

Mathematics

Candidates are required to give their answers in their own words as far as practicable. The figures in the margin indicate full marks.

Time: 3 hrs.

Full Marks: 100

Pass Marks: 35 (For partial students only)

Attempt all questions.

Group 'A'

5 × 3 × 2 = 30

1. a. Find the truth value of the biconditional statement of p and q where p represents '2 is an even number' and q represents '4 is an even number'.
b. If $f: \mathbb{R} \rightarrow \mathbb{R}$ be defined by $f(x) = 2x - 3$, find f^{-1}
c. Test the even or odd nature and symmetricity of the function $y = 8x^2$
2. a. Express $\tan^{-1}x$ in terms of inverse of sin function.
b. Prove by mathematical induction: $1 + 3 + 5 + \dots + (2n - 1) = n^2$
c. Find the adjoint of the matrix $\begin{pmatrix} 2 & 5 \\ 3 & -7 \end{pmatrix}$
3. a. Using Cramer's rule, solve: $3x + 2y + 9 = 0$, $2x - 3y + 6 = 0$
b. Express $\sqrt{3} + i$ in polar form.
c. If one root of the equation $ax^2 + bx + c = 0$ be twice the other, show that $2b^2 = 9ac$
4. a. Find the equation of the straight line that has y -intercept '2' and is parallel to $4x - 8y + 3 = 0$
b. Find the equation of the circle which passes through origin and makes equal intercepts on both axes.
c. Evaluate: $\lim_{x \rightarrow 0} \frac{1 - \cos nx}{1 - \cos mx}$

Contd...

Grade 11 Question Paper For 2013

Xiaolong Qi



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Enjoying the Tune of Term: An Mental Symphony within **Grade 11 Question Paper For 2013**

In some sort of consumed by monitors and the ceaseless chatter of instantaneous connection, the melodic elegance and psychological symphony produced by the written word usually fade in to the back ground, eclipsed by the persistent sound and disruptions that permeate our lives. However, set within the pages of **Grade 11 Question Paper For 2013** a charming fictional treasure filled with raw emotions, lies an immersive symphony waiting to be embraced. Crafted by a wonderful musician of language, that interesting masterpiece conducts readers on an emotional trip, well unraveling the hidden melodies and profound influence resonating within each carefully crafted phrase. Within the depths of this poignant review, we shall discover the book is key harmonies, analyze their enthralling publishing model, and surrender ourselves to the profound resonance that echoes in the depths of readers souls.

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