get

(a) $\frac{7}{20}$ (b) $\frac{5}{17}$ (c) 35 (d) 25

(ix) x+y is a

(a) Monomial (b) Binomial (c) Trinomial (d) None of the above.

(x) The perfect square of 64 is

(a) 8 (b) 6 (c) 10 (d) 4

Q2. Fill in the blanks- 1x10 = 10

(i) If $2x = 2$, the value of x is_____.

(ii) The reciprocal of 11 is_____.

(iii) The square of 30 will be_____.

(iv) Value of $x^0 - y^0$ is_____.

(v) A regular polygon has equal sides and equal_____.

(vi) The value of 3^{-2} = _____.

(vii) An algebraic expression contain two terms is called_____.

(viii) Volume of cylinder =_____.

(ix) If $8^3 = 512$ then $\sqrt[3]{512}$ is _____

(x) 4p x 3q = _____

SECTION - B

Q3. Find the solution of $2x - 3 = 7$ 2x10=20

Q4. Express 121 as the sum of 11 Odd numbers.

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Q5. Using identity $(x + a)(x + b) = x^2 + (a + b)x + ab$, find $(x + 3)(x + 7)$

Q6. Express the following numbers in standard form- (i) 31860000000 (ii) 0.000002

Q7. Find the product $5a \times 3a^2 \times 7a^4$

Q8. Find the ratio of (i) 5 m to 10 km

(ii) 50 paise to Rs 5

Q9. Factorise (a) $ax^2 + bx$ (b) $7p^2 + 21q^2$

Q10. Find the square root of 12.25 by division method.

Q11. Add $ab + bc$, $bc + ca$, $ca - ab - bc$.

Q12. Write a Pythagorean triplet whose one number is 14.

SECTION – C

3x5 =15

Q13. Find any five rational numbers between $\frac{-5}{6}$ and $\frac{5}{8}$

Q14. Find the side of a cube whose total surface area is 600 sq.cm.

Q15. A machine in a soft drink factory fills 840 bottles in six hours. How many bottles will it fill in five hours?

Q16. Simplify and solve: $3(x-3)=5(2x+1)$

Q17. (a) Using identity $a^2 - b^2 = (a+b)(a-b)$ find

(i) $51^2 - 49^2$

(b) Represent $\frac{-2}{11}, \frac{-5}{11}, \frac{-9}{11}$ on the number line.

SECTION – D (Attempt any five questions)

4x5 =20

Q18. Solve: $\frac{x+1}{2x+3} = \frac{3}{8}$

Q19. Find the cube root of 512 by prime factorization method.

Q20. Plot the following point on a graph sheet, verify if they lie on a line

W(2,6), X(3,5), Y(5,3), Z(6,2)

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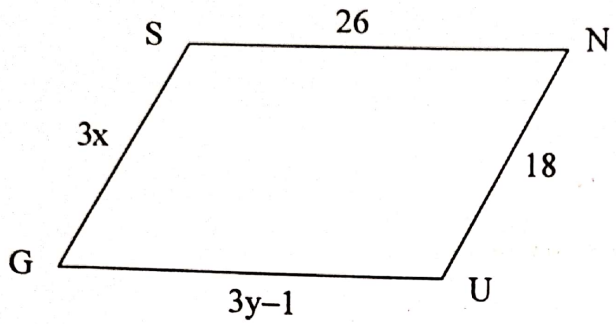
Q21. A shopkeeper buys 80 articles for Rs. 2400/- and sells them for a profit of 16%. Find the SP of one article.

Q22. The following figure GUNS is a parallelogram. Find x and y.



Q23. When a die is thrown, find the probability of getting –

a) A prime number

b) Not a prime number

c) A number greater than 5

SECTION - E (Attempt any five questions) **5x5=25**

Q24. Construct a parallelogram 'MORE' when OR = 6 cm,

RE = 4.5 cm, EO = 7.5 cm.

OR

Construct a quadrilateral LIFT when LI = 4cm, IF = 3cm, TL = 2.5 cm, LF = 4.5 cm and IT = 4cm.

Q25. The table shows the colours preferred by a group of people.

COLOURS	NUMBERS OF PEOPLE
Blue	18
Green	9
Red	6
Yellow	3
Total	36

Draw a pie chart of given data.

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Q26. Calculate the amount and compound interest on Rs. 18000 for 2 years at 10% per annum compounded annually.

Q27. a) Factorise the expression and divide them as direct –

$(y^2+7y+10)\div(y+5)$

b) Multiply $\frac{6}{13}$ by the reciprocal of $\frac{-7}{16}$

Q28. The following table gives the quantity of petrol and its cost.

No. of litres	10	15	20	25
Cost of petrol in Rs	500	750	1000	1250

Q29. The cost of an article was Rs. 15,500. Rs. 450 was spent on its repairs. If it is sold for a profit of 15%, find the selling price of the article.

Best of Luck

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