

DEPARTMENT OF MATHEMATICS
SIKSHA BHAVANA (INSTITUTE OF SCIENCE)
VISVA-BHARATI, SANTINIKETAN

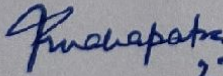
NOTIFICATION

M. Sc. ADMISSION TEST IN MATHEMATICS - 2022

Course Code: 310

This is to notify that an offline M.Sc. Admission Test in Mathematics has been scheduled to be held on 3 August 2022 (Wednesday) at 11.00 AM. The candidates are advised to note the following points carefully:

1. Date of the Admission Test: 03.08.2022 (Wednesday).
2. Time duration: 11.00 AM to 1.00 PM (duration of 2 hrs), Full marks-100.
3. Venue: Department of Mathematics, Siksha Bhavana, Visva-Bharati, Santiniketan.
4. Candidates should report in the Department at 9.30 AM positively and enter into the examination hall before 10.30 AM.
5. Candidates should carry with them (i) a copy of application form, (ii) original photo identity card (any one of Aadhar Card, Voter Card, Passport and Driving license) and (iii) a blue or black ball pen.
6. No electronic gadget (including Smart phone, Smart-watch, mobile phone) will be allowed in the Examination Hall.
7. There will be Twenty Five (25) Multiple Choice Questions, each carrying four (04) marks. For each wrong answer (including more than one tick mark), there will be a negative marking carrying a weightage of 1.0 (one mark).
8. Syllabus: As appended below.
9. Helpline number: 8617492188 (Time: 10 AM – 6 PM) (except Saturday & Sunday)
10. Helpline email: hod.math@visva-bharati.ac.in
11. All must have to follow the COVID-19 protocol as prescribed by the University / Govt. of West Bengal.
12. For any admission related updates visit <https://visvabharati.ac.in/admissions/index.php>


23-07-2022

(Prof. Dr. Tapas Ray Mahapatra)
Head, Department of Mathematics
Visva-Bharati, Santiniketan

विभागाध्यक्ष / Professor & Head
गणित विभाग / Dept. of Mathematics
विश्वभारती / Visva-Bharati
शान्तिनिकेतन-731235 / Santiniketan-731235

SYLLABUS FOR M.SC. ADMISSION TEST IN MATHEMATICS, 2022

DEPARTMENT OF MATHEMATICS
SIKSHA BHAVANA, VISVA-BHARATI (A CENTRAL UNIVERSITY)
SANTINIKETAN – 731235
WEST BENGAL, INDIA

ALGEBRA:

LINEAR ALGEBRA – MATRIX THEORY, VECTOR SPACE, LINEAR TRANSFORMATION, EIGEN VALUES AND EIGEN VECTORS.
ABSTRACT ALGEBRA – GROUP, RING, FIELD
NUMBER THEORY

ANALYSIS:

REAL ANALYSIS – RIEMANN INTEGRATION, UNIFORM CONVERGENCE OF SEQUENCES AND SERIES OF FUNCTIONS, POWER SERIES, IMPROPER INTEGRALS.
COMPLEX ANALYSIS – LIMIT, CONTINUITY, ANALYTIC FUNCTIONS, CAUCHY-RIEMANN EQUATIONS.
METRIC SPACE – CONCEPT OF METRIC SPACES-EXAMPLES, CONVERGENCE OF SEQUENCES IN A METRIC SPACE, OPEN SETS AND CLOSED SETS.

MECHANICS:

MOTION IN A PLANE (CARTESIAN AND POLAR), CENTRAL ORBIT, MOMENT OF INERTIA, MOTION OF A RIGID BODY ABOUT AN AXIS.

NUMERICAL ANALYSIS:

INTERPOLATION, INTEGRATION, SOLUTION OF ALGEBRAIC AND TRANSCENDENTAL EQUATIONS.

DIFFERENTIAL EQUATIONS:

FIRST AND SECOND-ORDER ORDINARY DIFFERENTIAL EQUATIONS, FIRST-ORDER PARTIAL DIFFERENTIAL EQUATIONS.

VECTOR ANALYSIS:

GRADIENT, DIVERGENCE AND CURL.

LINEAR PROGRAMMING PROBLEM:

FORMULATION AND SOLUTION OF LINEAR PROGRAMMING PROBLEMS, CHARACTERISTICS OF AN OPTIMAL SOLUTION.

PROBABILITY:

PROBABILITY DISTRIBUTIONS, MOMENT GENERATING FUNCTIONS AND CHARACTERISTIC FUNCTIONS.

Prakash
23.07.2022

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