**DHACSS SKBZ EXAMINATION**

**MID- TERM EXAMINATION 2021**

**MATHEMATICS**

**CLASS VIl**

Max marks100

Time: 3 Hours

**NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Roll No:\_\_\_\_\_\_ Sec: \_\_\_\_ Invigilator Sign: \_\_\_\_\_\_\_**

**Section A (OBJECTIVE) (40 Marks)**

**Q1. Fill in the blanks. ( 1 x 10 = 10 )**

1. In 3xy + 2, \_\_\_\_\_\_\_\_\_\_ is constant.
2. A non terminating decimal, in which “single digit” or “block of digits” is repeated infinite times is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_ decimals.
3. ao = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
4. 5a + 8a = \_\_\_\_\_\_\_\_\_\_.
5. (4a)(2a) = \_\_\_\_\_\_\_\_\_\_.
6. (-a)n is negative if n is \_\_\_\_\_\_\_\_\_\_\_.
7. 9d-4d= \_\_\_\_\_\_\_\_\_\_\_\_\_.
8. {1,2,3,4,5,……} is a set of \_\_\_\_\_\_\_\_\_\_\_ numbers.
9. In 4y+9, \_\_\_\_\_\_\_\_\_\_\_ is variable.
10. Tabular form of {x/x ∈ E ^ 4≤ x≤ 10} is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**b) Select the correct answer ( 1 x 10 = 10)**

i. Two sets are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ sets if they have no common elements.

a) Disjoint b) Union c) Overlapping d) Intersecting

ii. Convert 34 into exponential form is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. 81 b) 12 c) 32 d) 7

iii. (-7)6 is \_\_\_\_\_\_\_\_\_\_\_ integer.

1. positive b) negative c) neutral d) none

iv. am x an = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. am-n b) am+n c) amxn d) am/n

v. A fraction will be terminating if the denominator has \_\_\_\_\_\_\_\_\_\_\_ or both factors

a) 3,5 b) 3,2 c) 2,3 d) 2,5

vi. Union is denoted by \_\_\_\_\_\_\_\_\_\_\_\_.

1. U b) ∩ c) = d) ∈

vii. An expression having one term is called \_\_\_\_\_\_\_\_\_\_\_\_.

1. Monomial b) binomial c) trinomial d) None.

viii. + − = \_\_\_\_\_\_\_\_\_\_

1. + b)− c)x d) None

ix. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ are represented by symbols or letters.

1. Coefficients b) Constants c) Variables d) all

x. B´= \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

a) B – U b) U – b c) d) B – B

**c) True / False (1 x 5 = 5)**

1. {1,2,3} and {4,5} are disjoint sets.
2. is a terminating decimal.
3. Quotient means multiplication.
4. 2x + 4 – 2 is binomial.
5. an x bn = (ab)n

**d) Match the following sets in column A correctly with column B in set – builder form. (1 x 5 = 5)**

|  |  |  |  |
| --- | --- | --- | --- |
| **S.No** | **Column A** |  | **Column B** |
| 1 | Set of first five positive even numbers. | **A** | {*x* / *x* 0, 1 <*x*< 9} |
| 2 | {1,3,5,7,9} | **B** | {*x* / *x* N} |
| 3 | Set of first ten whole numbers. | **C** | { *x* / *x* E ^ 2 <*x*< 10} |
| 4 | {-2, -1, 0, 1, 2} | **D** | {*x* / *x* W ^ 0 <*x*< 9} |
| 5 | Set of all natural numbers | **E** | { *x* / *x* Z ^ -2 *<x*< 2} |

1 \_\_\_\_\_\_\_\_\_\_, 2 \_\_\_\_\_\_\_\_\_\_, 3 \_\_\_\_\_\_\_\_\_\_\_, 4 \_\_\_\_\_\_\_\_\_\_\_, 5 \_\_\_\_\_\_\_\_\_\_

**e) Quick Solution. (2x5 = 10)**

i) Identify base and exponents.

1. 53
2. 29

ii) Expand and find the value of 23 x 34

iii) If A = {1,3,5,7,9,11} and B ={1,3,5,7,11} then find A-B and B-A.

iv) Solve y5 x a11 x y6

v) Add

1. 9ab,-7ab
2. -12*x*, -2*x*

**SECTION B**

**Attempt 10 questions out of 15 questions. (4 x 10 = 40)**

1. Write into descriptive form.
2. W = { 0,1,2,3,4,5} b) 0={1,3,5,7}
3. Convert into decimal form and Identify terminating and non-terminating.
4. b)
5. Show that:
6. (-3)3 = 27
7. Without actual division, separate terminating and non terminating decimals.
8. Find (AUB)UC if A={a,b,c,d}, B={d,e,f} and C={f,g,h}
9. Simplify using quotient law. a)
10. Convert the following into rational number. a) 4.065 b) 5.625
11. What should be added to 2x + 5y to get 6x + 8y?
12. Find the product. a) 9a, 6a b) a+b, 9
13. Convert into negative exponents. a)
14. Find the sum of 4a+6b+5c, 7a+5b+5c, 3a+7b+7c
15. Identify disjoint or overlapping sets.
16. F={2,3} and A={1,4,6,8} c) A={a,b,d,f} and B={1,2,3}
17. E = { 10,20,30} and B={4,8,12,..} d) W={0,1,2,3} and N= {1,2,3}
18. Convert into decimal and identify which is recurring and which is not.
19. b)
20. Simplify using power law.
22. Subtract second expression from the first expression.

3

**SECTION C**

**Attempt any two questions (2 x 10 = 20)**

Q1. a) Simplify /6

1. 6 x [2x (3x2 – 4) – (6x2 + 8y)]
2. 5a-2a(3+4b)

b) Find the product: /4

Q2. a) If then find /5

b) Verify that: /5

Q3. a) Roundoff the given numbers. /6

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S/No.** | **Number** | **Upto 2 decimal places** | **Upto 3 decimal places** | **Upto 4 decimal places** |
| 1 | 2.421875 |  |  |  |
| 2 | 0.9916667 |  |  |  |

b): Simplify using quotient law: /4