शिक्षा ऐन, २०२८, (संधोधनसहित) को दफा ११(च) को उपदफा (१) को खण्ड (ख) को प्रतिबन्धात्मक वाक्यांशको १, २ र ३ बमोजिम आधारभूत तह (साविक निम्न माध्यमिक तह कक्षा ६-८) मा कार्यरत अस्थायी शिक्षकहरुले मात्र प्रतिस्पर्धा गर्न पाउने प्रतियोगितात्मक लिखित परीक्षाको पाठ्यक्रम

लिखित परीक्षा योजना

यस पाठ्यक्रमलाई दुई भागमा बाँडिएको छ ।

१ .लिखित परीक्षा - पूर्णाङ्क १००   उत्तीर्णाङ्क : ४०

२ .अन्तर्वार्ता - पूर्णाङ्क २५

लिखित परीक्षा

समय : ३ घण्टा

खण्ड	विषय	परीक्षा प्रणाली	अङ्क भार	प्रश्न सङ्ख्या	समय
क	शिक्षासम्बन्धी : आधारभूत ज्ञान, पाठ्यक्रम तथा शिक्षण विधि र प्रविधि	वस्तुगत/ बहुवैकल्पिक	४०	४० X १	४५ मिनेट
ख	सम्बन्धित विषयवस्तुको ज्ञान	विषयगत	६०	६ X १०	२ घण्टा १५ मिनेट
जम्मा			१००	४६	

द्रष्टव्य :

१. खण्ड क र ख का उत्तरपुस्तिहरु अलग अलग हुनेछन् ।

२. वस्तुगत र विषयगत परीक्षा एकैपटक सञ्चालन हुने छ ।

३. लिखित परीक्षाको माध्यम अङ्ग्रेजी वा नेपाली वा दुबै भाषा हुनेछ । भाषा विषयहरूका हकमा सम्बन्धित भाषामा नै उत्तर दिनुपर्नेछ ।

४. यो पाठ्यक्रम मिति २०७३/१२/०२ गतेदेखि लागु हुनेछ ।

५. खण्ड क बमोजिमको वस्तुगत प्रश्न सबै विषयका लागि एउटै हुनेछ ।

शिक्षा ऐन, २०२८, (संधोधनसहित) को दफा ११(च) को उपदफा (१) को खण्ड (ख) को प्रतिबन्धात्मक वाक्यांशको १, २ र ३ बमोजिम आधारभूत तह (साविक निम्न माध्यमिक तह कक्षा ६-८) मा कार्यरत अस्थायी शिक्षकहरुले मात्र प्रतिस्पर्धा गर्न पाउने प्रतियोगितात्मक लिखित परीक्षाको पाठ्यक्रम

आधारभूत तह (साविक निम्न माध्यमिक तह कक्षा ६-८)

विषय : गणित

Section B: Content knowledge of the Subject Matter   60 Marks

1: Basics of Numbers, its extension and Logics

    1.1 Numbers and Numerals, Different Numeration Systems.

    1.2. Set and set operations(including theorems' proofs)

    1.3. Mathematical Logics (∨, ∧, -, truth table, basic laws) and writing mathematical language

    1.4 Counting System: Combination and Permutation

    1.5 Real Number System and Algebra of complex numbers

    1.6 Sequence and Series

    1.7 Sum of finite natural numbers (n, n2, n3)

    1.8 Principle of mathematical induction and its applications

2: Basic Algebra and Its extension

    2.1. Transition from arithmetic to algebra

    2.2. Relations, Equivalence relations, Binary Operation and Group Structure

    2.3 Function, Graphs and Curve Tracing

    2.4 Polynomials and Rational Function (Relation between roots and coefficients)

    2.5 Exponential and Logarithmic Function

    2.6 Matrix (its inverse) and Determinants (its Properties)

    2.7 System of Linear (Cramer's rule) and Quadratic Equations

    2.8 System of inequalities and LPP solutions

    2.9 Binomial expansions

3: Fundamental Trigonometry and Extension

    3.1 Trigonometric function and Unit Circle

    3.2 Radian and Degree Measure(circular measure)

    3.3 Solution of trigonometric equations

    3.4 Inverse Trigonometric function

    3.5 Properties of Triangles

    3.6 Sum, difference, multiple angles and product-sum formulae of trigonometric ratios

    3.7 DeMoivre's theorem, nth roots and Euler's formula

4: Euclidiean and Analytic Geometry

    4.1 Fundamentals of Euclidean Geometry: History and development, fundamental properties of Euclidean geometry and axiomatic system

    4.2 Selected theorems on parallel lines, triangles, quadrilaterals and circles.

    4.3 Construction of triangle and quadrilateral

4.4 Area and volume of plane and solid figure

4.5 Analytic Geometry: History and development

4.6. Distance formula, Equation of st. lines, Pairs of straight lines (Perpendicular and bisectors)

4.7 Definitions and graphical representation of conic sections

4.8 Circles and related theorems and problems

4.9 General concept of Parabola, Ellipse and Hyperbola related

5: Descriptive Statistics and Probability

5.1 Data generation(discrete and continuous data) and display of data.

   (Frequency Distribution and Graphical Representation)

5.2 Cumulative frequency distribution (discrete and continuous data)

5.3 Measure of Central tendency (AM, GM, HM)

5.4 Measure of Dispersion (Range, MD, SD, Skewness, Kurtosis)

5.5 Measure of correlation (Pearson, Spearman) and Regression Line

5.6 Simple probability, exclusive and independent events, tree diagram

5.6 Compound probabilities

5.7 Binomial probability distribution and its properties

6: Differential and Integral Calculus

6.1 Limit and continuity of functions and related problems

6.2 Derivatives of functions and related problems

6.3 Relation between derivatives and integration

6.4 Integration of given function and related problems

6.5 Application of derivatives and integration

7: Vector and Its Application

7.1 Definition and representation of Vectors and different types of vectors

7.2 Operation on vectors: addition, subtraction, and vector product(Scalar and Vector Product) with geometrical representations

7.3 Vector Geometry (Line, triangles, quadrilaterals)

7.4 Application of vectors (in Geometry, Trigonometry)

-