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#### ALL INDIA INTERACTIVE MATHEMAN MARKEN MARKE

Starts 15<sup>th</sup> June, 2025

# 8 Tests | 4 Sectionwise + 4 Full Length



#### **ALL INDIA TEST SERIES**

Is the specialty of Vision IAS. Every year thousands of students utilize Vision IAS Test Series, based on **INNOVATIVE ASSESSMENT SYSTEM™** to improve their scores. We take the Test Series with utmost seriousness.



Our simple, practical and focused approach will help aspirants understand the demand of UPSC exam effectively. Our strategy is to constantly innovate to keep the preparation process dynamic and give personalized attention to individual aspirants based on factors like core competence, availability of time and resource, and the requirement of Civil Service Exam. Our Interactive Learning approach (Email / Telephonic Discussion of Experts with Aspirants) will continuously improve the aspirant's performance and move their preparation in the right direction.

#### FLEXIBILITY:



We also give our students the flexibility of personalized scheduling. They can reschedule their tests, based on their study plan for the examination. Further, students can either come to one of our centers to write the tests or can do so at a place of their convenience, and upload the scanned copies of their answer sheets for evaluation.

Number of Mock Tests:	Module No.	Fee Structure (including all taxes)
8	3081	Rs. 11000
Nature:	aspirants. (POSTPONE, BUT N	: Reschedule on the demand of the IOT PREPONE) material from Vision IAS Online

#### WHAT YOU WILL GET:

Login id & Password for **Consolidated Question Evaluated Answer Booklet** performance analysis of Paper-cum-Answer by experts with proper aspirants (Innovative booklet (8 Mock Tests: feedback, comments & Assessment System). PDF Files). guidance. Analysis of Mock Test Answer format papers based on Supplementary (Synopsis) of Mock Test difficulty level & nature of paper. material. questions.

#### **CONCESSION DETAILS:**

VisionIAS Student: 25% UPSC Interview Student: 40%

#### INNOVATIVE ASSESSMENT SYSTEM: 🔀

Static & dynamic Potential of Mock test papers (Scoring Potential), Macro & Micro performance Analysis of aspirants, Section wise analysis, Difficulty Analysis, All India Rank, comparison with toppers, Geographical Analysis, Integrated Score Card, Analysis of Mock Test papers based on difficulty level & nature of questions etc.



- > Online/distance learning students can download Question cum answer booklet and approach-answer-analysis of mock test papers from Vision IAS online Platform.
- Question cum answer booklet, approach answer analysis of mock test papers will NOT be dispatched.
- > Supplementary material/Reference material/Support material will be provided in PDF format only and will not be dispatched.
- Information related test discussions will be notified on the home page of student's online platform.

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- The student needs to provide UPSC roll no. and other details to registration@ visionias.in
- > We have **no facility** of **fee payment in cash**.

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- > Vision IAS test centers will be CLOSED on THURSDAYS for test writing.

### **SCHEDULE, CONTENT & REFERENCE**

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TEST No. (Test	Date	Topics covered	<b>Sources/References</b> (Selected Chapter by Expert)
Test 1 [3495]	JUNE 15, 2025	<ul> <li>(1) Linear Algebra: Vector spaces over R and C, linear dependence and independence, subspaces, bases, dimensions, Linear transformations, rank and nullity, matrix of a linear transformation. Algebra of Matrices; Row and column reduction, Echelon form, congruence's and similarity; Rank of a matrix; Inverse of a matrix; Solution of system of linear equations; Eigenvalues and eigenvectors, characteristic polynomial, Cayley-Hamilton theorem, Symmetric, skew-symmetric, Hermitian, skew- Hermitian, orthogonal and unitary matrices and their eigenvalues.</li> <li>(2) Calculus: Real numbers, functions of a real variable, limits, continuity, differentiability, meanvalue theorem, Taylor's theorem with remainders, indeterminate forms, maxima and minima, asymptotes; Curve tracing; Functions of two or three variables; Limits, continuity, partial derivatives, maxima and minima, Lagrange's method of multipliers, Jacobian.</li> <li>Riemann's definition of definite integrals; (evaluation techniques only); Areas, surface and volumes.</li> <li>(3) Analytic Geometry: Cartesian and polar coordinates in three dimensions, second degree equations in three variables, reduction to Canonical forms; straight lines, shortest distance between two skew lines, Plane, sphere, cone, cylinder, paraboloid, ellipsoid, hyperboloid of one and two sheets and their properties.</li> </ul>	<ul> <li>(1) Linear Algebra:</li> <li>Krishna series on Matrices</li> <li>Schaum Series by Seymour Lipschutz</li> <li>(2) Calculus: <ul> <li>Krishna Series on Differential calculus</li> <li>Krishna Series on Integral calculus</li> <li>Mathematical Analysis by S C Malik and Savita Arora</li> <li>Elements of Real Analysis by Shanti Narayan and M D Raisinghania</li> </ul> </li> <li>(3) Analytic Geometry: <ul> <li>Krishna Series on Analytical Geometry</li> <li>Krishna Series on Analytical Solid Geometry</li> <li>Analytic Geometry by PN Chatterjee.</li> </ul> </li> </ul>
Test 2 [3496]	JUNE 22, 2025	<ul> <li>(4) Ordinary Differential Equations:</li> <li>Formulation of differential equations; Equations of first order and first degree, integrating factor; Orthogonal trajectory; Equations of first order but not of first degree, Clairaut's equation, singular solution.</li> <li>Second and higher order liner equations with constant coefficients, complementary</li> </ul>	<ul> <li>Differential Equations by M</li> <li>D Raisinghania</li> <li>Advanced Differential</li> <li>Equations by MD</li> </ul>

		function, particular integral and general solution. Section order linear equations with variable coefficients, Euler- Cauchy equation; Determination of complete solution when one solution is known using method of variation of parameters. Laplace and Inverse Laplace transforms and their properties, Laplace transforms of elementary functions. Application to initial value problems for 2nd order linear equations with constant coefficients. <b>(5) Dynamics and Statics:</b> Rectilinear motion, simple harmonic motion, motion in a plane, projectiles; Constrained motion; Work and energy, conservation of energy; Kepler's laws, orbits under central forces. Equilibrium of a system of particles; Work and potential energy, friction, Common catenary; Principle of virtual work; Stability of equilibrium, equilibrium of forces in three dimensions. <b>(6) Vector Analysis:</b> Scalar and vector fields, differentiation of vector field of a scalar variable; Gradient, divergence and curl in cartesian and cylindrical coordinates; Higher order derivatives; Vector identities and vector equation. Application to geometry: Curves in space, curvature and torsion; Serret- Frenet's formulae. Gauss and Stokes' theorems, Green's identities.	<ul> <li>(5) Dynamics and Statics :</li> <li>) Krishna Series on Statics</li> <li>) Krishna Series on Dynamics</li> <li>(6) Vector Analysis :</li> <li>) Krishna Series on Vector Calculus</li> <li>) Schaum's outline on Vector Analysis</li> </ul>
Test 3 [3497]	JUNE 29, 2025	<ul> <li>(1) Algebra : Groups, subgroups, cyclic groups, cosets, Lagrange's Theorem, normal subgroups, quotient groups, homomorphism of groups, basic isomorphism theorems, permutation groups, Cayley's theorem.</li> <li>Rings, subrings and ideals, homomorphisms of rings; Integral domains, principal ideal domains, Euclidean domains and unique factorization domains; Fields, quotient fields.</li> <li>(2) Real Analysis : Real number system as an ordered field with least upper bound property; Sequences, limit of a sequence, Cauchy sequence, completeness of real line; Series and its convergence of series of real and complex terms, rearrangement of series. Continuity and uniform continuity of functions, properties of continuous functions on compact sets.</li> </ul>	<ul> <li>(1) Algebra :</li> <li>Abstract Algebra, Group Theory by R Kumar</li> <li>Abstract Algebra, Ring Theory by R Kumar</li> <li>Contemporary Abstract Algebra by Joseph Gallian</li> <li>(2) Real Analysis :</li> <li>Mathematical Analysis by S C Malik and Savita Arora</li> <li>Elements of Real Analysis by Shanti Narayan and M D Raisinghania</li> <li>(3) Complex Analysis :</li> <li>Krishna Series</li> </ul>

Fundam calculus Uniform different sequence Partial several maxima (3) Compl Analytic equatior Cauchy' series, re	convergence, continuity, iability and integrability for ses and series of functions; derivatives of functions of (two or three) variables, and minima. <b>ex Analysis:</b> function, Cauchy-Riemann ns, Cauchy's theorem, s integral formula, power epresentation of an analytic	
Test 4 [3498]JULY 6, 2025(4) Linear I Linear p solution, optimal and sin Duality. Transpool problem(5) Partial Family o and for equation partial the firs of chat different order or canonical string, he and theil(6) Numeric algebrai equation Regula-I methods equation formula. and Ga Seidel (if (forward) and Run Comput system; operatio	, Taylor's series; Singularities; s series; Cauchy's residue ; Contour integration. Programming problems, basic basic feasible solution and solution; Graphical method nplex method of solutions; rtation and assignment s. Differential Equations: f surfaces in three dimensions nulation of partial differential ns; Solution of quasilinear differential equations of t order, Cauchy's method racteristics; Linear partial ial equations of the second with constant coefficients, al form; Equation of a vibrating eat equation, Laplace equation r solutions. fall methods: Solution of c and transcendental ns of one variable by bisection, Falsi and Newton-Raphson s, solution of system of linear ns by Gaussian Elimination uss-Jorden (direct), Gauss- iterative) methods. Newton's and backward) and ation, Lagrange's interpolation. alintegration:Trapezoidal rule, r's rule, Gaussian quadrature Numerical solution of differential equations : Euler ge Kutta methods. er Programming : Binary Arithmetic and logical ns on numbers; Octal and simal Systems; Conversion to n decimal Systems; Algebra of	<ul> <li>(4) Linear Programming: <ul> <li>Linear Programming and Game Theory by Lakshmishree Bandopadhyay</li> <li>Krishna Series</li> </ul> </li> <li>(5) Partial Differential Equations: <ul> <li>Ordinary and Partial Differential Equations by M D Raisinghania</li> <li>Advanced Differential Equations by M D Raisinghania</li> <li>Engineering Maths by Grewal</li> </ul> </li> <li>(6) Numerical Analysis and Computer Programming: <ul> <li>Computer Based Numerical And Statistical Techniques by M.Goyal</li> <li>Numerical Methods by Iyengar and Jain</li> <li>Digital Logic And Computer Design by M. Morris Mano</li> </ul> </li> <li>(7) Mechanics and Fluid Dynamics : <ul> <li>Krishna Series</li> <li>Fluid Dynamics by MD Raisinghania</li> </ul> </li> </ul>

Test 5 [3499] Test 6 [3500]	JULY 13, 2025 JULY 20, 2025	Generalised coordinates; D'Alembert's principle and Lagrange's equations; Hamilton equations; Moment of inertia; Motion of rigid bodies in two dimensions. Equation of continuity; Euler's equation of motion for inviscid flow; Stream- lines, path of a particle; Potential flow; Two-dimensional and axisymmetric motion; Sources and sinks, vortex motion; Navier-Stokes equation for a viscous fluid. Complete syllabus of Mathematics Pape	
[2500]	20, 2025		er in (i un tengtit test)
[3500]			
Test 7 [3501]	JULY 26, 2025	Complete syllabus of Mathematics Pape	er I (Full Length Test)



Testing the understanding of the questions and concepts, finding and highlighting the weak and strong areas, testing the proficiency in calculation and recommending reading and practice areas.



The pattern of UPSC Mains exam is very dynamic and unpredictable. Therefore Mock Test papers should be designed based on latest pattern of UPSC.

#### **UPSC CRITERIA:**



### Criteria for assessment of candidate performance in the written IAS exam as per UPSC instruction:

"The main Examination is intended to assess the overall intellectual traits and depth of understanding of candidates rather than merely the range of their information and memory". **-Union Public Service Commission (UPSC)** 

#### METHODOLOGY: 🧕



#### **EVALUATION INDICATORS**

1. Accuracy of Answer

2. Adoption of appropriate and logical procedure

3. Mentioning of all the steps and theorems

- 4. Clear presentation
- MARKS

#### Score: Scale: 1- 5:



> Total Marks in the question has been given on proper consideration of weightage of every evaluation indicators based on nature of the questions and UPSC experience of the expert.

> The score of every indicator for any question will highlight candidate's competence performance (for understanding of the level of quality of the question and required action plans).

## BASIC UNDERSTANDING OF FOLLOWING DESIGNED COMPETENCIES:



#### Accuracy of Answer:

> To verify that the solution matches the desired answer at every key junction and highlight the mistakes which have resulted in deviations (if any).



#### Adoption of appropriate and logical

- > The process of reaching the desired answer also holds significant weight, thus it is important to approach the solution systematically.
- > The procedure also holds heavy importance in partial marking in case of mistakes or partially attempted problems.



#### Mentioning of all the steps and

> Mentioning the formulas that one uses before applying them. This lends credibility to the solution and also improves the overall readability of the answer.



> Using clear headings and sub-headings, boxing important formulae and pointers and presenting the solution in an uncluttered manner.

