<u>Digital University Kerala Admission Test (DUAT)</u>

Test date: 5th September 2021 (Sunday)

Total duration 120 min

A candidate who is meeting all the eligibility conditions and if interested can apply to three programs- MSc Computer Science, MTech Computer Science and MTech Electronics Engineering. The DUAT is scheduled in such a way that the candidate can attempt Section-A which is common for all programs as well as Section-B of MSc Computer Science, MTech Computer Science and MTech Electronics Engineering. A candidate applying for multiple programs has to spend additional time (more than 120 minutes) to complete section-B of all the chosen programs.

Program applied to	Section A (60 min)	Timing	Section B (60 min)	Timing
MSc Computer Science	DUAT Common	10.00 AM to 11.00 AM	DUAT MSc CS	11.00 AM to 12.00 PM
MSc Ecology	DUAT Common	10.00 AM to 11.00 AM	DUAT MSc Ecology	11.00 AM to 12.00 PM
M.Tech Computer Science and Engineering	DUAT Common	10.00 AM to 11.00 AM	DUAT M.Tech CSE	2.00 PM to 3.00 PM
M.Tech Electronics Engineering	DUAT Common	10.00 AM to 11.00 AM	DUAT M.Tech Electronics Engg	3.00 PM to 4.00 PM

Section A (60 min)	
DUAT Common	**Syllabus**
General Aptitude (15-20 questions) - 20 min 20 Marks	**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.
	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 Elementary statistics and probability.
	Analytical Aptitude – Logic: deduction and induction, Analogy, Numerical relations, and reasoning.
	Spatial Aptitude – Transformation of shapes: translation, rotation, scaling, mirroring, assembling, and grouping. Paper folding, cutting, and patterns in 2 and 3 dimensions
Mathematics (10-20 questions) - 20 min **(Level of questions will be of BSc/B.Tech/BE degree)** 20 Marks	Probability, Statistics, Calculus, Discrete Mathematics, basic number theory, algebra
English Reading comprehension (10-20 questions) - 20 min 20 Marks	Two paragraphs each having 5-10 questions.

Section B (60 min)	
Program specific test	**Syllabus**
DUAT MSc CS (30 questions) **(Level of questions will be of BSc Computer Science degree)** 40 marks	Computer Fundamentals, Computer Organization and Architecture, Computer Networks, Operating System, Design and Analysis of Algorithms, Introduction to Programming, Cyber Security, Artificial Intelligence, Graph Theory
DUAT MSc Ecology (30 questions) **Level of questions will be of B.Sc degree.** 40 marks	**Plant Science**–Taxonomy, systematics, Origin and evolution of life, microbiology, mycology, lichenology, plant pathology, phycology, bryology, pteridology, gymnosperms, palaeobotany, anatomy, morphology, reproductive botany, economic botany, phytogeography, micro technique, plant tissue culture, palynology, genetics, cell and molecular biology **Environmental Chemistry** – Green chemistry – fundamentals, Atmospheric chemistry, ozone depletion, Greenhouse effect, Air, water and soil pollution, effects of pollutants, water treatment, Treatment of Pollutants and Wastes, Biogeochemical cycles, aliphatic and aromatic compounds, synthesis of xenobiotic compounds like pesticides and dyes, synthetic polymers, ecotoxicology, pesticides etc., interaction of toxicants with environment, environmental policy & agreements. **Zoology** – Chordata & Non- Chordata, taxonomy, systematics, cell biology, genetics, molecular biology, biotechnology, environmental biology, ethology, evolution,

	zoogeography, physiology, developmental biology, embryology, endocrinology, biochemistry, biophysics, biometry.
	Physics – Matrices, vector calculus, Newton's laws, conservation of energy and momentum, central force problem, fluid dynamics, special relativity, electrostatics and magnetostatics, Faraday's law, Maxwell's equations, e-m waves, reflection, refraction, diffraction, interference, uncertainty principle, Hermitian operators, Fundamentals of thermodynamics, black body radiation, electronics - fundamentals, computational physics- fundamentals, atmospheric physics - fundamentals.
DUAT M.Tech CSE (40 questions) **(Level of questions: GATE CS/IT)** 60 marks	Digital Logic, Computer Organization and Architecture, Programming Languages, Data Structures and Algorithms, System Software, Databases, Computer Networks, Cybersecurity, Artificial Intelligence
DUAT M.Tech EE (40 questions) **(Level of questions-GATE)** 60 marks	Analog circuits, digital circuits, digital signal processing, circuit theory, signal processing