

Paper: MathematicsTotal Marks: 48Month Test: May

Obt. Marks: \_\_\_\_\_

Theme/Unit 1, 2, 3Grand Total: 100

Objective/Subjective:

ID: \_\_\_\_\_

Time: \_\_\_\_\_

Name: \_\_\_\_\_

class: 8th

Section: \_\_\_\_\_



Q#1: Circle the correct option

1.5\*32=48

1. A collection of well-defined distinct objects or symbols.

- a) Set                      b) Subset                      c) Power set                      d) Improper set

2. If  $A = \{a, b\}$  then all its subset are,

- a)  $\phi, \{a\}, \{a, b\}$                       b)  $\phi, \{a\}, \{a, b\}$                       c)  $\phi, \{a\}, \{b\}, \{a, b\}$                       d)  $\{a\}, \{b\}, \{a, b\}$

3. The subset of  $\phi$  is,

- a) 0                      b) 1                      c) 2                      d) 3

4. Who formulated De Morgan's law?

- a) August De Morgan                      b) Newton                      c) John Venn                      d) Thomas

5. In Venn diagram, A universal set is represented in form of:

- a) Rectangle                      b) Square                      c) Circle                      d) Oval

6.  $A \cup (B \cap C) = (A \cup B) \cap C$  is

- a) Associative law of union                      c) Associative law of intersection  
b) Commutative law of union                      d) Commutative law of intersection

7. A set consist of all subsets of set X is called:

- a) Subset                      b) Universal set                      c) Power set                      d) Super set

8. For any two sets A and B,  $A - B^c$  is equal to,

- a)  $A \cap B^c$                       b)  $A^c \cap B$                       c)  $A \cap B$                       d)  $A \cup B$

9. If  $\phi$  is an empty set then  $(\phi^c)^c$  is equal to,

- a) X                      b) O                      c)  $\phi$                       d)  $\{0\}$

10. Which of the following is not set?

- a)  $\{1, 2, 3\}$                       b)  $\{a, b, c\}$                       c)  $\{2, 3, 4\}$                       d)  $\{1, 2, 3, 4\}$

11. The tabular form of set  $C = \{x/x \in N \wedge 8 \leq x \leq 18\}$  is

- a)  $\{8, 9, 10, \dots, 18\}$                       c)  $\{9, 10, 11, \dots, 17\}$   
b)  $\{1, 2, 3, \dots, 18\}$                       d)  $\{10, 11, 12, 13\}$

12. The number which cannot be written in the form of  $\frac{p}{q}$  where  $p, q \in Z$  and  $q \neq 0$  are called

- a) Irrational numbers                      b) Rational numbers                      c) Natural numbers                      d) Real numbers

13. We define the set of real number as:

- a)  $Q \cup Q' = R$                       b)  $Q \cup Q' = N$                       c)  $Q \cap Q' = \phi$                       d)  $Q \cap Q' = R$

14. Which of the following is irrational number?

- a)  $\sqrt{2}$                       b) 2                      c)  $\frac{3}{2}$                       d)  $\sqrt{1}$

15.  $1+2+3+2+1$  is summation pattern of square number.

- a)  $2^2$                       b)  $3^2$                       c)  $4^2$                       d)  $5^2$

16. The square root of 225 is

- a) 5                      b) 15                      c) 25                      d) 30

17. The square root of 1.21 is

- a) 1.1                      b) 1.2                      c) 0.1                      d) 11
18. The cube root of 125 is  
a) 5                      b) 10                      c) 25                      d) 35
19. Which of the following is not true about  $\sqrt{81}$  ?  
a) Natural number      b) Whole number      c) Rational number      d) Irrational number
20.  $\sqrt{\frac{a}{b}} = ?$   
a)  $\frac{a}{b}$                       b)  $ab$                       c)  $\sqrt{\frac{b}{a}}$                       d)  $\frac{\sqrt{a}}{\sqrt{b}}$
21. If the side length of a square is 0.5m then its area is  
a)  $0.50m^2$                       b)  $2.5m^2$                       c)  $25m^2$                       d)  $0.25m^2$
22.  $\sqrt{1^2 \times 4^2} = ?$   
a) 4                      b) 14                      c) 41                      d) 2
23. The number of digits involved in a number system is called,  
a) Base of number system                      c) Exponent of number system  
b) Index of number system                      d) None
24. Only 0, 1, 2, 3 and 4 are used in  
a) Binary system                      c) Decimal system  
b) Octal system                      d) System with base 5
25.  $(100)_2$ , in decimal system is written as  
a) 2                      b) 4                      c) 7                      d) 10
26.  $(11)_2 + (10)_2 = ?$   
a)  $(22)_5$                       b)  $(110)_2$                       c)  $(101)_2$                       d)  $(111)_2$
27. 17 into system with base 5 is  
a)  $(32)_5$                       b)  $(23)_5$                       c)  $(31)_5$                       d)  $(21)_5$
28. The equality of two ratios is called \_\_\_\_\_.  
a) ratio                      b) proportion                      c) equality                      d) All
29. Which is the symbol of proportion?  
a) :                      b) ::                      c) /                      d) &
30. If the price of 12 eggs is Rs.96, how many eggs can be bought with Rs.80?  
a) 5 eggs                      b) 10 eggs                      c) 12 eggs                      d) 15 eggs
31. What is the share of widow in this husband property?  
a)  $\frac{1}{8}$                       b)  $\frac{1}{4}$                       c)  $\frac{1}{2}$                       d) 1
32. The decimal number system has base

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- a) 10                      b) 5                      c) 2                      d) 8

Q#1: (a) Write the power set of {a, b, c}.

(2)



(b) Show that if  $A=\{0\}$ ,  $B=\{0,1\}$  and  $C=\{\}$  then prove that  $A \cup (B \cup C) = (A \cup B) \cap (A \cup C)$ . (4)

(c) Verify commutative law of union through Venn diagram. (6)

$A=\{3, 5, 7, 9, 11, 13\}$ ,  $B=\{5, 9, 13, 17, 21, 25\}$

Q#2: (a) Convert the rational number into decimal fraction  $\frac{8}{9}$ . Also describes it is repeating or non-repeating. (3)

(b) Write summation pattern of the number  $8^2$ .

(2)

(c) Find square root by prime factorization of 7744.

(5)

Q#3: (a) Find the square root by division method of 20.5209.

(6)

(b) The area of circular region is 616 sq. decimeter. Find its radius. ( $\pi = \frac{22}{7}$ ) (4)

Q#4: (a) Find cube of 0.4 (2)

(b) Convert into decimal system  $(1101110)_2$ . (3)

(c) Solve  $635 - \{(2244)_5 - (1243)_5 - (110111)_2\}$ . (5)