

**Kerala University of Digital Sciences,
Innovation and Technology (Digital
University Kerala)
Admission Prospectus 2024-2025**

About the University

The Indian Institute of Information Technology and Management Kerala (IIITM-K), established in 2000 by the Kerala government, was a prestigious autonomous institution. It focused on specialized areas within digital technologies and related fields, including Artificial Intelligence, Machine Learning, Cybersecurity, Language Technologies, Geospatial and Data Analytics, Biocomputing, Agri-informatics, Internet of Things (IoT), Robotics, Digital Humanities, and more.

In a significant development, the Kerala government elevated IIITM-K to university status through Ordinance No. 9 of 2020, dated January 18, 2020. This transformation resulted in the creation of the Kerala University of Digital Sciences, Innovation, and Technology (KUDSIT). The Kerala University of Digital Sciences, Innovation and Technology Act, 2021 (ACT 10 of 2021) further solidified the university's establishment.

Vision

The vision of the University is to become a global destination of repute in Digital Education and Research and to become an academic leader by nurturing futuristic talents capable of developing innovative and sustainable solutions for the industry, Governments, and society at large.

Mission

The motto of the University is to 'Curate a Responsible Digital World.' The development and application of Digital Technologies for social good is the underlying mission of the University. Towards this, the University shall focus on four themes of action, namely Computing, Intelligence, Sustainability, and Entrepreneurship; the first two themes shall form the focus area of work, and the next two themes act as guiding light for the overall mission while designing programs, developing products and services as well as for providing training and extension activities. The University shall catalyze technical advances that promote the welfare of society.

Campuses

- Technocity Campus (Technopark Phase IV), Mangalapuram, Thiruvananthapuram, Kerala 695317
- IIITMK New Campus, Technopark Campus, Thiruvananthapuram, Kerala 695581

Schools

School of Computer Science & Engineering (SoCSE)

School of Digital Humanities and Liberal Arts (SoDiHLA)

School of Digital Sciences (SoDS)

School of Electronic Systems and Automation (SoESA)

School of Informatics (SoI)

Academic Programme

Degree	Programme/ Course offered	Eligibility for the programme	Offering School
M. Tech. (AICTE Approved)	Computer Science and Engineering	B.Tech or BE in CS/IT/ECE or related areas OR MCA OR M.Sc in CS/IT/Mathematics/Statistics/ Physics with aggregate 60% marks or above. Relaxation in marks to reserved candidates as per university norms.	SoCSE
MSc.	Computer Science with specialization in Cybersecurity	B.Tech or BE in any branch OR B.Sc with Mathematics as a core or complementary subject OR BA Mathematics OR BCA with aggregate 60% marks or above. Relaxation in marks to reserved candidates as per university norms.	SoCSE
MSc.	Computer Science with specialization in Machine Intelligence	B.Tech or BE in any branch OR B.Sc with Mathematics as a core or complementary subject OR BA Mathematics OR BCA with aggregate 60% marks or above. Relaxation in marks to reserved candidates as per university norms.	SoCSE
MSc.	Computer Science with specialization in Data Analytics	Any Science/Engineering/Mathematics graduate with Mathematics/Statistics as one of the core or complementary subjects with aggregate 60% marks or above. Relaxation in marks to reserved candidates as per university norms.	SoCSE
MSc.	Data Analytics & Bio-AI	Any Science/Engineering graduate, including BSc in Botany/Zoology/Biosciences/ Microbiology/Biotechnology, BTech in Biomedical Engineering/BioTechnology, MBBS,	SoDS

		with aggregate 60% marks or above. Relaxation in marks to reserved candidates as per university norms.	
MSc.	Data Analytics & Computational Science	Any Science/Engineering/Mathematics graduate with Mathematics/Statistics as one of the core or complementary subjects with aggregate 60% marks or above. Relaxation in marks to reserved candidates as per university norms.	SoDS
MSc.	Data Analytics & Geoinformatics	BSc in Geology/Geography/Computer Science/IT/Environmental Science/Agricultural Science OR BTech in Civil/Computer Engineering with aggregate 60% Marks or above. Relaxation in marks to reserved candidates as per university norms.	SoDS
M.Tech. (AICTE Approved)	Electronics Engineering	B.Tech or BE in EE/ECE/AEI/EI/Robotics/IoT or similar electronics hardware branches OR MSc Electronics/Instrumentation or equivalent with aggregate 60% marks or above. CS/CSE/IT or similar branches are not eligible. Relaxation in marks to reserved candidates as per university norms.	SoESA
M.Tech.	Electronic Product Design	Any B.Tech. or MSc degree or equivalent with aggregate 60% marks or above. Relaxation in marks to reserved candidates as per university norms.	SoESA
MSc.	Electronics	Any branch of B.Sc/B.Tech/BCA/MBBS with aggregate 60% marks or above. Relaxation in	SoESA

		marks to reserved candidates as per university norms.	
MSc.	Applied Physics	Any branch of B.Sc/B.Tech/BCA/MBBS with aggregate 60% marks or above. Relaxation in marks to reserved candidates as per university norms.	SoESA
MBA (AICTE Approved)	Business Administration	Bachelor degree in any field, with aggregate 60% marks or above. Relaxation in marks to reserved candidates as per university norms.	SoDiHLA
MBA for working profession als (AICTE Approved)	Business Administration	Bachelor degree in any field, with aggregate 60% marks or above. Minimum 2 years of work experience. Relaxation in marks to reserved candidates as per university norms.	SoDiHLA
MSc.	Ecology with specialization in Ecological Informatics	B.Sc. Degree in Botany/Zoology/Life Science /Chemistry /Physics /Mathematics /Statistics /Ecology /Environmental Science /Geography /Geology /Microbiology /Plant Science /Animal Science /Agriculture /Forestry /Horticulture / Biotechnology and allied areas OR B.Tech/BE in Civil, Mechanical, Chemical, Environmental, Agricultural Engineering and allied disciplines with aggregate 60% marks or above. Relaxation in marks to reserved candidates as per University norms.	SoI
MSc.	Informatics (Master's Program in Digital	Bachelor degree in any field, with aggregate 60% marks or above. Relaxation in marks to reserved candidates as per university norms.	SoI

	Leadership and Transformation)		
Post graduate diploma in MRI-TECH	Magnetic Resonance Imaging (MRI) Technology	Students who have completed the Bachelors degree, or currently in the final semester and completing all requirements for the degree by end of June 2024 in any branch of Engineering or Masters degree in Mathematics, Statistics, Physics, Computer/Data Science, Medical Imaging Technology or related fields from a UGC recognized University are eligible to apply. Minimum score of 60 percentage marks OR CPI/CGPA of 6.5 or above in 10 points in the qualifying degree is required.	SoI
PhD (Full time regular, Part time regular, Industry regular)	<p>For the General category candidates, a 2-year (or more) Master’s degree with 60% marks or an M.Phil degree with 60% coursework marks in a discipline relevant to the school in which the candidate is applying is required.</p> <p>SC/ST/OEC/OBC (non-creamy layer)/ Differently-Abled/ Economically weaker section candidates have the same criteria as the General category candidates, except that they need to have only 55% marks.</p> <p>The candidates who have appeared for the final examinations are also eligible to apply if their aggregate marks until then are equal to or above the minimum required marks. If admitted to the Ph.D. program, they have to meet the full eligibility criteria within a date specified by the University.</p> <p>Part-time and Industry Regular Ph.D applicants are additionally required to have a full-time job with at least 5 years of relevant full-time work experience, after their Bachelor’s degree. To apply to the Industry Regular Ph.D program, the applicant should be a full time employee of the industry at the time of application.</p>		All Schools and ICAR-CTCRI

Minimum Eligibility for postgraduate programme

Academic Performance:

- A minimum of 60% marks in your qualifying degree (e.g., Bachelor's degree) OR a CGPA of 6.5 or higher on a 10-point scale is required. There is no rounding up of marks.
- If your CGPA is below 6.5 but your university converts CGPA to a percentage equivalent that is above 60%, you may still be eligible. In this case, you must provide an official document or certificate from your university at the time of admission that outlines the conversion process used to determine your percentage equivalent.
- Applicants with scores below 60% in their qualifying degree are not eligible.

Relaxation for Reserved Categories:

- Candidates belonging to Scheduled Caste (SC), Scheduled Tribe (ST), and Persons with Disability (PwD) categories are eligible to apply if they have secured the minimum passing marks in their qualifying degree.
- Candidates belonging to the Other Backward Classes - Non-Creamy Layer (SEBC-NCL) category of Kerala state can avail 5% relaxation in the minimum marks requirement, provided they have passed the qualifying exam.

Final Year/Semester Students:

- Students who have appeared for (or are currently appearing for) their final year/semester exams can also apply, as long as they meet these two conditions:
 1. They are appearing for all final year/semester exams for the first time (no re-appearances).
 2. They have passed all previous exams prior to the final year/semester.

Verification of Documents:

- Selected candidates will be required to submit original documents like mark sheets, degree/provisional degree certificates, and migration certificates within a specific timeframe set by the university. Failure to submit these documents by the deadline may result in being asked to withdraw from the program.

Admission Process

M.Sc. and MBA:

Applicants for both Master of Science (M.Sc.) and Master of Business Administration (MBA) programs must take one of the following entrance exams:

- **Digital University Admission Test (DUAT-2024)** conducted by Digital University Kerala.
- **Central Universities Entrance Test (CUET(PG)-2024)** conducted by NTA for admission to various postgraduate programs.

M. Tech.:

Admission to M. Tech. programs may involve two options:

1. **National Level Exams:** Applicants can take either the **CUET(PG)-2024** exam or the **Graduate Aptitude Test in Engineering (GATE)** exam.
2. **School-Specific Admission Procedure:** MTech. programs at Digital University Kerala have school-specific admission procedures as well.

MBA (Alternative Option):

For MBA programs only, applicants with a valid score in one of the following national-level management entrance exams can also be considered for admission:

- CAT (Common Admission Test) conducted by IIMs
- GRE (Graduate Record Examinations)
- CMAT (Central Management Admission Test)
- KMAT (Kerala Management Aptitude Test)
- XAT (Xavier Aptitude Test)
- NMAT by GMAC (Graduate Management Admission Council) / GMAT

Applicants who qualify through these exams will be shortlisted for a group discussion followed by an interview.

Ph.D.:

A valid NET score is required for consideration. However, candidates who have not successfully cleared NET are encouraged to partake in the Digital University Research Aptitude Test (DRAT)-2024. The scheduling for DRAT will depend on the availability of PhD vacancies.

How to Apply Online

Application portal: <https://duk.ac.in/admission/apply/>

Step 1: Registration

- Provide your Name, Email Id, Mobile number, and the Program/Group you are applying for.
- An email containing login credentials will be sent to the provided email address.
- Use the credentials to log in and proceed to complete the application.

Step 2: Application Details

- Complete the online application, saving your progress after each step.

Step 3: Document Upload

- Candidates must have scanned copies of their photograph, signature, and necessary documents. (Photo of Signature, Photo and Scanned Copy of any ID Card are mandatory)
- Upload the scanned documents as part of the application process.

Step 4: Application Fee Payment

- The final step involves the payment of the application fee.
- Upon successful payment, the application will be automatically submitted, and a confirmation email with a copy of the application will be sent to you.

Important Notes:

- All information provided should be true and accurate.
- University decisions based on this data are provisional and subject to verification during the selection process.

- Failure to meet eligibility criteria or the discovery of false information at any stage may result in the cancellation of candidature and forfeiture of any offers made.
- Candidates who wish to apply to more than one program group, such candidates need to submit different applications for different groups of programs by creating separate accounts with same or different email addresses. For eg: MSc in Computer Science group includes MSc Computer Science with specialization in Cyber Security, MSc Computer Science with specialization in Machine Intelligence and MSc Computer Science with specialization in Data Analytics

Application Fee

Application Fee for PG programs through DUAT/GATE is Rs. 750/-. For SC/ST/Divyaang, it is Rs. 375/-

Application Fee for PG programs for CUET(PG) candidates is Rs. 100/- for general category and Rs. 50/- for SC/ST/Divyaang, it is

Application fee once remitted is not refundable under any circumstances.

Important Dates

DUK application portal opens for registration: 15th Jan, 2024

Last date to submit the application via CUET(PG)-2024: 15th May 2024

Last date to submit the application via DUAT-2024: 25th May 2024

DUAT Exam Phase 1: 8th June 2024

DRAT Exam: 8th June 2024

Test Paper Codes

Degree	Programme	CUET-PG Test Paper Code	DUAT Test Paper Code
M.Tech.	Computer Science and Engineering	MTQP04	NA
MSc.	Computer Science with specialization in Cybersecurity	SCQP09	DUAT02
MSc.	Computer Science with specialization in Machine Intelligence	SCQP09	DUAT02
MSc.	Computer Science with specialization in Data Analytics	SCQP09, SCQP27, SCQP19, SCQP24	DUAT02
MSc.	Data Analytics & Bio-AI	SCQP09, SCQP17	DUAT05
MSc.	Data Analytics & Computational Science	SCQP09, SCQP27, SCQP19, SCQP24	DUAT02
MSc.	Data Analytics & Geoinformatics	SCQP09, SCQP14, SCQP15, SCQP11, SCQP26, SCQP27	DUAT06
M.Tech.	Electronics Engineering	MTQP05, MTQP09	NA

M.Tech.	Electronic Product Design	MTQP05, MTQP08	NA
MSc.	Electronics	SCQP18, SCQP24	DUAT03
MSc.	Applied Physics	SCQP18, SCQP24	DUAT03
MBA	Business Administration	COQP12	DUAT01
MSc.	Ecology with specialization in Ecological Informatics	SCQP01, SCQP07, SCQP08, SCQP11, SCQP14, SCQP17, SCQP19, SCQP24, SCQP27, SCQP28	DUAT04
MSc.	Informatics (Master's Program in Digital Leadership and Transformation)	All test codes except Acharya	DUAT01

DUAT-2024 Syllabus

Test Code: DUAT01

Programme: MSc Informatics, Master of Business Administration

Question type	Syllabus
General Aptitude 20 Marks	<p>Verbal Aptitude-Basic English grammar: Tenses, articles, adjectives, prepositions, conjunctions, verb-noun agreement, and other parts of speech. Basic vocabulary: Words, idioms, and phrases in context. Narrative sequencing.</p> <p>Quantitative Aptitude-Data interpretation: Data graphs (bar graphs, pie charts, and other graphs representing data), 2- and 3-dimensional plots, maps, and tables. Numerical computation and estimation: Ratios, percentages, powers, exponents and logarithms, permutations and combinations, summations and series, Mensuration and Geometry</p> <p>Analytical Aptitude- Logic: Deduction and induction, analogy, numerical relations, and reasoning</p> <p>Spatial Aptitude-Transformation of shapes: Translation, rotation, scaling, mirroring, assembling, grouping, paper folding, cutting, and patterns in 2 and 3 dimensions.</p>
Mathematics 20 Marks	Probability, Statistics, Calculus, Discrete Mathematics, basic number theory, algebra
English Reading comprehension 20 Marks	Two paragraphs, each having 5-10 questions.

Test Code: DUAT02

Programme: MSc Computer Science with Data Analytics; MSc Data Analytics and Computational Science

Question type	Syllabus
General Aptitude 20 Marks	<p>Verbal Aptitude-Basic English grammar: Tenses, articles, adjectives, prepositions, conjunctions, verb-noun agreement, and other parts of speech. Basic vocabulary: Words, idioms, and phrases in context. Narrative sequencing.</p> <p>Quantitative Aptitude-Data interpretation: Data graphs (bar graphs, pie charts, and other graphs representing data), 2- and 3-dimensional plots, maps, and tables. Numerical computation and estimation: Ratios, percentages, powers, exponents and logarithms, permutations and combinations, summations and series, Mensuration and Geometry</p> <p>Analytical Aptitude- Logic: Deduction and induction, analogy, numerical relations, and reasoning</p> <p>Spatial Aptitude-Transformation of shapes: Translation, rotation, scaling, mirroring, assembling, grouping, paper folding, cutting, and patterns in 2 and 3 dimensions.</p>
Basic Mathematics 30 Marks	<p>Set Theory-Concept of sets – Union, Intersection, Cardinality, Elementary counting; permutations and combinations.</p> <p>Probability and Statistics-Basic concepts of probability theory, Averages, Dependent and independent events, frequency distributions, measures of central tendencies and dispersions.</p> <p>Algebra-Fundamental operations in algebra, expansions, factorization, simultaneous linear /quadratic equations, indices, logarithms, arithmetic, geometric and harmonic progressions, determinants and matrices.</p> <p>Coordinate Geometry-Rectangular Cartesian coordinates, distance formulae, equation of a line, and intersection of lines, pair of straight lines, equations of a circle, parabola, ellipse and hyperbola.</p> <p>Calculus-Limit of functions, continuous function, differentiation of function, tangents and normal, simple examples of maxima and minima. Integration of functions by parts, by substitution and by partial fraction, definite integrals, applications of definite integrals to areas.</p>

	<p>Vectors-Position vector, addition and subtraction of vectors, scalar and vector products and their applications to simple geometrical problems and mechanics.</p> <p>Trigonometry-Simple identities, trigonometric equations, properties of triangles, solution of triangles, heights and distances, general solutions of trigonometric equations.</p>
<p>BSc level questions</p> <p>10 Marks</p>	<p>Computer Basics: Organization of a computer, Central Processing Unit (CPU), structure of instructions in CPU, input/output devices, computer memory, and back-up devices.</p> <p>Data Representation: Representation of characters, integers and fractions, binary and hexadecimal representations, binary arithmetic: addition, subtraction, multiplication, division, simple arithmetic and two's complement arithmetic, floating-point representation of numbers, Boolean algebra, truth tables, Venn diagrams.</p>

Test Code: DUAT03

Programme: MSc Electronics, MSc Applied Physics

Marks	Syllabus
<p>General Aptitude</p> <p>20 Marks</p>	<p>Verbal Aptitude-Basic English grammar: Tenses, articles, adjectives, prepositions, conjunctions, verb-noun agreement, and other parts of speech. Basic vocabulary: Words, idioms, and phrases in context. Narrative sequencing.</p> <p>Quantitative Aptitude-Data interpretation: Data graphs (bar graphs, pie charts, and other graphs representing data), 2- and 3-dimensional plots, maps, and tables. Numerical computation and estimation: Ratios, percentages, powers, exponents and logarithms, permutations and combinations, summations and series, Mensuration and Geometry</p> <p>Analytical Aptitude- Logic: Deduction and induction, analogy, numerical relations, and reasoning</p> <p>Spatial Aptitude-Transformation of shapes: Translation, rotation, scaling, mirroring, assembling, grouping, paper folding, cutting, and patterns in 2 and 3 dimensions.</p>

<p>Mathematics</p> <p>10 Marks</p>	<p>Linear Algebra: Matrix Algebra, Systems of linear equations, Eigenvalues, Eigenvectors.</p> <p>Calculus: Mean value theorems, Theorems of integral calculus, Evaluation of definite and improper integrals, Partial Derivatives, Maxima and minima, Fourier series</p> <p>Differential equations: First order equations (linear and nonlinear), Higher order linear differential equations with constant coefficients, Method of variation of parameters, Partial Differential Equations.</p> <p>Probability and Statistics: Sampling theorems, Conditional probability, Mean, Median, Mode, Standard Deviation, Random variables, Discrete and Continuous distributions, Poisson distribution, Normal distribution, Binomial distribution, Correlation analysis, Regression analysis</p>
<p>Solid State Physics, Devices, Electronics Circuits</p> <p>30 Marks</p>	<p>Crystal structure, Bravais lattices and basis. Miller indices. X-ray diffraction and Bragg's law Intrinsic and extrinsic semiconductors, variation of resistivity with temperature. Fermi level.</p> <p>p-n junction diode, I-V characteristics, diffusion current, drift current, mobility and resistivity, Zener diode and its applications</p> <p>BJT: characteristics in CB, CE, CC modes. Single stage amplifier, two stage R-C coupled amplifiers.</p> <p>MOS capacitor, MOSFET, LED, photo diode and solar cell</p> <p>Boolean algebra: Binary number systems; conversion from one system to another system; binary addition and subtraction.</p> <p>Logic Gates: AND, OR, NOT, NAND, NOR exclusive OR; Truth tables; combination of gates; de Morgan's theorem</p> <p>Simple DC and AC circuits with R, L and C components. Kirchhoff's Voltage/current Law, superposition, Thevenin's theorem, Norton's theorem, reciprocity, maximum power transfer. <i>Oscillators:</i> Barkhausen condition,</p>

	sinusoidal oscillators. OP-AMP and applications: Inverting and noninverting amplifier
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Test Code: DUAT04

Programme: MSc Ecology with Specialization in Ecological Informatics

Question type	Syllabus
General Aptitude 20 Marks	<p>Verbal Aptitude-Basic English grammar: Tenses, articles, adjectives, prepositions, conjunctions, verb-noun agreement, and other parts of speech. Basic vocabulary: Words, idioms, and phrases in context. Narrative sequencing.</p> <p>Quantitative Aptitude-Data interpretation: Data graphs (bar graphs, pie charts, and other graphs representing data), 2- and 3-dimensional plots, maps, and tables. Numerical computation and estimation: Ratios, percentages, powers, exponents and logarithms, permutations and combinations, summations and series, Mensuration and Geometry</p> <p>Analytical Aptitude- Logic: Deduction and induction, analogy, numerical relations, and reasoning</p> <p>Spatial Aptitude-Transformation of shapes: Translation, rotation, scaling, mirroring, assembling, grouping, paper folding, cutting, and patterns in 2 and 3 dimensions.</p>
Elementary mathematics and computer basics 10 Marks	<p>Number System, Sets, Functions, Algebra, Geometry, Trigonometry, Matrices and Determinants, Differentiation and Integration, Basic Statistics and Probability.</p> <p>Fundamentals of computers, operating systems, algorithm, data types, operators, basics of internet, programming languages, software applications.</p>
Subject Questions (BSc Level) 30 Marks	<p>Physical and Chemical Science- Fundamentals of thermodynamics, fundamentals of ecological physics, solar radiation and Earth's energy budget, radiation laws, atmospheric and terrestrial interaction of electromagnetic radiation, hydrological and biogeochemical cycles, fluid dynamics, fundamentals of electronics, and computational physics. Scope of environmental chemistry, Environmental pollution- Air, water,</p>

soil, pollutants in the environment and its interactions, consequences of pollution, assessment and control measures

Life Science- Eukaryotic and prokaryotic cells- structure and function, taxonomy and systematics, anatomy physiology, reproduction, developmental biology, molecular biology, ethology. Origin of life, geological time scale, theories of evolution, speciation, inheritance of variation, mutation, and genetic variation, phenotypic variation, natural selection and adaptation, response of organisms to abiotic factors- thermoregulation, biogeography- global pattern of biodiversity, biodiversity of Indian sub-continent, major biomes of the world

Ecology and environmental science- Basic concepts in Ecology and Environmental Science, Components of the atmosphere- lithosphere, hydrosphere, and biosphere, biotic factors- producers, consumers, decomposers, abiotic factors-temperature, soil, water, air, Food chain and energy flow, trophic structure, ecological niche, ecological interactions- competition, predation, symbiotic interactions, parasitism terrestrial ecosystem- forest, grassland, desert, aquatic ecosystems- freshwater ecosystem. estuary and marine ecosystem, Natural Resource management and conservation-Forest, Land, Food, Mineral, and energy resources, depletion of natural resources, habitat loss, species extinction, land degradation, climate change, Sustainable development, conservation biology

Test Code: DUAT05

Programme: MSc Data Analytics and BioAI

Question type	Syllabus
<p>General Aptitude 20 Marks</p>	<p>Verbal Aptitude-Basic English grammar: Tenses, articles, adjectives, prepositions, conjunctions, verb-noun agreement, and other parts of speech. Basic vocabulary: Words, idioms, and phrases in context. Narrative sequencing.</p> <p>Quantitative Aptitude-Data interpretation: Data graphs (bar graphs, pie charts, and other graphs representing data), 2- and 3-dimensional plots, maps, and tables. Numerical computation and estimation:</p>

	<p>Ratios, percentages, powers, exponents and logarithms, permutations and combinations, summations and series, Mensuration and Geometry</p> <p>Analytical Aptitude- Logic: Deduction and induction, analogy, numerical relations, and reasoning</p> <p>Spatial Aptitude-Transformation of shapes: Translation, rotation, scaling, mirroring, assembling, grouping, paper folding, cutting, and patterns in 2 and 3 dimensions.</p>
<p>Basic Mathematics</p> <p>10 Marks</p>	<p>Set Theory: Concept of sets – Union, Intersection, Cardinality, Elementary counting; permutations and combinations.</p> <p>Probability and Statistics: Basic concepts of probability theory, Averages, Dependent and independent events, frequency distributions, measures of central tendencies and dispersions.</p>
<p>BSc level questions</p> <p>20 Marks</p>	<p>Biochemistry: Structure and functions of proteins, DNA, RNA, carbohydrates, lipids & vitamins. Bioenergetics, Electron Transport System and ATP synthesis, membrane structure and function.</p> <p>Biotechnology: Recombinant DNA technology, principles of gene cloning, applications of biotechnology in medicine, industry and agriculture, animal & plant cell culture, environmental biotechnology.</p> <p>Molecular Genetics: Principles of inheritance, linkage & crossing over, chromosomal aberrations, extrachromosomal inheritance, replication, transcription, translation, DNA repair and population genetics, mutation.</p> <p>Chemistry: Atomic Structure, Periodic Properties, Chemical bonding, Distribution of electrons in organic compounds. Stereo Chemistry, Configurational Isomerism, medicinal chemistry.</p>

<p>BSc level questions</p> <p>10 Marks</p>	<p>Computer Basics: Organization of a computer, Central Processing Unit (CPU), structure of instructions in CPU, input/output devices, computer memory, and back-up devices.</p> <p>Data Representation: Representation of characters, integers and fractions, binary and hexadecimal representations, binary arithmetic: addition, subtraction, multiplication, division, simple arithmetic and two's complement arithmetic, floating-point representation of numbers, Boolean algebra, truth tables, Venn diagrams.</p>
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Test Code: DUAT06

Programme: MSc Data Analytics and Geoinformatics

Question type	Syllabus
<p>General Aptitude</p> <p>20 Marks</p>	<p>Verbal Aptitude-Basic English grammar: Tenses, articles, adjectives, prepositions, conjunctions, verb-noun agreement, and other parts of speech. Basic vocabulary: Words, idioms, and phrases in context. Narrative sequencing.</p> <p>Quantitative Aptitude-Data interpretation: Data graphs (bar graphs, pie charts, and other graphs representing data), 2- and 3-dimensional plots, maps, and tables. Numerical computation and estimation: Ratios, percentages, powers, exponents and logarithms, permutations and combinations, summations and series, Mensuration and Geometry</p> <p>Analytical Aptitude- Logic: Deduction and induction, analogy, numerical relations, and reasoning</p> <p>Spatial Aptitude-Transformation of shapes: Translation, rotation, scaling, mirroring, assembling, grouping, paper folding, cutting, and patterns in 2 and 3 dimensions.</p>

<p>BSc level Mathematics</p> <p>10 Marks</p>	<p>Statistics and Probability: Measure of Central tendency, Measure of dispersion, skewness and Kurtosis, Elementary analysis of data. Probability and properties, conditional probability, multiplication rule. Total probability. Bayes' theorem and independence of events.</p>
<p>BSc level questions</p> <p>20 Marks</p>	<p>Earth Sciences: Structure and composition of Environment- Atmosphere, Hydrosphere and Lithosphere, Earth Processes, Mineral and Power Resources in India, Biogeochemical Cycles, Meteorology, Climate Change, Origin and evolution of earth, Mineral and Power Resources in India. Agriculture Land Use/ Land Utilization Systems.</p> <p>Ecology and Environment: Biosphere, Organizational levels of biosphere, Ecosystem: Structure and Types, Food Chain and Energy Flow, Population and Community Ecology, Biodiversity and its Conservation.</p> <p>Natural resources and Management: Natural Resources-Forest, Land and Water Resources, Minerals, Marine, Energy (Renewable and Non-renewable) - Sources, Threats, Conservation and Management.</p> <p>Remote sensing and GIS: Electro Magnetic Spectrum, Components and types of remote sensing, Resolutions (Spectral, Spatial, Temporal & Radiometric), Platforms. GIS: components of GIS, Spatial data, Vector and Raster Data, GIS Data Model and Data Structure - Projection and coordinate Systems.</p>
<p>BSc level questions</p> <p>10 Marks</p>	<p>Computer Basics: Organization of a computer, Central Processing Unit (CPU), structure of instructions in CPU, input/output devices, computer memory, and back-up devices.</p> <p>Data Representation: Representation of characters, integers and fractions, binary and hexadecimal representations, binary arithmetic: addition, subtraction, multiplication, division, simple arithmetic and two's complement arithmetic, floating-point representation of numbers, Boolean algebra, truth tables, Venn diagram</p>

Mode of Conduct of DUAT

The examination will be administered online and proctored by AI technology and human invigilators. You must login using a laptop or desktop computer equipped with a webcam and

connected to the internet. The test consists of 60 questions to be completed within a total duration of 60 minutes.

Fee Structure

Fee Structure: MTech/MSc Programs				
Particulars	First Year		Second Year	
	First Semester	Second Semester	Third Semester	Fourth Semester
Tuition fee (in Rs)	55,000	50,000	50,000	50,000
Caution deposit (in Rs)	5,000			
TOTAL (in Rs)	60,000	50,000	50,000	50,000
Fee Structure: MBA Program				
Particulars	First Year		Second Year	
	First Semester	Second Semester	Third Semester	Fourth Semester

Tuition fee (in Rs)	100000	100000	100000	100000
Caution deposit (in Rs)	5,000			
TOTAL (in Rs)	105000	100000	100000	100000

Fee Structure: Ph.D. Programme

Particulars	Tuition Fee	DUK Scholarship
Full-time Regular Ph.D.	No tuition fee in Years 1-5. 50% fee concession in Year 6. Re-registration with full fee from Year 7.	Rs 20,000/month for the 1st year. Rs 25,000/month for the 2nd year. Rs 30,000/month for the 3rd year.
Part-time Regular Ph.D	Rs. 50,000/year*	No scholarship
Industry Regular Ph.D	Rs. 50,000/year*	No scholarship

*Part Time and Industry regular participants also will have a special fee of Rs 50,000 from year 2 onwards.

- An admission fee of Rs 10,000/- and a refundable caution deposit of Rs 5,000/- need to be paid initially by all the selected candidates to confirm their seats for the Ph.D. program. DUK scholarship is only for those who are not project assistants and do not have external fellowships such as JRF. All the students who are receiving the DUK scholarship are expected to contribute to the academic activities of the University for around 10 hours every week.

Rules for Refund of Tuition Fees:

- Refunds of fees will be processed following the relevant UGC Notifications or University orders that are effective when processing the refund requests.
- In the event of admission cancellation, the relevant UGC-issued Notifications regarding Admission Cancellation and Refund will be adhered to.
- Original certificates and other documents of students who cancel their admission will be promptly returned to them, provided there are no outstanding liabilities to the University.
- Refunds without interest will only be issued in January 2024 for cancellations made before October 30, 2024.

These rules are subject to amendments as deemed necessary from time to time.

Hostel* and Mess Fee (Applicable for hostellers)

Caution Deposit for Hostel (in Rs)	6000
Hostel fee per semester per student for double occupancy (in Rs)	30,000
Approximate Mess Fee per month (in Rs)	4,000

* Currently, on-campus hostel accommodation is available only for female students.

Scholarships & Financial Aid

Scholarships from Central/State Governments

- Students with a domicile of Kerala from SC/ST and Other Eligible Communities (OEC), OBH are eligible for scholarships under the E- Grantz scheme of Govt. of Kerala. <https://egrantz.kerala.gov.in/>
- The scholarship offered by the Fisheries Department of Kerala for the recognized children of fishermen. <http://www.egrantzfisheries.kerala.gov.in/>
- AICTE fellowships for GATE qualified students in MTech CSE and MTech EE Programmes. <https://www.aicte-india.org/schemes/students-development-schemes/PG-Scholarship-Scheme/General-instruction>
- Students can apply for various other scholarship schemes provided by Central/State Governments.
<https://scholarships.gov.in/>
<http://minoritywelfare.kerala.gov.in/>
https://www.dcescholarship.kerala.gov.in/dce/he_ma/he_maindx.php
https://dcescholarship.kerala.gov.in/hescholarship/he_ma/he_maindx.php
<https://www.kswfc.org/>

University Merit Cum Means Scholarship

Merit-cum-Means Scholarship (excluding Flexible and Executive Masters Programs) program awards financial aid to 20% of students belonging to the BPL category. The value of the scholarship is ₹2,000 per month.

Selection for the scholarship is based on two key criteria:

- Academic Merit: Students with strong academic performance will be prioritized.
- Financial Need: The annual income of the student's parent(s) will be considered to determine financial need.

IICG/Graphene Aurora stipend for Programmes under the School of Electronic Systems and Automation (SoESA).

IICG/Graphene Aurora Interns: M.Tech Electronics Engineering/MSc Applied physics/MSc Electronics students are eligible to apply for internship in Graphene and 2D materials as part of the IICG/Graphene aurora project. If selected for this internship, you are expected to work on a

research project involving the use of Graphene for electronics engineering applications. Interns will receive study allowance for carrying out a research project. The positions are available to those who get admitted to the program and would clear an internship test and interview. You will receive a link to apply to this program once admitted. The number of positions is subject to the availability of supervisors and funds.

University Scholarships/Internships/Stipends/Fellowships for PhD.

PhD Regular- Scholars are eligible for a monthly scholarship of Rs. 20,000/- for first year, Rs. 25,000/-per month in the second year and Rs. 30000/- per month for 3rd year.

Fellowships from Central/State Governments for PhD Scholars

The PhD Scholars with a valid Junior Research Fellowship (JRF) from recognized national or state bodies (UGC, CSIR, ICMR, DBT, DST-INSPIRE, KSCSTE etc.) are eligible for respective fellowships.

Knowledge centre resources

Books: e-Versions & p-Versions

Periodicals/Journals/Magazines: e-, p- & Integrated Versions

Institutional Repository covering Scholarly Publications, PhD Theses etc.

Subscribed e-Resources including IEEE Xplore, ACM DL, TURNITIN, etc.

Access to National Facilities including INFLIBNET, NDL, etc.

Accommodation

Twin occupancy hostel facilities will be provided within the campus for female students. For students who haven't secured hostel allotment, DUK will aid in finding suitable accommodation alternatives. Those opting to stay with their families are required to make their arrangements.

General Facilities

- Six storey hostel
- 100+ rooms providing occupancy to 200+ students
- Double occupancy rooms

Safety & Security

- Female Warden available
- 24/7 round-the-clock male and female security available

- Fire protection system
- Subsystem and DG backup

Hygiene

- Bathroom block on each floor
- Abundant water supply
- Sewage treatment plant
- Washing machine for each floor

Accessibility

- Lift access
- Wheelchair accessible

Clubs & Societies

- National Service Scheme
- Reading Club
- IEEE Students Branch
- Film Club
- Innovation Club
- Hack-X Club
- Arts and Sports Club
- Social Engagement Centre
- Student Council

Medical Facility

- Doctor available biweekly (Monday and Thursdays)
- 24/7 transportation available for hospitals

Counselling Facility

Counseling services are available for students. Weekly sessions can be booked.

Fitness

Unleash your fitness potential within our state-of-the-art hostel gym, equipped with modern exercise equipment and a motivating atmosphere, providing students with a convenient and energizing space to pursue a healthy lifestyle right at their doorstep. Whether it's a quick cardio session or weight training, our hostel gym ensures fitness is always within reach.

- Available to staff and students
- Morning and evening slots
- Trainer available
- Separate sessions for men and women

Sports

Playing Grounds: DUK provides expansive outdoor playing grounds, perfect for a variety of team sports such as football and cricket

Dedicated Yoga Practice Area: Recognizing the rising popularity of yoga and its numerous benefits, DUK offers guided yoga sessions.

Annual Sports Meet: This exciting event allows students to showcase their athletic talents, compete in various disciplines, and cheer on their fellow classmates.

Table Tennis Arena: This indoor facility allows students to hone their table tennis skills, engage in friendly matches, or simply enjoy a fun and challenging game during breaks.

Career Services

DUK boasts a robust placement program, attracting over 100 companies to campus each year. This strong industry connection ensures all students participate in internships. These internships often serve as a springboard for full-time employment, as companies frequently hire top-performing interns. Digital University Kerala (DUK) has a strong and full-fledged Training and Placement Cell with a full-time Placement Chair and a dedicated Placement Officer.

How to reach DUK?

Digital University Kerala

Technocity Campus, Mangalapuram, Thonnakkal PO, Thiruvananthapuram,
Kerala – 695317, +91-471-2788000

Google Map Link: <https://g.page/KUDSIT?share>

The Kerala University of Digital Sciences, Innovation and Technology (DUK) boasts excellent connectivity, making it easily accessible from various locations. Here's a breakdown of your travel options:

By Air:

Trivandrum International Airport: This convenient airport lies just 18 kilometers from DUK's campus, with a travel time of approximately 30 minutes by car.

By Rail:

Thiruvananthapuram Central Railway Station (TVC): Situated 22 kilometers south of the campus, TVC offers a seamless connection. The adjoining KSRTC Bus Station provides frequent city buses towards Attingal and Kollam. These buses reach the Technocity bus stop near the CRPF camp

(Pallipuram) within 45 minutes, placing you a short distance from DUK. Taxis are also readily available from the station.

Kochuveli Railway Station (KCVL): This station is located 15 kilometers south of the campus. Auto rickshaws are conveniently available for onward travel to DUK.

Kazhakuttam Railway Station (KZK): KZK is just 8 kilometers away, be aware that not all trains stop here. Similar to Kochuveli, auto rickshaws can transport you to the university from this station.

By Road:

National Highway 66: Many long-distance KSRTC and interstate buses traveling on this highway towards Thiruvananthapuram halt at the CRPF Camp Pallipuram. This stop is approximately 750 meters from the DUK campus.

City Buses: If utilizing city buses, disembark at the Technopark Phase IV stop, which is within walking distance of the university.

Contact information

Website: www.duk.ac.in

General Queries Related to PG Admission- admission-pg@duk.ac.in

General Queries related to Ph.D. Admission- admission-phd@duk.ac.in

Contact No. 04712788000, 04712788019, 8078193800

School/Program Specific Queries

School of Computer Science & Engineering (SoCSE)- admission-socse@duk.ac.in

School of Digital Humanities and Liberal Arts (SoDiHLA)- admission-sodihla@duk.ac.in

School of Digital Sciences (SoDS)- admission-sods@duk.ac.in

School of Electronic Systems and Automation (SoESA) -admission-soesa@duk.ac.in

School of Informatics (SoI)- admission-soi@duk.ac.in

